"THIS IS WHO I AM": PERSPECTIVES ON ECONOMICS, POLICY, AND PERSONAL IDENTITY AND CULTURE OF COOK INLET AND KENAI RIVER SALMON FISHERIES

By

Hannah L. Harrison

RECOMMENDED:

Dr. S. Craig Gerlach

Dr. Quentin Fong

Dr. Philip A Loring, Advisory Committee Chair

Dr. Ray Barnhardt, Chair for Cross-Cultural Studies

APPROVED:

Mr. Todd Sherman, Dean, College of Liberal Arts

Dr. John Eichelberger, Dean of the Graduate School

23 May 2013

Date

# "THIS IS WHO I AM": PERSPECTIVES ON ECONOMICS, POLICY, AND PERSONAL IDENTITY AND CULTURE OF COOK INLET AND KENAI RIVER SALMON FISHERIES

A

THESIS

Presented to the Faculty
of the University of Alaska Fairbanks

In Partial Fulfillment of the Requirements
for the Degree of

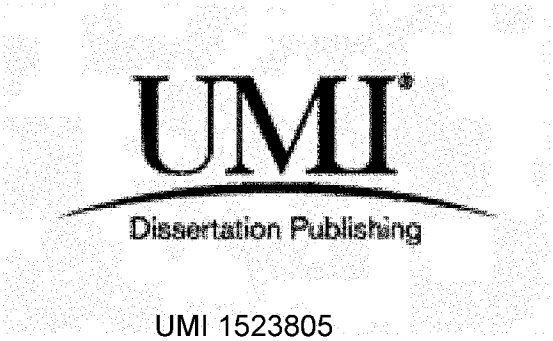
MASTER OF SCIENCE

By

Hannah L. Harrison, B.S.

Fairbanks, Alaska

May 2013







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## Abstract

Throughout this thesis, I use a multidisciplinary approach for understanding the sustainability of the culture, livelihoods, and ecosystems in the Cook Inlet and Kenai River salmon fisheries on Alaska's Kenai Peninsula. In Chapter 1, I present a broad overview of the Cook Inlet region, its inhabitants, and the various stakeholder and user groups that access regional salmon fisheries. Chapter 1 also provides an overview of the methodology utilized in this research, as well as discuss the methods, the strengths, and weaknesses of the research as part of an evaluation of the study. In Chapter 2, I present an overview of how the Kenai River and Cook Inlet salmon fisheries are managed and regulated, including regulatory bodies and agencies and their mandated roles. Finally, the chapter concludes with a presentation of ethnographic data collected during interviews between summer of 2011 and spring of 2013. These data reveal the perspectives and attitudes of fishermen, and in terms of how they regard management, and about whether management decisions contribute to or detract from the ongoing sustainability of the regional fisheries and fish stocks. In Chapter 3, I examine some of the economically based arguments commonly made to support allocation rights between the several user groups that access the area fisheries. This chapter draws upon economic reports produced by advocacy groups and the State of Alaska, as well as utilizes a comparison of these reports by an economist from the University of Alaska Anchorage. This chapter again draws upon ethnographic research to understand perspectives of fishermen, illuminating how they interpret and develop their economic arguments for allocation. In Chapter 4, I present an ethnography detailing and describing attitudes and perspectives of fishermen as to how they perceive their personal identities relate to their fishing livelihoods. Finally, in Chapter 5 I conclude with an explanation and review of findings, as well as recommendations for future research and some personal thoughts. Throughout the

thesis are pieces of my personal narrative to give the reader a more intimate understanding of this research.

To Mom and Dad

*Many men go fishing all of their lives without knowing that it is not fish they are after.*

– Henry David Thoreau

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## Acknowledgements

This thesis has been the greatest academic work of my life so far, and much of it would have been entirely impossible without the help of some tremendous individuals. First and foremost, I wish to thank Phil Loring for his utmost and unwavering belief in my abilities, especially when I did not always believe in them myself. I also want to thank Alysa for her trust and respect for research that was so important to me, and necessitated Phil's time away. I also wish to thank Craig Gerlach and Quentin Fong, both of which voluntarily served on my committee and managed to say all the hard things in a compassionate way.

I want to thank my mother and father, Suzanne Haines and Brian Harrison, for their dedicated support, love, and wisdom. Dad, this thesis is a testament to your choice of life's work and proof that sometimes the most valuable education comes outside of a school's walls. Mom, your patience and poise have always been my role model for personhood, and I hope this research reflects all the very best that you have given me. Thanks also to Uncle Scissors, who took us in and made us more than just crew.

I especially want to thank all of the fishermen and women who participated in this research, who were patient with me when I asked silly questions, and were always willing to pour out their lives so that I could better understand what drives them. I hope this thesis answers your questions, lifts your spirits, and helps reveal a path forward to ensure that our fishery will sustain our people and communities for generations to come. This work was possible solely because of your willingness to safeguard Alaska's fisheries for today and tomorrow, and I hope that enduring spirit of conservation will always thrive in Cook Inlet.

Thanks to all of the friends who helped edit this thesis when I simply could not bear to read my own writing anymore. Thanks especially to Mariah, who put up with me during that first year of grad school when my brain was stretching, and was

kind enough to hear it all again by editing through my roughest work. You were my passive voice intervention. Thanks also to Lauren and Matthew, who edited when I could not stand to read it all again.

My affection and thanks to Tom, who put up with many exhausted nights, stressful days, and academic tirades. Your patience, support, and compassion were my lifeboat. My gratitude to you is unending.

Thanks also to David Valentine for knowing me better and before I knew myself, and for some powerful and well-timed wisdom; to everyone who encouraged, supported, and cheered me on, especially all you Homer folks; to all the other agencies, especially NOAA and ACCAP who partnered with us to make this research possible – thank you.

**Preface**

Someone once told me that if you're around something long enough, you might just eventually become like that thing. For some people, they become like their pets, their spouses, or their job. For my family, we are like fish. Just as fish move from lake to river to the sea, the generations of my family have moved downstream. My great-grandfather Cliff was an avid sport fisherman, a passion he passed to his own son as naturally as water moves downhill. He began his own fishing life in the lakes and streams, and passed that love of water and fish on to my grandfather George. Failing out of college, he was sent to Alaska as a means of motivating him to move toward bigger and better things than tending a fish trap.

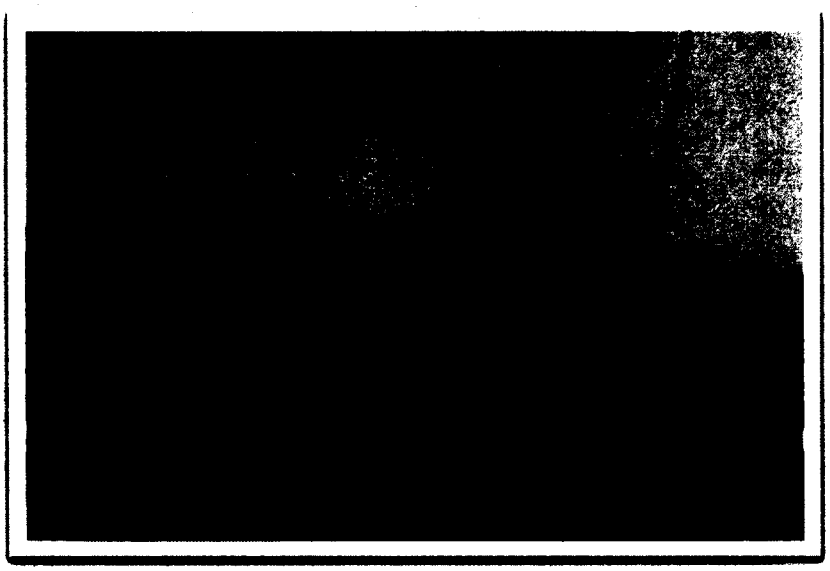

**Figure 1**: Grandfather fishing

My grandfather's letters from the time describe thousands of salmon being scooped from traps; eagles and crows so numerous that a bounty was placed on them; the endless rainy days of Angoon; building the boardwalks of the coastal community. Though he couldn't have known it at the time, George's experience in Alaska would be the first of a legacy of Alaskans tied to the land and sea by a love for fish, and perhaps also by a proclivity for avoiding formal schooling.

There is something about standing beside a stream, or any moving water,

that reaches inside of you and dampens down the chaos and angst of a soul. But, I think men lack the ability to stand still that long, and so fishing is our answer to enjoying the peace of water. But perhaps it's also our response to the crushing disappointments of life as well. One might argue that fishing itself can be disappointing, and on this point I would have no inclination to disagree. But to wish for fish, to wait and want and pursue fish through the flowing streams and turning tides; it is an exercise in optimism that someday that effort may result in a moment of happiness.

**Figure 2**: Dad trout fishing with family

My father took up fishing alongside his father in the streams of Washington. Many a trout built the bond between them, and after high school my dad took to fishing as a way to scrape by and, much like his own father, be his own boss. Fishing allows you that ability to earn without limits by means of your own labor. Couple this desire with the constant risk of catching nothing but disappointment and it becomes the pursuit of men who do not attach their happiness to fortune or the comfort of what is already known.

While my great-grandfather and grandfather stayed in the streams and lakes, my father migrated downstream to the great marine fisheries of California, Washington, and Alaska. When the southern waters began to dry up – the stocks

depleted - he moved North to the Great Land and found a fishery that could sustain him until, perhaps someday, he could return to the rivers. I was born in a good fish year. My dad tells me that my winter birth was preceded by a bountiful run of sockeye returning to the Kenai River, and again the next summer as my family followed the fish to the Kenai River. My first summer on Earth was spent as a backpack baby, perched on my parent's shoulders as a spectator to the fishing life. The year I was born, my dad stood tall at 6'2" with wild hair blending into his often-untrimmed beard. His mouth was framed by the parentheses of deep laugh lines and as a child I used to draw his portrait, always including the deep lines in his forehead. He had grown up in Washington, the son of a WWII veteran and youngest of five siblings. Dad barely made it out of high school, and spent his formative years fishing up and down the West coast trying to scratch a living. He came to Alaska in 1977 as a crabber and, like so many of his era, became hooked on Alaska's undeveloped coastlines and bountiful fisheries.

**Figure 3**: Dad sits watch on a crabber

He met my mother in Santa Barbara and convinced her to visit Alaska with him in June of 1981 on the 21st - Solstice. They never looked back. Mom went north as a strong, vibrant woman and the northern climate aged her with grace. When I was born in 1987, she had long, dark hair, oversized glasses and an easy laugh. At the time, they had been fishing on the Big Su but were lured south to the Kenai Peninsula after rumors of the incredible salmon runs reached them. At the time, they were living in Palmer, Alaska and after struggling through two summers commuting back and forth from our Kenai fishing grounds to our Valley home, my parents made the move to Homer. The change in environment would play a major role in shaping my value system around the environment and all its creatures.

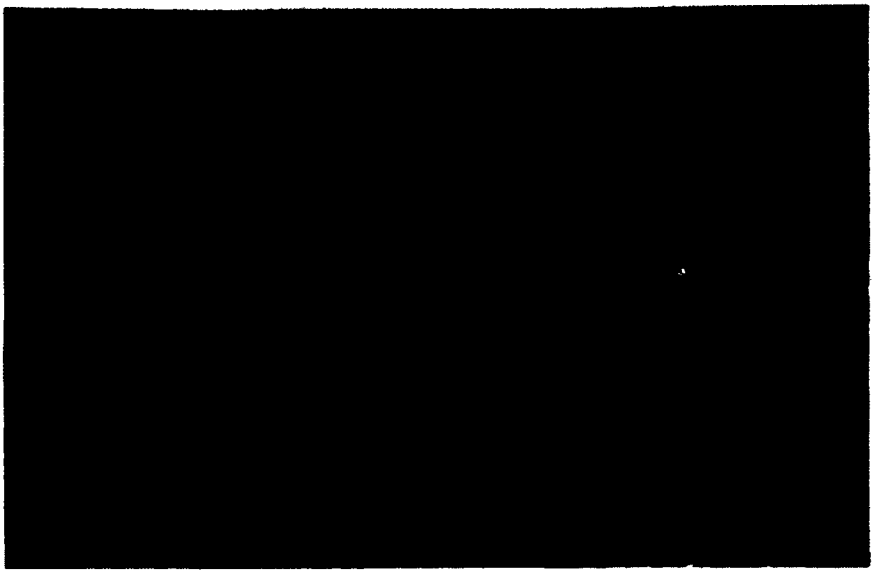

**Figure 4**: Mom and Dad on the Susitna

Growing up beside Kachemak Bay was, looking back, a blessing that no amount of gratitude or respect can fully appreciate. The children of Homer's fishing families learn to walk on the sands of low-tide and practice

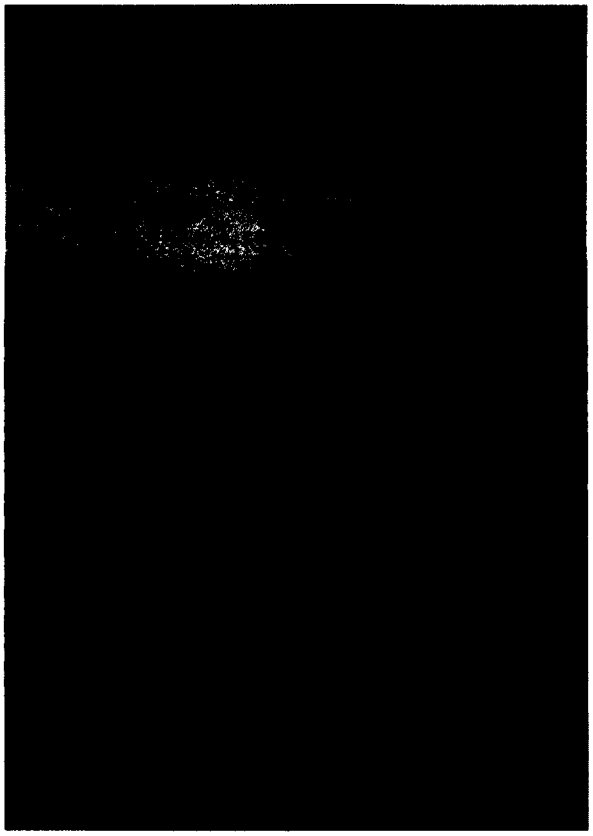

**Figure 5**: Hannah on Bishop's Beach - Age 3

their developing vocabulary on tide pool invertebrates. My favorite was "cabbies!" as hermit crabs would scuttle away from my probing fingers. I remember my youngest summers visiting Dad at Fish Camp where my uncle and a motley assortment of deckhands spent the month of July. I made friends with the children of other fishermen and cannery workers, and we passed our time collecting bits of mending twine, selling lemonade out of the back of a fish truck, and waiting impatiently for Dad to come in from picking the nets.

There is something that fills you with longing to stand at the edge of a river, straining your young eyes to see down to the next bend and watching for the silver glint of a skiff coming up to the cannery. Hours pass slowly for eager children and that waiting, watching - wondering about Dad and the fish - ached on for what seemed to be days as my sister and I would stand on those shores. Then, our patience would be rewarded. Mom would walk us down to the docks, carefully pulling us away from heavy totes of ice and speeding forklifts. We'd teeter on the edge of the pilings as Dad would pull the skiff to the dock and the crane would creak under the strain of so many fish being lifted from the boat. Those moments were always filled with joy and pride for my Dad, and his sometimes sad disappointment if the nets had been empty.

As we grew older, diapers and overalls turned to raingear when we were allowed to ride out with Dad to the sites and watch the action. We would always pester with questions before a trip, "Is it going to be rough, Dad?" The rough seas

were terrifying as a child, and I remember many trips ending in tears as we bounced around the skiff, afraid of sinking and the sharks that would surely eat us. I think Dad tried to choose calm days for us, but as Cook Inlet can be unpredictable, I think he was blamed for an awful lot of waves that he really couldn't have helped. But then again, maybe our perception of our father was a little overinflated. On one rough trip, my sister Grace screamed, "Dad, turn off the bumps!" What could he do? That feeling of helplessness to comfort your children would be a theme I saw later as I researched fishers who worried about whether they could pass their fishing livelihood onto their children.

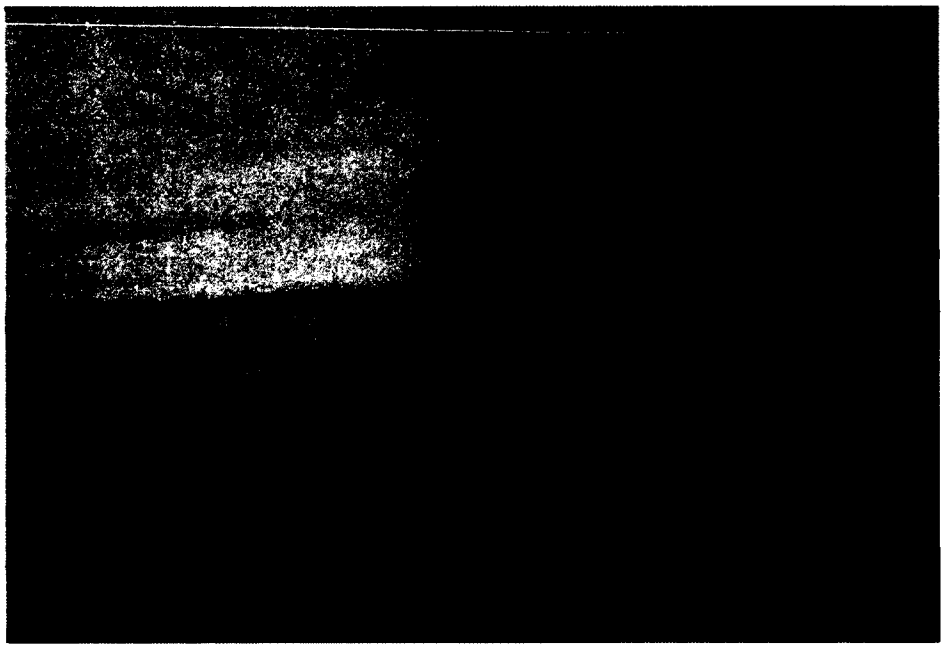

**Figure 6:** Looking over the bow

Of course, having nature-loving children who were familiar with the ocean's many creatures probably wasn't helpful when your livelihood involves the killing of fish. On the rarest of occasions, a gull would twist its feet in the net as it tried to bob amongst gilled fish, eating out their eyes. Usually the bird would drown and Grace and I would look on in horror as Dad would pull the limp animal from the net. Other times, the nets would be full of jellyfish. I would insist he return them to the water unharmed, an impossible feat as the invertebrates immediately break apart after being pulled from the water. "Look," he would say, encouragingly, "they're just making little

jellyfish babies!" as bits of jelly would be shaken from the nets. What does it say about a fisherman who must lie to their child to prevent a teary meltdown? I look back on it now and can only conclude that his actions on those days indicate the very best about fishing parents – their desire to protect their children from hurt and, ironically, uncertainty.

Fortunately, my parents weren't alone in their efforts to bring us up in a sometimes-challenging maritime environment. Deckhands were sometimes hired on as strangers, but some became extended family. Nicknames were assigned, trailers decorated, and my sister and I came to look on them as extra uncles and aunts. They helped us fix our bikes (some found in the river itself), bought our lemonade, and cut up the fish on our plates when knives and forks still required more dexterity than we possessed. One hand, dubbed "Lawrence of Kenai" (and then just "Kenai") for the voluminous sweatshirts and head wraps he would wear over his long hair, became a younger brother to my father. He cared for Grace and I like young siblings and never was too proud to make us laugh, often at his own expense.

One day Grace and I were in tears over the rough ride back into shore from the fish sites. The waves were large and the bow of the skiff slammed into each swell as we

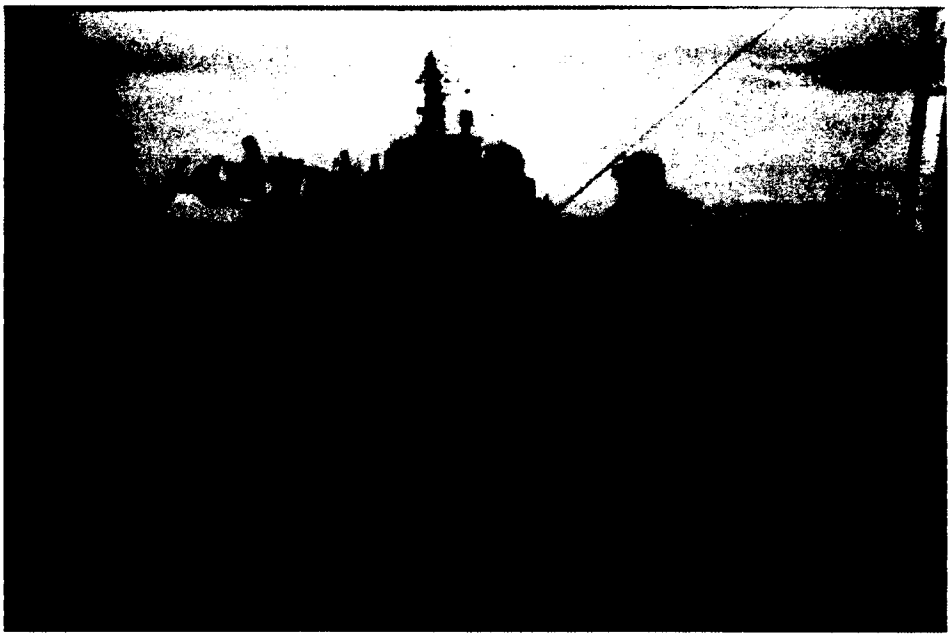

**Figure 7:** Travis, Brian, Kenai, and the girls. Fish camp early 1990's

struggled against the current. Kenai wobbled his way to the bow of the skiff, easily the roughest part of any boat, and pretended to direct the waves as they crashed over the sides and soaked him in salty spray. Smiling and waving, despite what must have been terribly uncomfortable, he distracted our attention and our sobs turned to giggles at his sodden antics. Years later, Kenai would pass away after a long and unhappy struggle with alcohol. While his death was a tragedy to our family, my memories of him were all happy and I imagine riding a skiff into The Great Unknown, directing waves and grinning at the wild sea.

Fishing, however, has not always unified my family. When I was in elementary school, Dad had a herring permit in Norton Sound that would take him far away from our family for a month or so each spring and early summer. Each time he would leave, the house felt empty and our dog would mourn his absence. The weeks would crawl by, broken only by scratchy payphone calls where long

delays in the connection would leave conversations feeling forced and stilted. Each time he called, he would sound bone-tired.

"How's the fishing," my mom would ask.

"It's all right," he'd say. "How are the girls?"

We'd eagerly await our turn to jabber into the receiver, excited to tell him about our latest achievements in school or our weekend sleepover plans. Often the conversations were cut short by his weariness and we'd "save it for next time" so he could sleep a few hours before the next opening. Mom would be tired, too; a toll taken from solo-parenting two active children through school, sports, and our incessant need to compete with one another.

Each summer, usually in the middle of softball season, Dad would finally come home. One year, mom pulled us from our softball game to run down the road and meet his truck as he drove to see our final at-bats. Fresh from his flight, his beard was overgrown and eyes bagged with exhaustion, but he was never too tired to scoop us both up and make up for missed hugs. Mom rushed us back to the game and we played with extra effort to impress our returned father.

As we grew older, the herring fishery collapsed and he was home throughout the winter season. Eventually, he gave up setnetting and became a drifter. Though the new fishery was easier on his aging body, his hair is now more grey than red, he is still away from Mom for a month or so each year. Grace and I have long since left the house, though both of us have remained involved in our own ways. I look forward to the weekly fish reports during fishing season, exclaiming with excitement at big fish days and mourning the small ones. Grace deckhands with him now, and my research brings me back to work for my uncle as a setnetter, once again.

~

*"We have to remember that what we observe is not nature in itself, but nature exposed to our method of questioning."* - Werner Heisenberg

**Introduction**

Conflict between user groups over common pool resources have existed for millennia, and continues to be a problem in modern times as the human population grows and resources are stressed or depleted. In Alaska, the harvest of fish, particularly salmon, has played a central role in life since pre-colonization for those who call coastal communities home. I am one of those people, and have grown up in the heavily contentious and political arena of fishing in Cook Inlet. From my own experience, I have seen firsthand the power that fishing livelihoods hold in fisher's perceptions of their own identity, culture, and family dynamics. I have also seen the importance of fishing in local economies, and the influence that politics have played in defining fishing rights and access to user groups. Throughout my adolescence, these arguments over fish, food, and family have never ceased; have never grown quieter. Instead, they seem to increase in intensity and volume each passing year, placing stress on fishers and managers alike. When presented with the opportunity to research this area, the chance to explore this conflict and to identify the sticking points of contention was far too important to me to pass up.

Throughout this project, I seek to understand the basis for conflict over the Cook Inlet and Kenai River salmon resources, as well as the integral role fisheries play in the cultures, livelihoods, and identities of the harvesters and communities of the region. I do this in part because this fishery and its participants have immense personal value to me, but also because my education has shown me that climate, weather, ecosystems, and resources are not static, predictable systems. Rather, they change and shift as humans continue to influence our environment with pollutants and increasing harvest pressure. It is my fear that if we, the users of Cook Inlet and Kenai River fish resources, are unable to reconcile the differences we have between user groups and find an equitable, reasonable, and, above all, sustainable way to

harvest salmon and feed ourselves, we will not be prepared to deal with larger problems of climate change if (when) they occur.

However, none of this well-intentioned research will mean anything if the resource users themselves do not have a vested interest in its success. To this end, it was very important to me and the research team that our attempts to address resource conflicts on the Kenai Peninsula be deeply rooted in the perspectives of fishermen and women, and well supported by the communities in which we worked. It is my sincerest hope that the findings of this project will contribute toward a more unified and less controversial future for this fishery, and that future generations will be able to enjoy and subsist off of the same sustainable salmon runs harvested by their grandparents.

Though I cannot foresee the effects of this research with any certainty, I can at least strive to model my work around the ethnographic best practices laid out by others. Richardson outlines five best practices for evaluating an ethnographic study that I have found useful in understanding not only the unique contributions and findings of an ethnographic study, but also its appeal to the participating public and usefulness as a tool for future research (2000).

1. *Substantive contribution:* This research contributes to not only the greater body of academic literature surrounding fishing and resource conflict, but also seeks to give voices to those fishermen and women who participate in these fisheries.

2. *Aesthetic merit:* I have written this thesis in such a way that the reader is given a look into the inner workings of this research from my personal perspective. In addition, I have selected many direct quotes from interview participants so that the sincerity and intent of their words is not lost in my translation.

3. *Reflexivity*: I came to work on this project and write this thesis due to my own background and upbringing within these fisheries, but also due to my background in the natural sciences and interest in resource conflicts in Alaska. Though this research was carried out in a highly professional and academic manner, I have intentionally provided substantial information about my background and

personal perspectives so that the reader is equipped to evaluate the material without pretense.

4. *Impact*: In evaluating impact, Richardson seeks to understand how the research affects the reader emotionally, intellectually, and otherwise. While I am not able to ensure that every reader connects with the material herein, I can speak to the intent of certain passages that reflect a more personal tone. During much of my research, fishers allowed me a glimpse into the intimate and extremely personal relationships they have with their fishing livelihoods. On occasion, grown men with tough outer demeanors and calloused hands would wipe away tears during interviews – a reflection of their emotional attachment to their work. I try to include those moments in this text so the reader might feel and better understand what fishers in this region are defending when they fight for their fishery.

5. *Expresses a Reality*: One of my most important goals with this research was to make sure that my findings reflected reality, though the conflict in this area inherently makes this a difficult goal to pursue. While every user group's perspective of 'truth' will ultimately be different, I would argue that this thesis compiles a collection of facts, data, and substantial evidence that points to a particular set of conclusions resembling the reality of this fishery. I also have taken great care to accurately reflect the expressed intent of my interview participants and experiences I had during participant observations. To that end, I maintain that this research reflects the truths behind these fisheries' resource conflict to a point which many fishers will find agreeable.

**Purpose of the Study**

This research focuses on understanding the many elements, complexities, and perspectives of Cook Inlet and Kenai River-based salmon fisheries and the people who utilize them. In this section of the introduction, I intend to provide a broad overview of the subject matter of this thesis, including the methodology used in conducting this research and the geography, culture, and people that comprise

the heart of the work.

As with any study, it is important to first identify and describe the purpose of a research effort, thereby warranting the findings and methods with which it was conducted. My goal is to frame the various issues surrounding these groups and this resource within the context of conflict and the human dimensions of Alaskan fisheries. To achieve this, I have conducted this research in a manner that utilizes ethnography as the primary frame of reference, as I wished to examine the fishery from the perspective of the user - fishermen. The purpose of examining this fishery from the perspectives of users is to capture the essence of what is truly important to fishermen in terms of the ongoing sustainability of their fishery and how management, policy, climate, and other factors may influence the future of their livelihoods.

This research initially began as an exploration into the fishing cultures of the Kenai Peninsula and Cook Inlet region during the summer of 2011. During my first research trip to the Peninsula, several themes arose from conversations with fishers, processors, and managers as we discussed the fisheries of this region. Most notably, these groups identified to me feelings of distrust, contention, and uncertainty about to how the fishery is managed, how other users may or may not value the fishery, and how other user groups are allowed opportunity to access and harvest salmon. During the winter of 2011 and spring and summer of 2012, I spent time participating in local commercial fisheries, and conducted multiple structured and semi-structured interviews with people from all of the local fisheries in an effort to understand the feelings of resource users as they (fishers) perceived them to be important to the ongoing sustainability of the fishery. My goal in conducting this research was to identify points of contention and consensus between user groups, and to situate those arguments in a larger context of Alaska politics and policy, fisheries economics, and the human dimensions of culture, identity, and livelihoods.

**Background and History of Ethnography**

Early ethnography arguably lacked a commonly agreed upon set of methods, such as structured and semi-structured interviews, as are common to contemporary ethnographic work. Many early attempts often did not thoroughly document the methods used by the ethnographer in the field, and were instead nested in the theoretical frameworks common to the day, through which many practicing anthropologists attempted to define and describe their chosen group of "exotic others." Modern ethnographic work, by comparison, cannot claim perfection, mired as it sometimes is in post-modern critique of functional, evolutionary, and other 'scientific' approaches to anthropology. Nevertheless, the evolution and historical context of the field provides direction for contemporary scholars such as myself, one in which an understanding of diverse cultures and people is truly possible. This understanding is found through a researcher's experiences as a guest member of that group, as expressed through the words and experiences of native individuals, and from the perspective of those individuals' own terms, language, and perceptions.

With these early anthropological origins, ethnography shares characteristics of exploring the "Other" and understanding the inner workings of a system with other disciplines, such as ecological anthropology, political science, and the emerging field of sustainable science(s). However, contemporary ethnography is set apart from this and other methods through a distinct feature – allowing individuals of a culture to describe themselves and the practice of immersing the researcher in the cultural environment. These practices define ethnography separately from journalism, which strives for accurate description, objectivity and a generally broad and brief overview of a subject; from anthropology, which explores a culture or people from their habits and cultural practices rather than by their own definition; from political ecology or political science, which examines the systems in which people and the environment interacts with structured government. These fields unquestionably share common dynamics, but ultimately are differentiated from

ethnography by their unique practices and goals in *how* they endeavor to understand their subjects.

Ethnography may be framed within several goals: to explain and understand patterns of action that are social and/or cultural, rather than cognitive, behavioral, or affective (Arnould and Thompson 2005); as an example, ethnography focuses on the experiences of individuals that help researchers understand the collective cultures. However, ethnography approaches these experiences through activities and practices, and through personal opinions and descriptions. By comparison, cognitive or behavioral studies, which respectively describe thinking and behavior through observation, may not account for practices and rely upon opinions of individuals, because these are subject to bias of the individual. Ethnography also endeavors to study lifestyles within their own cultural or sub-cultural context (Stebbins 1997) and to explain the ways that culture constructs and is constructed by the behaviors and experiences of its members (Goulding 2005). To summarize, ethnography fills an important niche in human dimensions research as a research methodology, a research method, and a method for communicating research to a broad audience. When informed by an appropriate theoretical background, ethnography can add tremendously to our understanding of the human condition in its many forms.

**Environmental Ethnography**

With this preface to ethnography and what modern ethnographers attempt to understand through its assemblage of methods, we now turn to the specifics of environmental ethnography as my chosen methodological and interdisciplinary basis for undertaking this research. Ethnography, when considered in terms of an environmental framework, takes on a particular cultural reference: the landscapes and climates that shape the nature of a culture. Identifying the features of an environment, physical or otherwise, that play into the central tenants and shape of a culture gives researchers the opportunity to describe a rich and vivid tapestry that

illustrates the culture of a particular group. Of course, ethnography itself is the practice of studying someone from his or her own perspective, and environment almost always plays a key role in that process. However, environmental ethnography takes this a step further and asks how peoples and cultures are influenced by, and how they reciprocally influence, their environment.

It is important to note that 'environment' can be a versatile term. One's environment may take the shape of physical surroundings, climate, ecosystem, or other tangible manifestation. Environment may also be, however, the political climate that influences cultural practices (in this case, fishing), the management system set in place (i.e., policy, management systems), or the community setting surrounding a group (Bennett 1976). Most often, many of these different types of constructed 'environments' are simultaneously operating, and it is the job of a researcher to differentiate between them and understand how each influences cultural practice, individually and in tandem.

**The Methods of Ethnography**

Having identified what ethnography is as a methodology and general research framework, it is important to also discuss the methods by which an ethnographic study may be conducted, and the advantages and disadvantages of various techniques.

Ethnographic data can be gathered through a variety of means, which include but are not limited to: participant observation, field notes, individual and group interviews, and surveys and their related coding and analysis (Bernard 2006). Though different in their execution and purpose, these techniques may be used in combination to create a rich data set and a deep understanding of the nuances of culture in the researcher.

Participant observation is perhaps one of the most powerful and unique methods in ethnography, seeking out answers to the "who," "how," "when," and "where" inquiries of a research question. It allows the researcher to not only gain

ground-level experience alongside a culture practice and its practitioners, but also to briefly encounter the culture in the first person and internalize it for a better understanding of the study participant's experience. This can create the condition of the researcher becoming *part* of their research rather than remaining an outside observer experiencing only the *etic* perspective. Field notes, though used in almost any academic practice, can be used as a particularly important tool for a researcher to record data, personal thoughts, and feelings, thereby giving a written record by which to parse the experience along objective and subjective observation lines. Participant observation is not a culturally neutral or "objective" methodology – indeed, it is *etic* in nature, sometimes approximating *emic* - though it can be paired with interviews to create a more academically defensible study.

Interviews of study participants are an essential component of an ethnographic study and complement to participant observation (Weiss 1994), ideally answering "why" a research question has been posed. Interviews allow study participants to describe their experiences in their own words while giving some control over the direction of the data collection to the researcher. Through an interview, a researcher has the opportunity to seek out the reasoning behind a participant's activities, perhaps that the interviewer has already participated in. The activity or behavior can be broken down and evaluated for rationale, purpose, and other more layered understandings. The interviewee may be prompted to explain seemingly unusual or incongruous behaviors, and perhaps also offer examples of the history and perceived significance of the activity. These are important components of understanding a culture or practice that may not necessarily be gleaned from a participant experience alone.

Ethnographies can, if not carefully crafted, create the appearance of favoritism on behalf of the author toward the culture or may neglect to pointedly answer research questions. For instance, in this project where some interview participants are my immediate family members, friends, neighbors, and hosts, special care was taken to maintain a professional objectivity and distance from the

subject matter. In interviewing and participating in fishing activities with these research participants, I must carefully evaluate whether I treat them with the same objectivity as I do people I am meeting for the first time, and ask the same questions in an appropriate manner, as I would do with strangers. The answer to this is, of course, that it is not possible for me to put aside my relationship with my father in such a way that he could become a stranger. Instead, I can check the integrity of my work by working with another researcher, keeping a set list of questions that are asked of all interviewees, and utilizing notes, memos, and journals as a means of keeping my own thoughts and opinions separate from those of participants. The *emic* effort of ethnography ***does*** require the researcher to become a piece of the research, thus allowing for my relationships with participants and the choice of ethnography as an appropriate methodology for my research.

*Ethnography and Science*

With all of these critiques and challenges, though, why ***would*** one choose ethnography as a method of study? Certainly there are more quantitative techniques that yield easily analyzed and comparable results. However, the form of recording and reporting used in ethnography, the narrative, allows for an inimitable and often very meaningful experience for the interviewee. As in the case with my research, participants often expressed gratitude for the opportunity to tell their unique story and share their personal experiences. Using a more quantitative method would exclude that opportunity and contribute to the further dehumanization of fishers and their livelihoods that I so often witnessed in our study of resource conflicts. This quality of storytelling and the ability for participants to express themselves openly and honestly may face the critique of being, for lack of better terms, "mushy" or "soft". In fact, this intangible experience can be the difference between meaningful research that serves both academic and cultural purposes, and research that focuses solely on expanding a knowledge base.

Some scholars may critique ethnography for its "human" aspect and

admittedly people can express perspectives far from any "truth" we may hope to elicit through our research. However, that same scholar would be remiss to not also acknowledge that "Truth" is only as true as its believers see it to be. The "human" aspect of research that may sometimes be so frustrating or confusing is also what makes it worth doing and is what helps us to understand our own species. Without including it or acknowledging the merits of methods like ethnography, we do ourselves the disservice of studying a world that exists without human error or nature – a world that simply doesn't exist.

By choosing the Kenai Peninsula and Cook Inlet/Kenai River fisheries as subject matter for my research, however, I actively accept the possibility that those who only superficially evaluate my work will critique my direct relationships with the area and fishing culture. More specifically, I run the risk best described by Benedict:

> A Japanese who writes about Japan passes over really crucial things which are as familiar to him as the air he breathes. So do Americans when they write about America (1967).

How can I possibly hope to explore the conflict surrounding the Kenai River salmon fisheries when I myself was born and raised in the controversy? The language of this conflict is a part of my personal memory and entwines itself into my emotional relationship with family, personal identity, and the communities I still refer to as "home." Any other academic might have reason to critically examine any conclusions I might come to and find bias or any other number of faults derived from my lengthy personal experiences – a limitation of my study without question. For these reasons, I argue that ethnography is perhaps the *most* appropriate methodology I could employ to help separate me from these discursive dangers. By its nature, ethnography allows me to research fishery participants and allow them to describe their answers to my research questions in their *own* words. Any conclusion I derive is then comparable to the original transcript of an interview or photos of an activity, making it substantially more difficult for me to stray from the

truth as it is perceived by our research participants. In addition, ethnography allows for my participation in the fishing industry so that I might once again experience it as an older, trained researcher rather than an untrained worker or deckhand. These features of ethnography will strengthen my conclusions and, in addition to working with another researcher (an important strength), hopefully minimize my own biases toward the data.

There remains one final and most important reason for ethnography, which I have saved for last in this defense of ethnographic methods. In Rappaport's *Distinguished Lecture in General Anthropology (1993),* he argues that what he terms engaged anthropology aims to "anthropologize social and political discourse, not to politicize anthropology (297)," and argues against the idea that value-neutral anthropology is a lofty ideal not readily achievable through the study of culture and people. Rappaport places value in holistic research that seeks out the value of all parts of a system, and moves away from the more pigeonholed disciplines of economics and "problem-solving" held dear by much of academia today (297). He says, "It seems to me that any adequate understanding of the contemporary situation and any adequate theory for correcting its ills must be holistic or systemic... (297)."

I agree with his vision of understanding which, in my case, is the culture and mechanics of Upper Cook Inlet salmon fisheries and how they are valued by the people who utilize them, rather than their ex-vessel values or broader economic worth. Rappaport illustrates the need for research to address the world as it is, in its entirety, and avoid examining niches and attempting more likely to bring about further problems for having ignored underlying fundamentals of the system. Of ethnography, Rappaport says:

> Ethnography is crucial in a world in which the domination of privileged discourse, amplified by increasingly concentrated mass media, threatens to make other discourses inaudible or unintelligible. It follows that an important first step in rectifying disorders in relationships between and

amongst discourses is to make all of them intelligible and audible (301).

Presented in this light, ethnography clearly is the method of choice for my personal ambitions as an academic, which in short could be summarized as: I find in it the drive behind my very life to seek out the essence behind natural resource problems and identify present long-term sustainable solutions to resource use for the people who depend upon and live amongst them. Ethnography is the tool by which I may access the root of an issue and develop rapport and confidence with local communities. Such methods are crucial, as is the attitude that anthropological work of whatever kind must not be for the sake of knowing and exploration, but rather for the contribution toward a better and more equitable, just, and sustainable world.

In this work on the Kenai River and in Upper Cook Inlet, I endeavor to better inform the world's view of fishermen and their relationships with their fisheries and livelihoods. To conclude, Rappaport summarizes nicely, with clear parallels to my work, views about why this work is essential to the region and, on a broader scale, to how human-resource conflict is studied and amended in the future:

> Responsible anthropologists may, understandably, be reluctant to move from more traditional stances with respect to public affairs to the engagement I have been advocating, which may seem to them arrogant or even dangerous...But we should not forget that we are citizens as well as anthropologists. We should not, any more than anyone else, stay out of public arenas or check our professional modes of understanding when we enter them, nor should we forget that public approaches to public problems are now informed by views of the world, its ills, and ways to cure its ills provided by other, narrower disciplines no better founded than our own, and considerably less humane (302).

**Research Goals and Design**

Below is a brief outline of the specific goals and methods employed in this

project. In the framing of my study, I am looking at several layers of ethnographic information:

1. Fishermen within their maritime environment;
2. Multiple fisher groups within the context of the fishery and resource conflict;
3. The aforementioned groups as members of their small, coastal communities;

As already noted, I seek to understand the basis for conflict over the Cook Inlet and Kenai River salmon resources, as well as the integral role that fisheries play in the cultures, livelihoods, and identities of the harvesters and communities of the region. Using ethnography as a methodology, I seek to allow the individuals of this fishing culture to explain these ideas in their own words. In addition, I am advantaged as a researcher am able to participate in the activities pertinent to the culture (i.e., drift gillnetting, sport fishing, activism for closed fisheries, etc.) to better understand and report important issues. Ultimately, my goal with this research is to outline, study, and propose resolutions for a human conflict over a shared resource. Ignoring the human aspects of the parties involved would do a disservice to the participants who have granted us access to their cultural lives as well as potentially ignore the root of this resource conflict, which I hypothesize is based in management rather than quantity of the resource.

My ethnographic approach instead allows my experience to sharpen our data collection and inform our approach while still allowing others to tell their stories. In conducting this research, I have also found that my own personal understandings of the fisheries and conflicts in the region have been reshaped. In retrospect, I feel that this means of experiencing and understanding the fishery proves incredibly valuable for my academic experience, as it allows me to challenge and change previously held beliefs with the addition of new data, thereby enriching it rather than building it from square one.

As an example, some of my interviews with fishermen have taken place in

their homes. Entering their private dwellings has allowed me to see physical evidence of the importance of fishing to their lifestyles and identities.. Many homes were decorated with marine or fishing themed art and objects. In one case while visiting a fishing camp used for over 100 years by the same family, I was able to see walls lined with old fishing licenses and memorabilia of family traditions centered around the fishing experience. These are important clues as to the role of the fishery in the lives of individuals and communities that would otherwise be overlooked in a quantitative study, more formal interviews with strict questions, or survey use alone. The richness of our data is enhanced by the inclusion of these unique observations.

In summary, ethnography is perhaps the most appropriate means of answering my research questions about resource conflict amongst Kenai River and Cook Inlet fishermen. It gives my research participants an opportunity to, in their own voices, describe their perspectives and take part in a dialogue among multiple stakeholders who use the salmon resource. As a researcher, I have the distinct advantage of hearing highly unique personal stories rich in complex data, as well as being invited into the physical settings of cultural life (homes, businesses, etc.). Tying these components all together are the landscapes in which our research team must travel to seek out these data sources; this allows us to, even if for a short time, take part in that culture ourselves and become a member of that environment, further deepening our understanding through our own personal experiences. None of these things would be possible without the methods of ethnography and qualitative research.

**Interview Methods and Analysis**

I have performed structured and semi-structured interviews with fishers from all local fishing sectors: commercial drift fishing, commercial set net fishing, sport-charter guides, and personal use dipnetters. Sampling of these groups was non-probabilistic; interviewees were recruited using a purposive snowball method,

beginning with leaders (i.e., presidents) of local fisherman's associations (Weiss 1994). I did not target a specific number of interviewees but rather continued to the point of apparent saturation (Guest et al. 2006). As with Guest et al., we found that this occurred between 10-12 participants.

Interviews were semi-structured and they began by asking fishermen to tell the story of how they began fishing, and then proceeded into more technical discussion of their practices, crew, licensure, and marketing strategies. Participants concluded with a discussion of sustainability, where each interviewee asked where they expected themselves to be in ten years, what they thought about the status of the fish populations, if their children fish (and if they wanted them to fish), and what they thought were the most driving issues facing regional fisheries. Efforts were made to address every question on the original question script, though interviews often went in unpredictable directions, causing some to last over two hours. Lengthy interviews, however, were accounted for in scheduling meetings and questions were never skipped due to time constraints. Most interviews, however, lasted between 30 and 60 minutes.

Interviews with personal use dipnetters required a different recruitment process due to the time intensive requirements of the fishery and transitional nature of the participants. Interviews were conducted across the temporal and spatial limitations of the fishery, and participants were recruited opportunistically with a priority on not disrupting fishing activities. Eighty-five individuals were interviewed using a short-interview format with conversations lasting between 5-20 minutes (Appendix 4). The larger number of interviewees was selected in an effort to represent the very large number and diversity of participants in the personal-use fishery in comparison to the commercial and sport fisheries.

After the fishing season, commercial and sport fish interviews were transcribed verbatim where possible. Occasionally, the quality of the interview audio recording was too poor for verbatim transcription to be possible, and so a summary of the interview was created using audio context clues and written notes

from the interview. All interview transcripts were loaded into Atlas.ti Version 6.2, a qualitative analysis software package. Using this software, each transcript was reviewed and open-coded, creating 50 codes. The transcripts were then re-coded to create 5 thematic families, identifying redundant codes, and creating sub-codes where appropriate. This resulted in 42 final codes.

Codes were partially reviewed by another research team member to test for inter-rater reliability of the coding. This was accomplished by having a second team member go through a small selection of interviews and separately code them, then comparing the two coding efforts for continuity. Once all codes were finalized, the completed codebook was reviewed and memos were created for each code to explain its purpose and application within the transcripts. Completely coded transcripts were then analyzed using the Atlast.ti software to find co-occurring codes and other previously undiscovered trends within the data. Through these interviews, we were able to understand the Cook Inlet and Kenai River fisheries from the perspective of the resource user and aim our research at addressing the points of contention and consensus within these perspectives.

**Overview of the Chapters**

Throughout this thesis, I present a multidisciplinary approach to understanding the sustainability of the culture, livelihoods, and ecosystems in the Cook Inlet and Kenai River salmon fisheries on Alaska's Kenai Peninsula. In Chapter 1, I present a broad overview of the Cook Inlet region, its inhabitants, user groups that access regional salmon fisheries. In Chapter 2, I present an overview of how the Kenai River and Cook Inlet salmon fisheries are managed and regulated, including regulatory bodies and agencies and their mandated roles. This chapter also includes a presentation of ethnographic data collected during interviews between summer of 2011 and spring of 2013. In combination, these data show the perspectives and attitudes of fishermen as to how they regard the current state and potential of management to contribute to or detract from the ongoing sustainability of the

regional fisheries and fish stocks. In Chapter 3, I examine some of the economically based arguments commonly made to support allocation rights among the several user groups that access the area fisheries. This chapter draws upon economic reports produced by advocacy groups and the State of Alaska, as well as a comparison of these reports by an economist from the University of Alaska Anchorage. This chapter again draws upon ethnographic research to understand perspectives of fishermen, illuminating how they interpret and develop their economic arguments for allocation. In Chapter 4, I present an ethnography detailing and describing attitudes and perspectives of fishermen as to how they perceive their personal identities relate to their fishing livelihoods. Finally, in Chapter 5 I conclude with some final comments on the interview data, as well as recommendations for future research and some personal thoughts. As a preface to each chapter, the reader will find a personal narrative split up across the body of the thesis. The purpose of including this narrative is to give the reader a deeper and more intimate understanding of where this research comes from on a personal level, and how it has affect me as a research over the course of these past two years.

## Preface to Chapter 1

**Figure 8**: Crabbing on Kachemak Bay

*The charm of fishing is that it is the pursuit of what is elusive but attainable; a perpetual series of occasions for hope.* – John Buchan

*Thank you, dear God, for this good life and forgive us if we do not love it enough. Thank you for the rain, and for the chance to wake up in three hours and go fishing. I thank you for that now, because I won't feel so thankful then.* – Garrison Keillor

**July 12th, 2012 - Dawn**

My alarm rings beside my head and I'm jerked awake. I roll over, groggily getting my bearings as I scrambled to silence the jolting noise. It's 5:45am on a Monday. It's time to go fishing.

I slip out of my warm bed and into cold clothes and Xtra-tufs. This year, I'm fishing for my Uncle Craig, or "Captain Scissors". The moniker is a term of endearment gifted from my dad to Craig, an abbreviation of the "Scissor Bill" it originally was. The name derives from an old and tired family joke; one that is revived every summer for another round of bad jokes and good-natured ribbing between the two brothers. I don't know Craig well, but I'm excited to be rejoining the family tradition of bad weather, cannery living, and what we hope will be a very fishy season.

I throw open the door to my trailer, my home away from home at the cannery fish camp. The morning is chilly and a golden mist rises over the bends of the Kenai River, illuminated by the rising sun. It's breathtakingly beautiful, but my aesthetic appreciation for natural wonders is muted by the early hour. Phil is already awake in the cook shack, coffee steaming on the burner. We're both groggy but excited to fish. Two weeks of sitting on the beach closed, watching Dad and my sister head out on the drift boat to catch the incoming flood of Cook Inlet salmon. Now the setnetters have our turn. I try to shake the chill from my bones and sleep from my eyes by parking myself in front of the small space heater that keeps the shack a bearable temperature.

Craig saunters in, his eyes awake even if his middle-aged body is slower to find his coffee mug than it used to be. The three of us stand in silence, sipping,

minds collectively focused on the work ahead.

"Where's Danny?" I ask aloud, wondering after my 19-year-old cousin who rounds out this year's crew. Glancing at the clock, I walk next door and pound on his trailer door.

"Boat leaves in 20, Dan!" I shout. I see signs of life within and return to the warm shack for a quick bite of breakfast. At 6:30am, Craig declares, "Suit up!" and we head to the drying shack that houses our bright orange and dark green rain gear. We slide into our neoprene skins and try to seal off all possible heat leaks with hats, gloves, and sweatshirts peeking out from the seams. Phil and I dress quickly and begin the march down to the dock where we'll catch a boat ride from a cannery worker out to our setnetting skiff, laden with nets and gently bucking the wakes in the river.

"Let's go, Danny!" I call as we leave camp. I hear a muffled call and turn to make sure Dan is on his way. He is, gloves in his mouth as he struggles to buckle his bibs and slip into his raingear. It's his first time setting the nets. I think back to my first opener and feel encouraged by gained, if rusty, experience. We skiff out to the boat, untie from the buoy, and try to get comfortable in the piles of webbing as Craig pilots us out to sea.

It's an ebb tide and rocks loom up from the muddy bottom as we navigate the deeper channels.

"First glacier to the right and straight on toward the drill rig." Craig shouts into the wind, alarming nearby seals as they sun themselves on exposed rocks. I look toward the far side of Cook Inlet and spot his navigational glacier, nestled against the flanks of Mount Redoubt. Far out in Cook Inlet is the much more miniscule drill rig. We find our way out to deeper water as we align these markers with the bow of the skiff.

The salty water is mirror-smooth and our skiff sails over it with ease. Suddenly, I hear a splash behind us and I turn to see the ripples of a disturbance in the water. Then: again off the starboard side! Salmon throw themselves into the air

all around us, flashing green and silver in the sunlight.

"Jumpers!" I shout, frantically pointing out each leaping fish to the greenhorn crew. I'm so excited; maybe this means the sites will be teeming with salmon! I cannot wait to get the nets in the water and watch the corks bob as fish hit the net.

In moments we've reached our first set of buoys. We clip onto our zipline, one end of our first net tied in place. Craig sets the tiller to forward and we skim along the surface, rapidly closing the space between us and the next set of buoys. The net whips out of the boat and Phil carefully stands to the side to avoid catching clothing or rope in the speeding web. We tie on to the second set of buoys, release the zipline, and let the net hang free in the water, awaiting fish.

As we speed toward the second and third sites, I'm feeling excited. After a week and half on the beach, we're finally in the water. Finally making money. Finally fishing.

**Figure 9:** Reaching for the lead line

# Chapter 1:

# An Introduction to the Cook Inlet Watershed and Alaska's Salmon Fisheries

## Introduction to Cook Inlet

Cook Inlet is a stretch of ocean reaching 180 miles from the Gulf of Alaska to its northern terminus of Knik and Turnagain Arm. Cook Inlet's watershed covers approximately 100,000 square kilometers of southern Alaska, with many tributaries including the Knik, Susitna, Kasilof, and Kenai rivers (Figure 10). Cook Inlet and its tributaries, most noteably the Kenai River, are home to all five species of Pacific salmon (*Oncorhynchus spp.*), with runs numbering in the millions. The watershed includes the drainage areas of Mount McKinley (also known as Denali).

Historically, Cook Inlet was first explored and settled by the Dena'ina peoples, a native Alaskan group that archeological evidence suggests have inhabited the Cook Inlet and Kenai Peninsula area for several thousand years. In the 18th century, Russian fur traders were amongst the first European peoples to explore the area. In 1778, Captain James Cook led a sailing expedition into Cook Inlet, searching for a Northwest Passage. In 1794 the Inlet was dubbed Cook Inlet in European records, named after Captain Cook by George Vancouver who sailed under Cook in 1778 (Cook Inlet Historical Society).

After these initial voyages in the 18th century by Cook and his cohorts, few Europeans, and later Americans, visited the area until the construction of the Alaska railroad in 1915 which traversed the eastern shores of Turnagain and Knik Arm. Today, the natives of Eklutna and Tyonek are the descendants of the original natives from eight identified villages around upper Cook Inlet. There are also smaller, predominately Alaska Native or Russian communities such as Seldovia, Port Graham, and Nanwalek, which are not on the road system, and in which livelihoods

are tightly organized around subsistence hunting and fishing (Fall et al. 2004).

**Figure 10**: Map of the Kenai Peninsula and Communities. Credit: Alaska Department of Fish and Game

Today, the Cook Inlet watershed is home to over 400,000 Alaskans - over half of Alaska's total population (United States Census 2010). Cook Inlet provides navigable access to the port of Anchorage at the northern end of the inlet, a major entry point for goods bound for all corners of the state. Elsewhere in the Inlet, other communities with smaller ports also provide crucial economic services and entry points for Alaska.

The Kenai Peninsula Borough, which encompasses both the Kenai Peninsula as well as an area on the western shores of Cook Inlet, comprises of only about 55,000 residents across an area of over 16,000 square miles. The Peninsula itself is

home to the fishing ports of Homer, Kenai, and Seward, which regularly rank amongst the top 10 fishing ports in Alaska and the United States in terms of volume of seafood landed (National Marine Fisheries Service 2010). The community of Homer, a small but popular tourism destination at the southern tip of the Kenai Peninsula, marks the end of the North American paved highway system. Likewise, the community of Kenai, situated at the terminus of the Kenai River, also provides a major tourism draw with its traditionally strong run of Chinook salmon (*Oncorhynchus tshawytscha*) and easily accessible sport fishing opportunities. In addition to tourism and fishing, Cook Inlet and the Kenai Peninsula also provide abundant natural fuel resources, such as natural gas, petroleum, and coal deposits. The region's economy is supported primarily by fishing, tourism activities and businesses, government spending and oil and gas development (Kenai Peninsula Economic Development District website).

Cook Inlet is part of the migratory corridor for populations of all five species of Pacific Salmon. Salmon returning to any of Cook Inlet's major salmon hosting rivers must travel through the inlet and overcome many obstacles in order to swim and spawn many miles upstream from the inlet's silty waters. Of Cook Inlet's many tributaries, the Kenai River is an especially abundant salmon stream, hosting a run of several million returning salmon. Due to Cook Inlet's proximity to Alaska's major population center, the salmon resource that migrates and spawns in the inlet's tributaries are heavily utilized by both in and out-of-state fishermen. Though the salmon resource is vast and readily available via easy road access, it is not infinite and faces enormous pressure from multiple fishing stakeholders, non-human predators, and natural phenomena. In regard to the human pressures put on Cook Inlet salmon, there are many conflicting views as to which groups place the most undue pressure on the resource, and where management strategies might be changed to better balance the allocation of the resource.

In this thesis, the central fishing districts of Cook Inlet, sometimes referred to collectively as Upper Cook Inlet, as well as the Kenai River and Kenai Peninsula, are

the focal point of this study. The user groups of these fisheries are identified and discussed in terms of their user's participation, harvest, gear types, and other details unique to each fishery. In this chapter, I also provide an outline of the management entities that exert influence over Cook Inlet and Kenai River fisheries. The primary purpose of this chapter is to provide the reader with a background to the area discussed in the rest of this document, as well as a thorough introduction to the players involved in the fisheries that form the heart of this thesis.

*The Kenai River*

The Kenai River runs 82 miles from East to West, originating in Kenai Lake to where it empties into Cook Inlet near the cities of Kenai and Soldotna, with five species of Pacific salmon and several varieties of trout and other freshwater species found here. This resident fish population and the area surrounding the Kenai River also support numerous other mammals, notably black and brown bears that depend on the salmon runs as an essential part of their diet, and many species of birds. Seals and porpoise also have been seen in the river, though they are transient species visiting the river in pursuit of prey. The river and several associated lakes are managed by the Alaska Department of Natural Resources (DNR) as part of the Kenai River Special Management Area (Department of Natural Resources website), beginning four miles upriver from the mouth to its origins.

The Kenai River, with its prolific salmon returns, is one of the most popular sport fish destinations in Alaska, being especially easy to access due to its extremely close proximity to roads and several communities. A personal use and commercial fishery also take advantage of the salmon runs, in addition to a small subsistence fishery that is accessed by a select group of subsistence permit holders. The fishery is managed by the Alaska Department of Fish and Game (ADF&G), which receives its management directives and plans from the Alaska Board of Fisheries (BoF).

**The Stakeholders**

The Kenai River hosts many resource users each year, ranging from visiting

anglers looking to experience hooking an elusive Chinook (King) salmon, to local Kenai Peninsula residents filling their freezer via the personal use dipnetting fishery. A diverse commercial fleet fishes Cook Inlet waters, hoping to intersect salmon returning to the Kenai to spawn. Each of these fisheries has a unique set of rules regulating participants' ability to harvest fish, and the differences between them are important to understand.

*Commercial Fishing*

Commercial fishing of all fish species is the third largest economy in Alaska, producing about $3.6 billion annually for the state. Alaskan fishermen earn over $1.5 billion annually, and the seafood industry contributes about $5.8 billion and 78,500 jobs to the Alaskan economy. According to ADF&G, fisheries management in Alaska is "based on scientific assessments and monitoring of harvested populations and is regarded as a model of successful natural resource stewardship (ADF&G Commercial Fisheries website)."

In Cook Inlet, the commercial salmon fishing fleet is made up of approximately 450 drift permits, and about 100 setnetting permits. These permits represent two different gear types, and are not necessarily all fished during any given season. In 2007, a new permitting system was introduced to the drift fleet called "D permits," which allows two permits to be fished from the same vessel, though each permit must have a separate owner. This additional permit on a single vessel allows for four shackles of gear (each shackle being 300 feet long, and approximately 20 feet deep), as opposed to three shackles without the D permit. In 2011, approximately 54 boats fished with the additional D permit, and approximately 370 boats delivered fish on the biggest catch days of the season. According to ADF&G Biologist Pat Shields, the area management biologist for Cook Inlet, once adjusted for the additional gear being utilized, boats that fish D permits catch about 22% more than boats without the D permit (P. Shields, personal communication, December 10th, 2011). There is some discussion amongst

fishermen that this permit isn't actually an advantage since boats that fish D permits are usually bigger and have higher catch percentages even without the additional permit, but there is yet to be conclusive data published supporting either argument.

The Cook Inlet commercial fleet catches the vast majority of all harvested salmon returning to the Kenai River. In 2011, the fleet caught approximately 5.3 million fish, valued at about $51.6 million. The bulk of this fish is sold from fishermen to processing plants, both locally and internationally owned, located along the Kenai and Kasilof Rivers. These plants pay for deliveries by the pound, and prices are advertised prior to an opening. Prices can fluctuate during a season, and can sometimes determine a fisherman's decision to fish an opening (period of time that fishing is allowed) or not. Processing plants then take the fresh raw fish product and create a value-added product that can take the form of fresh-frozen fillets, salmon roe, fish oil, canned fish, or smoked fish (Personal communication, June 30th, 2011). These products are then generally sold to non-local markets, a possible explanation for

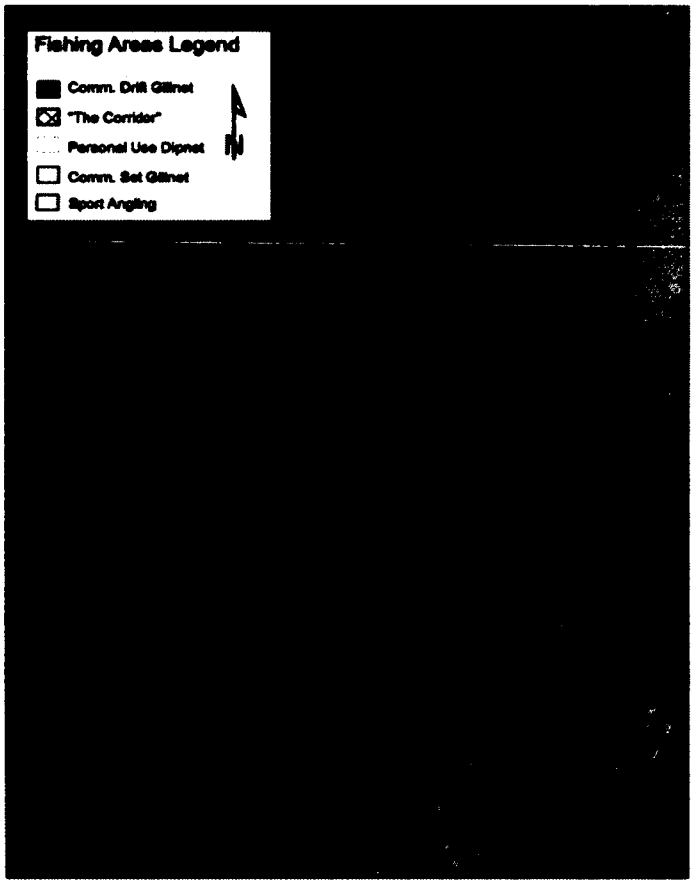


**Figure 11:** Drift gillnet fishing areas in Cook Inlet. Figure by Philip Loring.

why local fish prices in local stores (e.g., Fred Meyer, Safeway) remain high despite the local availability of fish. Much of Alaska's commercial salmon catch is sold overseas, or is sold as a high quality luxury food item in the rest of the United States.

Much of the commercial fleet in Cook Inlet is made up of Alaskan residents, and nearly all fishermen outfit their boats, crew, and gear through Alaskan businesses. Cultural considerations are also a factor in the Cook Inlet fleet, as about 1/3 of the active Cook Inlet drift permits (about 100 boats) are fished by Russian-American fishermen, many of whom live in primarily Russian villages and observe Russian Orthodox holidays during which they do not fish. Much of their fishing income is spent locally within their communities (Personal communication, October 24th, 2011). These and other traditional Alaskan families may depend in part or entirely on their commercial earnings to support themselves during the off-season. Some fishermen also keep part of their catch as subsistence foods, or choose not to sell directly to a processer and instead market to individual buyers at the local level. While these local sales are much less common, they do exist and appear to help fuel an economy of bartered and traded food (Personal communication, October 24th, 2011).

Commercial fishing interests in Cook Inlet are represented by several advocacy groups. Driftnet fishermen may choose to join the United Cook Inlet Drift Association (UCIDA), and setnet fishermen may join the more general group of the Kenai Peninsula Fishermen's Association. Approximately two-thirds of the Cook Inlet drift fleet are members of UCIDA, a politically active group that has filed several lawsuits against the U.S. Department of Commerce over actions taken by the Alaskan Board of Fisheries. Similarly, KPFA represents nearly 300 members with similar advocacy interests. There also exists a small group of seining fishermen who fish primarily at the mouth of Cook Inlet. While not included in the scope of this paper, some are represented by the Cook Inlet Seiners Association.

All Alaska residents as well as non-residents are eligible to participate in Alaska's commercial fisheries. Commercial fishermen are required to follow strict

gear type requirements and must have proper permitting to operate their gear and fish in certain locations. Commercial salmon fishing in Cook Inlet is done in part through drift gillnetting, a mobile fishery restrained by fishing districts and periods, and through setnetting, a more stationary fishery restrained by permits, lease locations, and fishing periods. Commercial fishing harvests the bulk of salmon returning to the Kenai River, with harvest levels numbering in the millions of pounds of fish each year. Commercial fishermen consist of a mix of Alaska residents who live in Alaska in the off-season, and fishermen with permanent addresses outside of Alaska.

*Sport Fishing*

Sport fishers are people who participate in the fishery largely for the purpose of having the experience of fishing. While some fishing is mandated as catch and release, most sport fishing allows the fisher to take their catch home for consumption. Sport fishing is defined by the Alaska Department of Fish and Game (ADF&G) as:

> [The] taking of or attempting to take for personal use, and not for sale or barter, any freshwater, marine, or anadromous fish by hook and line attached to a pole or rod which is held in the hand or closely attended or by other means defined by the Alaska Board of Fisheries (*AS 16.05.940).*

On the Kenai River, sport fishing is a very popular activity for out-of-state visitors and locals alike. Guided tours, custom fish processing, and the sale of value-added fish products are important local industries in most Kenai Peninsula communities. Many of the patrons of these businesses are from out-of-state, or at least come from communities outside of the Kenai Peninsula. Often they are interested in the experience of fishing, and perhaps taking home some salmon to share with friends and family, or to eat during the winter months. Money from this type of fishing is often spent in small, locally owned businesses for catch processing, with guiding businesses, or the additional costs of hotels, food, etc.

Small guide business owners, who provide sport fishing services along the Kenai River, and private anglers have grouped together into associations that represent their collective fishery interests, often in the political arena. For example, the Kenai River Sportfishing Association (KRSA) is a non-profit group that represents the interests of "sport anglers and conservations together to protect and preserve the greatest sportfishing river in the world --- The Kenai [sic] (KRSA website)." Some groups represent more specific interests, such as the Kenai River Professional Guide Association, which promotes guiding operations with certified guides and professional businesses.

These various advocacy groups raise funds, participate in community events, promote conservation efforts, and give a united face to their cause in gaining and protecting access in the Kenai River salmon fishery. To that end, their actions are also sometimes political, and they have regular interactions with management entities to promote sport oriented fishing access.

*Personal Use Fishing*

Another smaller but rapidly growing group is the personal use fishery, also frequently referred to as the 'dipnet fishery'. Personal use fishing in Alaska is defined as:

> [The] taking, fishing for, or possession of finfish, shellfish, or other fishery resources, by **Alaska residents** [emphasis added] for personal use and not for sale or barter, with gill or dip net, seine, fish wheel, long line, or other means defined by the Board of Fisheries" (Alaska Department of Fish and Game website).

Thus, personal use fisheries are very similar to sport fisheries, but are only accessible to Alaskan residents and usually allow much higher catch limits and the use of dip nets. On the Kenai River, personal use fishing takes the form of dipnetting, generally from shore or by small watercraft near the mouth of the river and first six river miles (Figure 11).

Most personal use fishers harvest fish for consumption within their social networks (local family, friends, etc.), though there is some anecdotal evidence of shipping personal use caught fish for out-of-state consumption, or for the sale of fish to those who cannot or do not wish to catch it themselves (Personal communication, October 22nd, 2011). ADF&G allows for a proxy permit that enables Alaskan residents over the age of 65 to have someone fish in their stead, but any fish caught must be given back to the permit holder (ADF&G Fishing Regulations 2011).

Personal use fishing on the Kenai has grown in popularity over the last decade (Appendix 1), and a growing number of participants in the fishery are from the Mat-Su Valley and Anchorage areas. The personal use fishery allocates catch by the size of the household of an individual participating in the fishery. In this case,

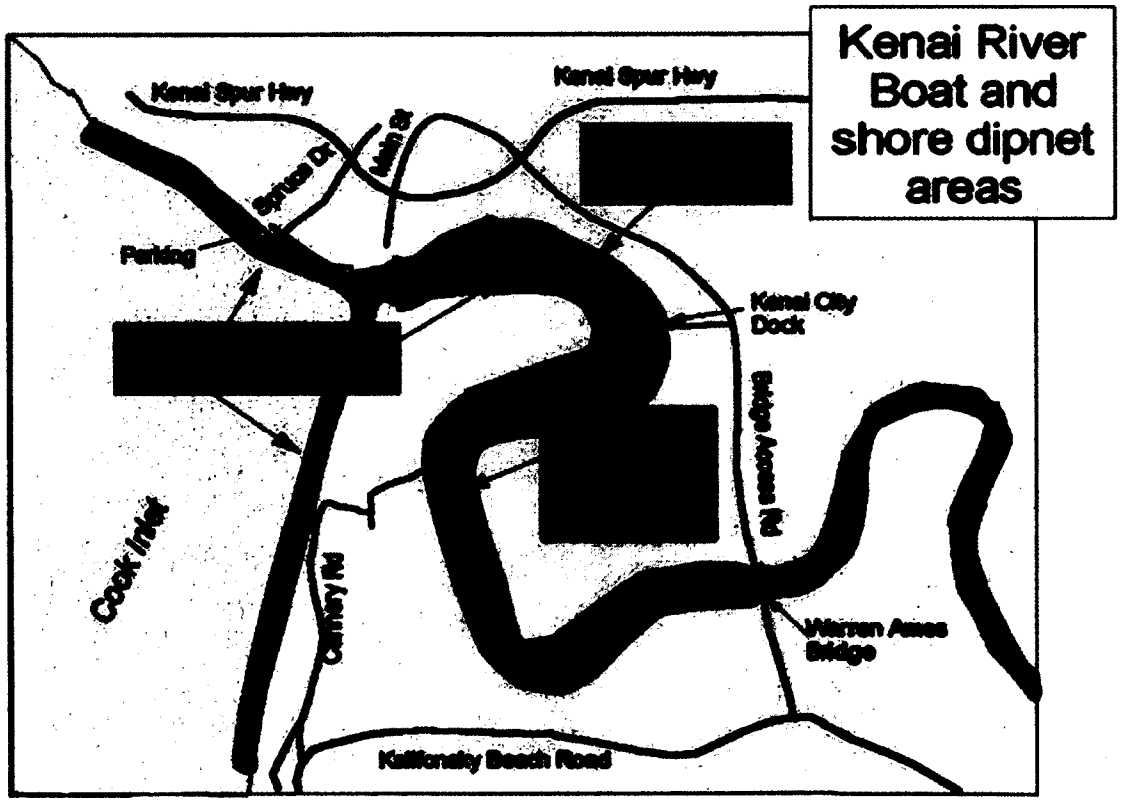


**Figure 12:** Dipnetting Areas on the Kenai River. Credit: Alaska Department of Fish and Game

the head of the household may catch up to 25 fish, and each additional household member may catch 10 fish. This number makes up the total allowable catch for the entire season (per household), which runs July 10th – July 31st from 6am-11pm each day, unless an emergency order is enacted to restrict or extend fishing time. According to the ADF&G website, approximately 537,765 salmon were harvested via personal use dipnetting in 2011, with numbers of harvested fish steadily rising since 1996, and a notable jump in harvest between 2008 and 2011 (Appendix 1). The personal use dipnet fishery, particularly on the Kenai River, is at the heart of growing contentions in the area's fishing communities, partially due to the perceived lack of regulations keeping dipnetting activities in check. One sample comes from ADF&G's records of dipnet permits that are returned after the season as the law requires. Since 1996, the number of permits being returned has been falling to a low of 80% of permits returned in 2011. This and other issues surrounding dipnetting are discussed in greater depth in chapters 2 and 4.

*Subsistence Fishing*

Subsistence fishing, while extremely limited in its practice on the Kenai Peninsula, is legally defined as 'noncommercial, customary and traditional uses' for a variety of purposes. These include: direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible by-products of fish and wildlife resources taken for personal or family consumption; and for the customary trade, barter, or sharing for personal or family consumption (AS 16.05.940[32]).

Under Alaska's subsistence statute, the Alaska board of Fisheries must identify fish stocks that support subsistence fisheries and, if there is a harvestable surplus of these stocks, adopt regulations that provide reasonable opportunities for these subsistence uses to take place. Whenever it is necessary to restrict harvests, subsistence fisheries have a preference over other uses of the stock (AS 16.05.258). In Cook Inlet Waters, there are only a handful of subsistence fisheries, most notably

the Tyonek fishery on the west side of Cook Inlet and the Seldovia fishery in Kachemak Bay. Subsistence fisheries for other species also exist, but are not relevant to this paper.

Unique to the Kenai River and Cook Inlet is a quasi-subsistence "education fishery" utilized by the Kenaitze Indian Tribe (Kenaitze Indian Tribe v State of Alaska 1988). During the implementation of ANILCA, a case was brought by the Tribe in opposition to the Kenai Peninsula's exclusion under the State's non-subsistence area regulations. The case allowed for the Commissioner of ADF&G to issue what are now called education permits as a means for the Kenaitze Indians to continue to practice traditional harvests of Cook Inlet salmon. These permits allow the Tribe to set two six-fathom nets at traditional fishing sites along the Kenai, Kasilof, and Swanson Rivers for a total harvest of 8,000 salmon between May 1st and November 30th each year (Sovereign Nation of the Kenaitze 2012). Access to the education harvest is granted to Tribal members who wish to gather food for the year, as well as elders and guests who wish to practice traditional methods of setting gillnets, identifying salmon species, and cleaning fish for winter preservation. This education fishery is administered by the Tribal Council through a permit from the State of Alaska, which is shared by members of the Salamantof Tribe (Sovereign Nation of the Kenaitze 2012).

**Fisheries Management**

The Kenai River is described by ADF&G as a 'maximally allocated fishery,' meaning that all of its returning salmon are divided into fish intended to spawn and repopulate future runs of fish and those available to be caught by the many user groups. ADF&G manages the returning runs by measuring escapement, or the number of salmon needed to return to the river and spawn so that similarly sized runs may rear and return to the river in the future. Escapement is measured in several ways, but primarily by SONAR instruments located upriver. Salmon runs may return to the Kenai in volumes of hundreds of thousands of fish. Maximum

escapement for the Kenai River in its current conditions amounts to about 1.1 million fish, with a minimum count of 700,000 individuals.

Escapement can be difficult to predict even for fisheries that are not so actively harvested, as salmon tend to travel in large schools and there are several environmental factors that influence the time and rate at which they return. Weather, tides, water temperature, and river water levels all can alter the movement of the salmon run, and managers are faced with the challenge of predicting when enough fish will 'escape' the river so as to let the waiting fishermen make their attempts at the migrating fish. Overescapement is also a management concern; that is, letting too many fish return to spawn, because it can lead to competition for food and shelter amongst emerging and rearing juvenile fish. This competition can reduce food supplies in the river and impede growing salmon populations, decreasing the chance of a healthy return in future cohorts of fish. Underescapement, on the other hand, can result in too few spawning pairs returning to the river and too few rearing salmon later migrating to sea, also resulting in weak runs returning to the Kenai.

Due to pressures from the public to have continually healthy and plentiful salmon runs, achieving maximum escapement without overescapement is the goal for most fishery managers (P. Shields, Personal communication, October, 22nd, 2011). However, the cyclical and sometimes unpredictable nature of fish returns and many survival challenges during the sea-going portion of salmon life histories can create difficulties in ensuring strong returns. On land, illegal fishing activities or incorrect reporting of catches can also skew data used by ADF&G to predict how many fish have made it up the river and can be reasonably assumed to survive to spawn.

Some fishers and managers suggest that the management and allocation decisions from the BoF can also limit the management capabilities of ADF&G and make biologist's jobs restrictive and more challenging. The BoF meets every three years to discuss Cook Inlet fisheries and to create mandates that define who will

have access to the Kenai salmon run, when they may access it, and the limits of their fishing area. In the case of commercial fishermen, ADF&G has long used the commercial fishery to cull large runs and prevent overescapement. In 1999, the BoF created spatial limitations for the commercial fleet, limiting their access to salmon as they migrate up Cook Inlet and into the Kenai River (Alaska Board of Fisheries 1999). Currently, if ADF&G mangers feel they need to utilize the commercial fleet to reduce the number of fish in a run, they must account for the fleet's limited fishing districts and the potential that the fleet may not be effective in stopping the fish if the fish are migrating along the beach and out of reach of the commercial drift fleet (Personal communication, October 23rd, 2011).

In a similar vein, dipnetting is a very popular but weakly regulated fishery at the mouth of the Kenai River. Poor recording practices by personal use fishers and declining permit rates (Appendix 1) make it is difficult for ADF&G to get accurate numbers as to how many fish dipnetters are removing from the return. Such inconsistencies in management decisions and requirements from the BoF make managing for a healthy, sustainable return difficult and potentially catastrophic under major climate or natural disaster-created conditions.

The Upper Cook Inlet fishery is managed by several different agencies, and under several different pieces of state and federal legislation. To understand how all of these different entities impact the fishery, it is first important to understand each of their individual agency responsibilities, and to assess impacts on the fishery's management.

As a brief overview, the Alaska Department of Fish and Game and the Alaska Board of Fisheries both play major roles in Cook Inlet and Kenai River fishery management. Because Cook Inlet waters also fall under federal jurisdiction the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976 also plays a role, along with the Alaska State Constitution for state-managed waters. In recent years, these pieces of legislation have become a litigation tools for some advocacy groups to assert their fish allocation rights (Appendix 5). Both managing

agencies and pertinent law will be covered in greater depth in Chapter 2 of this thesis.

In addition to issues of resource conflict, I wish to give the reader a background of climate change and the potential impacts to Alaska fisheries that could accompany shifts in climate, seasons, and ecosystems. In each chapter, I include a brief synopsis of climate change issues related to the chapter's primary content. In this first chapter, I begin with an introduction to climate change as it may affect the physical environment and ecosystems of fish.

**Focus on Climate Change in Alaska Salmon Fisheries**

As northern latitudes see shifts in climate regimes and predictability in climatic variation, multiple phenomenon will be affected by these changes. In Alaska, the value of Alaska's salmon fisheries, a major contributor to the state's economy as well as a broad spectrum of ecosystem services, will be affected by a number of factors. Due to this importance, much research has been conducted to better understand salmon habitat, ecosystems, and other aspects of their survival so as to better prepare for future changes and impacts to these variables. The National Climate Assessment (NCA) as well as other works have documented much of the baseline for salmon in Alaska, and have made progress into documenting changes already occurring due to climate. However, MacNeil et al. provides a useful typology for identifying and evaluating change. They identify several categories of change: range shifts, declining production, growth rates, habitat loss, and declining recruitment, all of which could have direct impacts on the health, habitat, and future viability of salmon fisheries (2010). Here and elsewhere in this thesis, I give an overview of each of these categories as they relate to Cook Inlet and Kenai River salmon.

*Range Shifts*

Alaskan salmon fisheries, while widespread, are economically situated in a handful of areas with established transportation routes, processors, and

infrastructure to support fishermen. Southeast Alaska, Cook Inlet, the Bristol Bay region, and the Yukon-Kuskokwim Delta all have hosted salmon runs for thousands of years, although other major systems such as the Yukon River are important as well. Five species of salmon enact unique run timings in southeast Alaska, Cook Inlet and Bristol Bay, all depend on specific macroinvertebrates for prey, and all utilize particular features of the riverbed and banks for spawning and the development of juveniles.

As ocean temperatures warm, the retreat of sea ice and northward expansion of prey and suitable habitat may lead to the expansion of salmon habitat to the northern reaches of Alaska's coasts (Parmesan and Yohe 2003). NOAA trawl surveys and anecdotal evidence provided by fishermen suggest that this expansion is already occurring (NCA 2013). Similarly, invasion of typically warmer water species into colder waters will increase in magnitude and the fisheries will most likely see an increased diversity of species as ice cover in the summer becomes diminished (MacNeil et al. 2010) and the range of non-native species expands northward. New invasive species may compete with native species, forcing peoples dependent on fishing resources for subsistence foods to practice prey switching to less preferred species as their traditional stocks diminish. With species migrating from more heavily human populated areas to less developed areas, an increase in chemical transport to uncontaminated areas may occur. Current research on heavy metal contamination of Alaskan fish stocks (Loring and Harrison 2011) and predictions of the disruption of established fisheries may outline future challenges to Alaskan fishers. With salmon playing such an integral role in the arctic food web, the impacts of climate warming on salmon and their role in the arctic ecosystem is not easily measured and evaluated.

*Habitat Loss*

Another example that is more locally focused comes from Cook Inlet Keeper, a non-profit organization dedicated to monitoring, educating, and advocating for the

protection of Alaska's Cook Inlet watershed. Their recently published report on salmon bearing stream temperatures indicates an upward trend in stream temperatures, particularly during the summer months (Mauger 2011). Their findings also document that salmon are especially sensitive to stream temperature, and anecdotal evidence reports increasingly lethargic sport-caught fish on unseasonably warm days, or after a period of warm weather and stream temperatures are warmed for a prolonged period of time. It is unknown as to how salmon will cope with these changes, perhaps returning earlier or later in the season to spawn, or struggling to recognize home streams that are changed since their outmigration to salt water (Scholz et al. 1976). Changes in run timing, strength, and fecundity will all greatly impact the overall health of the species, and the predictability and timing of salmon fisheries across the state, thereby jeopardizing the livelihoods of commercial, sport, and subsistence users alike.

Equally as important to consider are the effects of warmer water on salmon prey and their predators. For example, consider the Kenai River and its 89 miles of road-accessible fishing grounds. Though parts of the Kenai are cordoned off to protect spawning and juvenile salmon habitat, increasing crowds encouraged by longer, warmer fishing seasons create crowding and increased bank degradation. Similarly, northward moving salmon runs may create a new market for avid sportfishers to pursue yet uncrowded salmon streams in remote parts of Alaska. Infrastructure and larger crows follow the dollar as uncharted streams become common knowledge to the sport industry. This increased pressure on sensitive arctic soils and flora could result in ecological and habitat damage that will take many years to recover. Trends such as this and other habitat degradation from over-use of resources or lack of education of the resource users will lead to irreversible habitat destruction that will only be further destabilized by large-scale climatic changes.

*Declining Production*

As food webs become less resilient and ocean temperatures warm, the ability for salmon to continue producing offspring in such tremendous numbers may be reduced. Understanding of these relationships and what implications climate change may have for fisheries worldwide are yet unclear, though impacts of these changes are thought to already have been seen in the recent decline of AYK salmon populations (Ruggerone et al. 2009). However, other influences like that of the Pacific Decadal Oscillation have also been identified as a cause for changing production in Pacific salmon populations (Hare and Mantua 2000), creating further uncertainty as to what changes may be cyclical and which may be a steadily increasing climate driven trend. These changes may prove to be very difficult for fishery infrastructure and harvesters to immediately respond and adjust to as their returns diminish from their fishing efforts, leaving them less flexible and effective in their ability to invest in new fisheries or move their operations.

Among the many environmental changes anticipated, warming of cold high latitude waters is seen as a particularly important threat to fish because it controls their environmental physiology and immune response and may result in large-scale shifts in host-pathogen relationships (Gregory et al. 2009). The spread of disease amongst fish used in subsistence diets may affect populations largely physiologically unprepared to cope with or eliminate these pathogens.

With this overview, the area and user groups at the heart of this research have been introduced and outlined. Additionally, I have provided the reader with a short review of climate change issues that have the real potential to impact this fishery. With this context in mind, the following chapters will explore these topics in greater depth and evaluate them in terms of their relationships to policy, economics, and Kenai Peninsula and fishing culture.

## Preface to Chapter 2

**Figure 13:** Scout Credit: Jake Schmutlzer of Five Foot Fotos. Used with permission.

*The best fishermen I know try not to make the same mistakes over and over again; instead they strive to make new and interesting mistakes and remember what they learned from them.* – John Gierach

**July 5th, 2012**

Flash back to a week before our first opening, and I'm flipping through the phone book and scanning the pages for familiar names. Matching them against my scrawled list of setnetters, I dial the numbers. Most of the time I just leave messages, but sometimes a gruff voice will answer:

"Hello."

"Hi! My name is Hannah! I'm a researcher from UAF and I'm here on the Peninsula doing research on fisheries!"

I'm practically shouting with enthusiasm and to be heard over the din of the only coffee shop in town with wireless internet.

Silence.

"...and I'm looking for fishermen who might be willing to sit down with me and talk about their experience fishing in the Upper Cook Inlet and Kenai River fisheries. I got your name from..." I yammer on, hoping that my enthusiastic, witty, yet attempted smooth demeanor might appeal in some way and grant us an interview.

"...anyway, is there any chance you might be willing to let us pick your brain for a few minutes?"

Silence. Then a skeptical voice on the other end.

"You're who?"

I slouch into my chair, take a deep breath, and start again.

Later that day, we score our first interview.

"Okay, so take your first right and then left at the Y and then right again when you see the buoys in the tree." Phil drives while I navigate. The pickup turns off the highway onto a dirt road.

"Buoys in the tree?" Phil asks.

I shrug.

"I don't know. That's just what he said."

A few minutes later, we see blobs of bright orange dangle from a spruce tree as we pull into the driveway. The yard is silent and we park among stacks of old net and corks. The ocean laps gently on the beach a few hundred yards away. A weathered house sits perched on the bluff, painted a long-forgotten color and fading into the tall beach grasses after years of protecting its occupants. A sandy one-lane track leads down to the beach.

I pull on my backpack and ball cap, determined to look every inch the data hardened researcher I wish I was. I reassure myself silently. These are my people. I'm fighting the good fight. They probably won't yell.

Phil and I head down to the beach. We can quickly tell that this is a major operation. Almost a mile of buoys strings out into the water. Forklifts, dilapidated beach trucks, and giant plastic totes await use nestled up against the dunes. In the distance, hordes of dipnetters around the mouth of the Kenai River are like distant seagulls, darting about the beach. We round the corner and come face to face with Mark Everly, longtime setnetter and the star of our next interview. He introduces us to his family members mending nets and stacking gear in anticipation of the next opening. He leads us back up to the lonely little house, and we settle ourselves in the kitchen.

The doors and windows of the cottage are too small, built before the ADA and obesity problems dictated structural design. The walls have pictures of children holding grandchildren and beach-combed shells line the windowsills. The place is clearly a family home, now in its third generation of use.

Mark is one of those tall, rail-thin men with long sinewy muscles and a tough but incredibly generous disposition. His speaks frankly in a low voice and with a note of urgency as he looks out as his blonde little granddaughters toddling about in the yard. I begin with our usual schpeal of promising anonymity and protection as a university research participant. He cuts me off in mid-sentence.

"No! You can use my name. It's no secret what I think. I want people to know what's going on around here. That this is impacting families." He speaks firmly and

without pause. Now that we're guests in his kitchen, all the hesitancy from our original phone call has vanished. He is a man with a story to tell.

I would soon learn that there is no such thing as an anonymous fisherman.

This interview, like many others I would have that over the summer, became unexpectedly emotional. Phil and I trade off questions to Mark – he has such an incredible knack for asking the question that's in my head.

"So Mark, what do you think this closure will mean for your family down the road?" Phil leans back in his chair, gesturing casually but speaking with a pointed intent. Mark leans forward and is strangely silent.

"Well," he says, "it's going to be hard for us. For my son..." His voice cracks. I look up from my notes, startled by the break. Mark is hunched over the table, both hands over his face as he wipes away tears.

"It's just...," he starts again, but cannot finish. His lean form jolts with a silenced sob. Phil and I sit silently. It's awkward and heartbreaking. What do I say? What could possibly make this better? Suddenly, the purpose of this research is brought into stark reality and it feels more essential than ever before. Still, at that moment, the grief of intangible and unappreciated loss fills up the room.

"Mark, I'm so sorry," I say, but my voice doesn't sound sincere enough. I can't be sorry enough. I can't make this better. After a few moments, Mark composes himself. He looks up and leans back, taking a deep breath.

"Sorry," he says.

"Oh gosh, no. It's totally okay. This is hard stuff." Phil and I reach for reassurance, but fall flat with distant understanding.

"It's just really hard...when you've worked this hard..." Mark false starts a few times, attempting to explain.

"We just really love fishing," he says, finally landing on some secure emotional ground. "It's who we are."

Later, we pull out of the driveway and back onto the main road. The interview sits heavily in the air, and I'm filled with equal parts sadness and

determination. We talk about key phrases and other stuff researchers deem important, but my upbringing is screaming to come to the surface. I feel like these are my people, my history, my family. But they aren't supposed to be. They are supposed to be research participants. The struggle between the two parts of me silently storms as we cruise back into camp.

**July 12th, 2012 – Afternoon**

Three hours later, we leave shore again for our first pick. I lean over the bow of the boat, reaching for the cork line without letting my balance slip and sliding face-first into the silty water. Phil and Danny reach beside me; I snag it and yell:

"Grab it!"

"I got it." Danny has a hand on it and together we pull it up and over the bow. I immediately dive back over, pinning the corks to the side of the boat with my body, and pull the net back down to the lead line in with a strange sort of reverse climb. We heave the second line over the bow and drag the whole net to the center of the boat. Phil and I scramble over it to pick from the cork line while Scissors and Danny pull the lead.

We begin to heave the net past us, racing to use the calm of slack water before the flood tide rolls in. A flash of silver and our first fish hits the deck! A beautiful, ocean-bright red. I scramble to get a hand on the fish. I want to prove my worth as a crew member; show that I can pick fish with the best of them, even if I'm not as strong. I jam my fingers under the gills to loosen the taut gill-net, sliding the net out of the gill plate and over the nose of the fish. With a flick of my wrists, the fish flies free and Danny tosses it into the waiting brailer bag. One down.

Our first pick comes up slow – just 500 pounds of sockeye. It's late in the summer, July 16th, and we need to do better than this if we're going to make any money this season. I'm worried for my uncle. He spends the rest of the year driving a limo and waiting on the rich and famous. These few weeks in July are a time where he can enjoy being with his brother again, working outside for no one but

himself, commanding his own crew, and of course contribute a pretty hefty boost to his annual income. To just now be opened for fishing and to not catch much isn't very good for his moral, or ours.

Our second pick gives up little more than the first with the exception of a 45 pound Chinook that lays in the net like a giant silver stone. Phil and Danny are astonished by the sheer size of the fish.

"Holy fucking shit!" Phil shouts as he watches Craig and me bring it aboard and untangle the animal. "That is the biggest salmon I have ever seen."

**Figure 14:** The Big King

"I cannot even believe how big that fish is." Danny, a second year college student from New York, stares at the fish with big eyes.

I laugh as we haul it to the brailer bag. At $3.00/pound, this fish alone pays for our fuel, but I have mixed feelings about the treasured catch. Kings are scarce this year, almost non-existent. This fish is clearly dead in the water, but I still feel guilty profiting from it. If only there were a way we could target reds more effectively and let the other species pass by. Where were the kings anyway? Why was the run so dismal this year? Still, it's a beautiful fish and our spirits are lifted by its presence in the brailer bag.

The tides are such that we must pull the nets early or risk not being able to get them out of the water when the fishing period closes. As we haul them on board and turn toward shore, I wonder if our giant fish is one of the last of a dying species. We snap a photo of me holding the

giant and I wonder if someday I will be able to show my own children a real King, fresh from a net, or if a picture is all there will be left to see.

Back at camp, Craig fixes dinner and we hungrily replenish our bodies from our opening day. My arms are tired from even the minimal picking and pulling, and I begin to have a more realistic image of what a truly heavy fish season would bring for my muscles. Craig pulls out his record book – a veritable treasure trove of catch data from the last 25 years of fish seasons. Phil and I have already poured over it amidst stories of the fabled '89 season and the terrible '92 season from both Dad and Craig. I love hearing their tales of good fishing, learning my family's history through columns of numbers and jotted names of past crew members.

Craig examines last year's catch numbers and grumbles to himself. Never has he fished so poorly this late in the season. And yet it's early in the season. The date of our first opening would have, historically speaking, been our third, fourth, or maybe fifth fishing day. I'm struggling to be optimistic. I want to have a great season and rekindle my interest in my family's business and Alaska's lifeblood economy. It's so frustrating to have our openings dished out slowly, painfully, and with great trepidation. This year is predicted to be a great sockeye year, and even with the poor king run, they can't keep us so limited all season, can they? I head to bed that night tired but excited and hopeful for the days ahead.

*Fishing is much more than fish. It is the great occasion when we may return to the fine simplicity of our forefathers.* – Herbert Hoover

Our meeting with Mark has put us on some kind of good graces list, and the interviews start rolling in. Before long, I have fishermen calling me, wanting to know about the project, wanting to speak their piece into the microphone and make sure their thoughts are a matter of academic record.

In the afternoons, we pace the shores of the mouth of the Kenai River, scouting dipnet fisher interviews. Some days these conservations are easy. Some

days, I can scarcely convince a soul that I'm there with good intentions. As the dipnetting period grows into its later days, the beaches become more and more offensive to even to my olfactory's insensitive disposition. I've always prided myself for having what I call a 'high tolerance for gross', but the tide line of rotting salmon corpses on a hot day is even a little much for me. Still, dipnetters are there around the clock once fishing is opened to twenty-four hours a day.

"We love coming here with our kids. This is such an Alaskan thing to do, and it's great to watch them helping bonk fish and clean and chase seagulls around." I stand with a woman on the beach one grey early morning, with a baby on her back and a toddler throwing an endless supply of stones into the lapping waves. Their chocolate lab chases each stone as it plops into the surf, then rushes back to catch the next one. Her husband stands chest deep in the outgoing tide, dipnet stretched out before him in an endless game of optimistic patience.

"Do you come here every year?" I ask.

"This is our third year with the kids." She sips her coffee and shouts a warning to the toddler.

"He's going to end up getting knocked down and soaked," she says, motioning to the perfect storm of excited dog and unbalanced toddler.

"Kenai!" she calls. The lab turns and sprints up the beach to us.

"Kenai, no! No!" The lab begins to shake the saltwater from its coat, covered us in a fine spray of sand and salty droplets. The dog wiggles happily and returns to the young boy, now examining a partially buried fish head.

The woman and I laugh, despite the water dripping from my face. I write her down in my notebook as: woman, white, late twenties. Fishing w/kids + husband. Dog. I want to write: mother, wife, fisherman, but I don't. I reflect again on the dog's name – Kenai. There have been so many children (Fisher and Sailor) and dogs (Shumagin and Cinder) and boats (Fish Fiend and Elizabeth Lee) in this swirl of July, all themed to reflect the most important thing in their owner's lives.

I turn my attention back to the beach.

"Does your family depend on these fish as part of your winter diet?" I ask.

"No, but we're lucky that way. I know a lot of people do." At that moment, her husband shouts. He has a hit! A flash of silver breaks the ocean's surface and moments later the fish is laid out on the beach, all four of them crowding around and congratulating dad on his catch. I wave and head off down the beach.

Elsewhere other families are crowded around campfires, emerging groggily from campers and enjoying that quiet stillness on the water before the sun rises and the crowd arrives. I come across another woman sitting on a cooler, dressed head to toe in raingear. Her hair is wrapped in a headscarf, the kind my grandmother wore in old family photos. Beside her sits a fillet knife, still sheathed but clearly old and well used.

**Figure 15:** Fresh catch

I approach and we talk quietly. Her husband stands out in the waves, neck and shoulders hunched with age and morning chill. I tell her about my project.

"How long have you been participating in this fishery?"

"As long as they've been doing it." She pauses to remember. "Well, a long time anyway," she says, avoiding forgotten specifics.

"Is it just the two of you?"

"Yes. He catches and I cut. We have a good system." She smiles when she speaks, the lines in her face bunching up around her eyes and mouth. She's 75. Her husband is 78. They've been living in Alaska "since we were married and he brought me up here in an old Ford." I write: woman, white, 75 y/o.

It doesn't seem quite right once it's on the page.

After a while, I ask, "Do you and your husband depend on these fish for your winter diet?"

"Lately, we have. We only need about 20, maybe 25 fish for the whole winter. But we can't afford to eat it if we don't catch it. I can it and jar it and sometimes we smoke a little bit, too," she said. I nod.

"Do you always come so early in the morning?"

"We're early risers, and it's nice to get it out of the way before starting on with the rest of your day," she says. "But these last few years, the crowds have been too much, you know?" I nod again. I do know. On a sunny Saturday, thousands of people pack onto these two small shores to try their luck.

"We just don't want to fight the crowds. We're too old for that." She wraps her coat around herself a little tighter. I thank her for the interview. As I begin to walk back to the car, she calls after me.

"Are you going to fish, dear?"

I laugh. "Maybe!" I shout back.

"You should," she calls. "Salmon are a gift from God himself!"

I wave and continue to walk. The crowds are beginning to arrive, and my coffee mug is empty.

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# Chapter 2:

# Perspectives of Policy, Management, and Barriers to Harvest in Cook Inlet and Kenai River Fisheries

## Introduction to Alaska's Fishery Policy and Governance

Alaska's structured system of governance for the management of natural resources incorporates many policies and agencies in a dynamic and sometimes volatile and iterative tandem. The interaction among these groups and the local, state, and federal policies that shape their work form the basis for some of the most contentious disagreement amongst user groups of this resource. The Alaska Board of Fisheries (BoF), Alaska Department of Fish and Game (ADF&G), North Pacific Marine Fisheries Council (NPMFC), National Marine Fisheries Service (NMFS), fishing advocacy groups, and resource users represent some of the many interest groups that influence and shape policy, through both direct and indirect means. The Magnuson-Stevens Act (MSA), Alaska State Constitution, and current set of management plans create a tri-fold approach to how fisheries in Alaska are managed between state and federal jurisdictions and influenced by ever-changing fisheries politics and attitudes.

In the previous chapter, we learned about the Cook Inlet region and the various user groups and agencies involved in the harvest and management of its salmon resources. In Chapter 2, I will explore those same topics at greater depth and place them in the context of the political climate of Alaska's natural resource management. In addition, I present an outline of the human dimensions of Alaskan fisheries and how they may be affected by resource conflict and other factors. I do this in order to illustrate a dynamic cultural environment and political climate within which the current fisheries management system operates. Then, I describe managing agencies and relevant policies that exert control over management

decisions for the Cook Inlet region, as well as trends evident in recent decisions made by regulators. In addition, I present findings from interviews that discuss the attitudes of fishermen and managers from across the fishery regarding the management methods for the region.

## Policy of the Kenai River and Cook Inlet Salmon Fisheries

Within the context of Cook Inlet and Kenai River salmon fisheries, there are two important pieces of policy that shape its management: The Alaska State Constitution and the Magnuson-Stevens Fisheries Conservation and Management Act (MSA). These policies create the guidelines within which the Alaska Board of Fisheries and the Alaska Department of Fish and Game must manage this area's fisheries. In this section, I also explore the mandates provided by these two pieces of policy, analyze how they influence the regulatory framework surrounding Cook Inlet and the Kenai River fisheries, as well as provide an overview of the purpose and power of the two regulating agencies previously mentioned.

### *Managing Agencies*

The Board of Fisheries was established under Alaska Statute 16.05.221 for the purposes of the "conservation and development of the fisheries resources of the state." The Board of Fisheries has the authority to adopt regulations including: establishing open and closed seasons and areas for taking fish; setting quotas, bag limits, harvest levels and limitations for taking fish; and establishing the methods and means for the taking of fish (AS 16.05.251). The BoF meets every year to discuss proposals for fisheries regions in Alaska, a schedule that addresses issues within any particular region every third year. BoF meetings are open to the public to discuss regulatory problems and prospects, with emphasis placed on proposals that are aimed at whichever region is in that year's rotation. However, petitions for agenda changes can be filed and accepted by the Board to allow for discussion of a region outside of its regular three-year rotation. Per statute, the public has an opportunity to suggest regulatory changes through a public comment and proposal

period, as well as give input on changes proposed by the Board.

Board members are nominated by the Alaska governor to their position, and confirmed by the Alaska legislature. The board consists of seven members who may each serve three-year terms, and are appointed "on the basis of interest in public affairs, good judgment, knowledge, and ability in the field of action of the board, with a view to providing diversity of interest and points of view in the membership (AS 16.05.221)." The BoF is a non-professional board, meaning that members do not necessarily have to possess a background in fisheries or management science. Instead, board members are selected for, amongst other reasons, their vested interest in a particular fishery and willing advocacy for that cause. Most commonly, three or four of the board members are perceived by fishers to be supporters of sport or commercial fishing rights and access, while the remaining support other stakeholders and interest groups. These apparent political divisions precipitate much contention during board meetings, largely because board members are perceived by fishers to be champions of their respective fishery, and stand against opposing views. Some fishers interviewed believe that this opposition may fall in line with ideologies supporting the rights of individuals over decisions that would be more beneficial to the fishery as a whole.

The Alaska Department of Fish and Game is a state agency created in 1959 and tasked:

> ...to protect, maintain, and improve the fish, game, and aquatic plant resources of the state, and manage their use and development in the best interest of the economy and the well-being of the people of the state, consistent with the sustained yield principle (AS 16.05.020; § 4).

Among its many responsibilities, ADF&G issues and tracks permits, issues harvest violation citations, manages all of Alaska's marine and freshwater fisheries in accordance to state and federal law, operates hatcheries and stocking programs, implements research to understand the health and dimensions of Alaska's various fisheries, and many other tasks (ADF&G Core Services 1959).

In the Cook Inlet and Kenai River salmon fishery, ADF&G manages the mixed-stock seasonal fisheries utilized by many types of fishers, and is the agency responsible for measuring escapement, opening and closing the fishery, and issuing the proper permitting to harvest fish. ADF&G must carry out the regulations as set by the Alaska BoF and are sometimes charged with the responsibility for interpreting regulations as appropriate to the fishery to which they are applied (AS 16.05.221). Though ADF&G is a professional agency with an emphasis on science, research, and biology, the regulations they are responsible for implementing and enforcing are often politically influenced and proposed by non-professionals in the general public and the BoF.

In managing Cook Inlet stocks, ADF&G has a number of professionals that contribute to research and policy interpretation. ADF&G is organized into separate divisions, including the Commercial Fishing and Sport Fishing divisions, both of which have their own means for measuring fish returns, autonomous power to open and close their respective marine and in-river fisheries, and other responsibilities. In the Kenai River, the in-river fishery is "second in line" to marine fishers in that the fish reach the river after already passing through marine harvesters. Thus, commercial biologists must cooperate closely with sport biologists to maintain a balance between what is harvested in the marine environment, and what is allowed to pass through for in-river harvest. Similarly, test boats comb Cook Inlet waters in an effort to create indexes that may measure the run strength and timing of the run as it moves from the Gulf of Alaska to the mouth of the Kenai River. These numbers are used by commercial fish biologists, whereas sport biologists may rely more heavily on in-river counters that, as of 2011, use DIDSON[1] technology to enumerate

[1] In 2011, ADF&G began using DIDSON sonar in place of the old Bendix sonar system. Due to this change in SONAR technology, the sustainable escapement goal for sockeye salmon was changed. All historical escapement counts have been converted over from the Bendix count to the DIDSON-equivalent for purposes of continuity in run enumeration. Due to these changes, historical escapement counts

fish as they move upstream. Both of these counting methods have practically unavoidable errors due to the dynamic state of the environment and difficulty in measuring hundreds of thousands of individual fish.

Aside from counting fish and managing for the biological health of salmon stocks, ADF&G must work closely with the BoF in advising the Board and managing by the regulatory management plan developed by the BoF. This plan is a highly politicized piece of regulation often influenced by fishing advocacy groups. Though ADF&G is regularly consulted for expert opinion as to how proposed changes to the plan may affect the health of the stock. Over the last several decades, this management plan has become restrictive, creating direction for ADF&G sport and commercial biologists for years of high fish abundance and closure measures for years of low fish abundance. In the opinion of some biologists and many fishers, this progression of management plans has created a scenario where managers are unable to manage, their "hands tied" by the structure of the plan and the potential ramifications biologists may face if they stray outside of the plan, even if for biologically sound reasons.

*Relevant Policies*

The Alaska State Constitution, ratified in 1956 and enacted through statehood in 1959, was deliberately written with a goal of curtailing abuses to the state's natural resources, such as had previously occurred with the use of fish traps (Ordinance No. 3), codifying instead, the use of those resources for reasonable development to enhance and broaden Alaska's economic base (State of Alaska Constitution 1956). Article VIII of the document, which addresses natural resources exclusively, makes several important assertions as to how natural resources, including fisheries, should be managed.

In addition to other mandates, the constitution requires that resources be

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are about 1.4 times higher than previously reported (ADF&G Fish counts webpage, 2013).

managed to "the maximum use consistent with public interest (§1)", "for the maximum benefit of its people (§2)", and that "all replenishable resources" will be managed on "the sustained yield principle, subject to preferences among beneficial uses (§4)." The Constitution also includes a "No Exclusive Right of Fishery" clause, stating that no "exclusive right or special privilege of fishery shall be created," although this stipulation does not prevent the state from entering into a fishery "for purposes of resource conservation, to prevent economic distress among fishermen and those dependent on them for a livelihood (§15)." This caveat allows for the State's limited entry program, which went into effect in Cook Inlet in 1973 and has limited the size of both the commercial set and drift gillnet fleets. This selection of rights and regulations as guaranteed by the constitution constructs a system in which all Alaskans have certain rights to access their natural resources (McBeath 1997). However, it is within these limits that the BoF and ADF&G may create allocation decisions and regulations to the fishery.

The Alaska Constitution, as previously noted, is an essential document to fishery's management in Cook Inlet and the Kenai River for many reasons, but particularly for its requirements that regulators, policy makers, and managers manage for the "maximum use" of a resource, a management goal that is sometimes described as the maximum sustained yield (MSY) of a fish stock. One ADF&G biologist described this requirement as coming into conflict with BoF attitudes and the attitudes of fishers who do not subscribe to biological concepts such as overescapement. Restrictive management plans that disallow biologists to practice an adaptive management[2] style that reflects the dynamic and sometimes unpredictable nature of salmon runs that may ultimately create unsustainable biological conditions as a byproduct of over-regulation, with implications for

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[2] Adaptive management is a structure, iterative process of decision making in uncertain conditions aimed at reducing that uncertainty over time via ecosystem monitoring. Adaptive management is a tool that should be used not only to change a system, but also to learn about the system in real time (Holling 1978).

sustainable livelihoods and the health and well-being of fishermen and fishing communities, concepts not covered by law and rarely considered in practice.

*Alaska Fisheries and Federal Law*

In addition to the Alaska constitution, the Magnuson-Stevens Fisheries Conservation and Management Act applies to some portions of Alaska's marine waters, including lower Cook Inlet due to its proximity to both federal and state waters, and because of the presence of commercial marine fisheries. The law was enacted in 1976 and has been amended several times, most notably in 1996 with the Sustainable Fisheries Act (US Congress Public Law 94-265). The Magnuson-Stevens Fisheries Conservation and Management Act was originally intended to, amongst other purposes, allow for the "optimal exploitation" of America's coastal fisheries while preventing overfishing. The act also created Regional Fishery Management Councils that were designed to achieve two goals: to oversee the ability for stakeholders to participate in the administration of fisheries management, and to consider the social and economic needs of the states (§302). Alaska falls under the jurisdiction of the North Pacific Fishery Management Council (NPFMC), as all waters outside of three nautical miles from shore fall under federal jurisdiction (Cook Inlet varies from 20 to 60 miles wide). The MSA dictates that any fish stocks that migrate through these designated federal waters, even if bound for state waters, fall under the MSA. Thus, all Cook Inlet and Kenai River salmon must be managed in accordance with MSA regulations, as well as BoF management plans and the State Constitution. Additionally, the BoF and NPFMC have a Joint Protocol agreement in place, with this agreement formally creating the structure by which both bodies are given some latitudes in managing Alaska's fisheries, although all parties are still required to act in accordance with the other's statutory requirements (BoF and NPFMC Joint Protocol Agreement 1997).

The MSA is extensive and comprehensive in its mandates and guidelines, though perhaps one of the most important pieces of the act is considered to be the

ten national standards it states as guidelines to the oversight of the regional fisheries councils, as well as the management direction of a state's fishery governance system (Appendix 2). Of these national standards, five standards have particular relevance in the context of this research, which are relabeled in sequential order here:

*1. Prevent overfishing while achieving optimum yield;*

In this case, optimum sustained yield could arguably take precedence over Alaska's constitutionally mandated maximum sustained yield clause, in the same manner in which federal law takes precedence over state law. However, because the national standards are considered to be guidelines, room is left for interpretation between these two pieces of legislation. Optimum sustained yield is generally considered to be a lower value in terms of number of individual fish escaping a river than is the MSY, perhaps creating room within the ecological dynamics of a fishery for unknown variables such as climate change, low abundance years, or other unseen factors.

*2. Be based upon the best scientific information available;*

ADF&G is tasked with the research and biological management of Alaska's fisheries, though interviews with fishers suggest that the Department is commonly perceived to be unreliable, slow at producing information, or unable to do the research necessary to properly manage fish stocks. In this case, it seems that ADF&G faces an obstacle that challenges many in the professional sciences: an inability to communicate their science and biological understanding of a system to the resource user and non-professional regulators, with the BoF being but one example. In an interview with an ADF&G scientist, an inquiry was made as to whether the Department had a public relations professional on staff who might be tasked with communications and outreach to communities and stakeholders. The ADF&G staff member was unable to respond, citing a lack of knowledge as to whether such a person worked for any part of the Department.

Many resource users and regulators are primarily interested in receiving scientific information, which they perceive to be important to the management of the fishery, to help them make better harvest and management decisions. However, ADF&G must struggle with the inherent nature of science and research, which is to test hypotheses and rarely come to any definite conclusion about the nature of something as complex as an ecosystem, or address the many unknowns of the marine portion of a salmon's lifecycle.

To be sure, training in the field of biological sciences often rewards uncertainty and patient deliberation in part because such practices allow room for the correction of error. However, the highly politicized nature of Cook Inlet and Kenai River fisheries coupled with the rapid-fire digital age within which decisions are now made creates pressure upon ADF&G to produce results, answers, and to stand by them over time. These expectations are at best unrealistic and, more to the point, appear to create distrust of the Department by resource users and managers. This dynamic is unfortunate and, while possibly inevitable, will likely lead to a less sustainable fishery over time. Rectifying this relationship among all fishery stakeholders will no doubt be a pivotal point for measure either progress or failure of the entire fisheries system, depending on whether trust is rebuilt and non-scientists are able to understand how and why regulatory decisions are made as ADF&G carries out all legally mandated responsibilities.

*3. Where practicable, promote efficiency, except that no such measure shall have economic allocation as its sole purpose;*

One of the most powerful and frequently used arguments determining allocation rights stems from the economic value of commercial and sport fisheries. As demonstrated in chapter three, such arguments are often empirically fallacious and ultimately do not lend themselves to any meaningful directive for allocation measures. As noted here in the MSA, such arguments are fruitless as they undermine and undervalue other essential, non-monetary components of the

fisheries, such as the legally unrecognized value of cultural and community identity, in addition to being discouraged by federal law.

*4. Take into account the importance of fishery resources to fishing communities to provide for the sustained participation of, and minimize adverse impacts to, such communities (consistent with conservation requirements);*

This standard underlies the backbone of most arguments against reduced fishing time and allocation in the commercial fisheries. Arguably, the mandate to account for the wellbeing of fishing communities and sustained participation within the fishery is well supported by this research, demonstrating the essential qualities of culture, personal and community identity, and preservation of livelihoods as supported by participation within the fishery by fishers. This argument is explored more fully in chapter four of this thesis.

*5. Promote safety of human life at sea;*

Management decisions over the last several BoF cycles have been slowly chipping away at "non-essential" fishing time, especially within the commercial set and drift gillnet fleets in Cook Inlet. Early openings, while perhaps not productive in harvesting fish, provide an essential opportunity for fishers to practice their craft, train crew, and break-in equipment after the winter season (Loring et al. 2013). Greater attention to this need of the fleet should be accounted and advocated for in accordance with this standard in the MSA (600.305).

While these and the rest of the management standards in the Magnuson-Stevens Act are considered to be guidelines, the management councils and state management powers are required to consider them in all their decision making for a fishery. However, these guidelines do not necessarily prevent issues of biased or politically motivated resource allocation or policy-based rather than scientifically based management from arising. Most recently, many interviewed resource users on the Kenai Peninsula reported dissatisfaction in the State's management choices, citing feelings of distrust toward the BoF and ADF&G in the agency's ability to make

scientifically and ecologically sound choices, rather than choices driven by political motivation (Loring et al. 2013).

With these policies and their relevant effects on the Cook Inlet and Kenai River fisheries reviewed and in mind, we can now explore their impacts in the context of a variable-based framework and their interactions with other aspects of this fisheries system.

**Attitudes and Perspectives of Fishermen on Cook Inlet and Kenai River Fisheries Management**

Amongst other powers in Cook Inlet and Kenai River fisheries, the BoF exerts control over allocation decisions with the power to alter gear, timing of harvests, areas in which fishers may access harvest opportunities, and ratios of the harvestable surplus that are made available to different groups within the fishery. ADF&G is responsible for managing the fishery for the maximum benefit of all resource users (harvesters and otherwise), but within the constraints placed on their managing tools by the BoF and relevant statues (such as the Alaska Constitution and the MSA). While the relationship between managing entities the regulatory framework is generally understood by most fishers and their associated groups, opinions of the effectiveness of managers and policies vary widely.

Fisheries management does not operate effectively if it is not considered legitimate by its stakeholders, which in this case are fishers in Cook Inlet and the Kenai River (Wilson et al. 2006). Furthermore, treating fishers as stakeholders instead of knowledgeable experts on the state of the resource, as is commonly the case on the Kenai Peninsula, undermines and undervalues local ecological knowledge (LEK) gained by thousands of hours and many years of experience cumulatively held by area fishers and passed down through generations. Fishers are not deaf to management entities who often disregard their concerns and observations, and this theme of feeling undervalued and unheard prevails across the fishery.

Throughout our interviews, fishermen from across the fishery expressed opinions that can be broken down into several emerging themes:

- *Fishers generally do not trust the BoF to make biologically based decisions*, or to make decisions based on what is best for "their" particular group's fishing interests;
- *Fishers generally trust that the ADF&G is working with a very complicated mixed-stock fishery, and are doing their best to make sustainable decisions.* However, they are often frustrated by complicated statistical modeling, change sin counting methods, delayed reporting, and other uncertainties inherent to science;
- *Fishers generally agree that management could be improved* (i.e. made more sustainable), though there is disagreement as to how this could be accomplished;
- *Fishers generally feel that their observations and expertise about the resource is undervalued by management*, particularly at managerial levels that are removed from local communities such as upper levels of ADF&G authority and the BoF;

Throughout our interviews, many fishers justified their opinions with the amount of time they and their fishing group participants spent fishing. As an example, drift gillnet fishers spend many hours during each fishing period at sea. During a season with many openings, time spent actively at sea harvesting salmon can add up to hundreds of hours of practice. Personal use fishers, conversely, may spend from only a few hours, to several days in a season harvesting fish, though their access to the fishery may include many hours of travel. This attitude about opinions being strengthened by one's experience in the fishery is reflected in conversations about policy and management, but also appeared later during interviews about economic arguments that support allocation rights. This theme of agreement between fishers, despite perceptions of disagreement, became a clear

pattern as interviews progressed through the fishing seasons. In the case of attitudes toward policy, most fisher's arguments fell into a few nuanced categories.

*Perspectives on Politicization of Fisheries Management*

*"We spend the summer fishin', and the winter bitchin' and wishin' about fishin'."*
*– Personal interview, July, 2012*

Despite the many differences between commercial, sport, and personal use fishers, one common theme from my interviews with fishers repeatedly united these groups: a mutual dislike for decisions made by the Alaska Board of Fisheries. All sport and commercial fishermen interviewed reported trends within BoF decisions that reflect the "balance of power" on the Board, meaning the ratio of members considered to be in support of sport or commercial interests. While fishers indicated their understanding that their fishery would not always "win", or gain allocation rights, most simply expressed the desire to not have any opportunities or access "taken away."

"We know we're not going to get everything that we want, but sometimes we'd just like a little. And sometimes we just like not to lose (Personal communication, July 14th, 2012)," said one drift fisherman. His sentiments were echoed nearly verbatim by a sport guide, who said "every three years, we lose more and more." Their comments illustrate a well-known management problem with Kenai River fish stocks. Kenai River salmon are a maximally allocated resource, meaning that practically every fish that enters the Kenai River system is designated to be harvested by some fishing group or "escaped" to spawn upstream. With increasing pressure on the Kenai and Cook Inlet fisheries, the ratio of allocation among groups has shifted to reflect the growing tourism preference. Still, commercial fishers harvest the bulk of red salmon, and the king salmon harvest has, until recently, been split fairly evenly between commercial and sport groups. In the last few years, the approximately 20,000 king salmon annually harvested in this region have been split 60-40, with the larger volume harvest given to and taken by

sport fishers (Cook Inlet Task Force meeting, January 2013).

While sport fishing popularity and participation is tied largely to tourism in on the Kenai Peninsula area and may shift with the state of the economy and predicted salmon runs, personal use fishing participation has grown significantly in the last few years. Many commercial fishers perceive this to be a relatively new and growing threat.

> Two years ago, they shut us down. They were concerned about the stocks. They left the personal use open...the reason they used not to shut the personal use down was people had already made plans to come down [to the Kenai River] for the weekend. And our response was, "We've made plans to earn a living here (Personal communication, October 19th, 2011)!

This perception that priority is being given by the BoF to some fishing groups over others was encountered in interviews with people from all user groups, though there is little agreement between groups as to which other group was receiving preferential treatment. Many sport fishers, for example, expressed to us that they believe the BoF has favored commercial interests for many years, and only recently had begun to balance allocation preferences for sport and personal use fishers. Commercial fishers, conversely, believe that sport interests are well represented by lobbyists and deep-pocketed supporters that "bought" politicians willing to support BoF nominees who favor a sport fishing preference.

Both sport and commercial fishers believe that over time, the BoF has shifted to favor of personal use fishing, and that they are unwilling to impose regulations on this fishery due to a strong lobby from residents of the Anchorage and Mat-Su Valley. Some sport fishers conceded that personal use management decisions usually benefited their own in-river allocation rights and thus sport users were less likely to speak out against any personal use favoritism. However, fish waste, crowding, and other problems that are often associated with the personal use fishery were not overlooked by interview participants, and many wondered whether they would become increasingly worse in the future without BoF

regulations. One fisher expressed concerns that a majority of personal use fishers are from the Anchorage and MatSu Valley areas, and thus have a larger legislative delegation to support them in their desire for more fishing time and larger catch allocations. This perception was supported by our interviews with dipnetters:

> It's a political thing; it's not filling the freezer for my family anymore. It's become this overriding political thing, where people don't want to vote anything against that could curtail that fishery - anything! Because they're afraid of the people, of the voters [sic].

Regardless of the accuracy of their perspectives of the actual political motivations and leanings of BoF members or the perceivedpolitical intentions behind members' appointments by the governor, it is clear that few fishers trust the BoF to make decisions based on biological indicators or data from ADF&G. Instead, the BoF is viewed by many involved in the fishery as a corrupt and highly politicized group interested in meeting constituent needs and practicing "ballot box biology" rather than meeting the needs of fishers and the fishery resource itself. One commercial fisher summed up the feelings of many interview participants by saying:

> It is pretty politicky. It just doesn't seem like it should be. It seems like... somebody should be like, "Okay, here's the user groups, and let's be fair. Everybody wants a whack at 'em. Let's keep the politics out of it and just come up with a sensible system for managing it." But it just doesn't seem like it's that way.

These comments reflect the emerging themes of consensus discussed in Chapter 4, demonstrating that practically all fishers simply want reliable, predictable management decisions based upon biological data rather than decisions made on the basis of politics, constituent pandering, and political expedience, if indeed this is what is going on as perceived by many individuals we interviewed.

*Fisher Perspectives of Alaska Department of Fish and Game*

While the BoF may be viewed as an unreliable managing body, the Alaska

Department of Fish and Game has a different reputation amongst most fishermen. The Cook Inlet and Kenai River salmon fisheries are a mixed-stock fishery, meaning that multiple salmon species are all managed under different management plans are migrating back to the Kenai River at generally the same time. Most fishermen acknowledged that this complicated set of plans and fish run timing create a very challenging overall stock to manage, and feel that "Fish and Game managers do their best with what they've got." Most fishers respected ADF&G biologists as professionals with a solid background in biology and fisheries management training. While opinions of particular managers, both present and now retired, vary among individuals, only one complaint arose as a notable theme from fisher interviews.

Some fishers view ADF&G as secretive or underhanded in terms of how they disseminate information collected from state funded studies or annual data collection methods, with one example being the DIDSON fish counter now in use in the Kenai River. Said one sport fisherman:

> Fish and Game are supposed to be at the top, the professionals. Okay? The Board of Fish members usually trust Fish and Game and their recommendations. To go against the recommendations the Dept. of Fish and Game make, you have to have some pretty good evidence and scientific information to go against what Fish and Game says. Now, what makes it all kind of crazy is Fish and Game isn't always truthful and they skew the numbers sometimes to sway decisions by the Board of Fish members.

While the timing of reports and confusion over new enumeration technologies may create the appearance of secrecy, an ADF&G biologist summarized the Department's methods of releasing information by explaining the circumstances into which this information is released. Quite often, ADF&G must provide information that will be used by the BoF to make allocation decisions, or Department staff must weigh in on proposals brought before the Board. ADF&G staff clearly recognize that their expertise may lead to specific decisions with real and important outcomes, and they strive to be as accurate and accountable as

possible for their data analysis and interpretations. They prioritize accuracy, even at the expense of the timely release of information, to ensure that their data supports biologically sound management decisions. To a lesser extent, ADF&G staff also aim for accuracy to protect the Department from becoming the subject of potential lawsuits based on inaccurate or hastily released data. Still, this reasoning did not prevent one fisher from expressing his perception that, "it's easier to manage a fishery when there are fewer species," suggesting ADF&G's desire to manage King salmon so poorly that they are driven to localized extinction. The fishermen elaborated by saying, "a mixed stock is hard to manage. With the Kings gone, management would be easier."

More frequently, fishers from all fisheries were supportive of the Alaska Department of Fish and Game. Personal use fishers, while largely unfamiliar with the BoF and allocation process in Alaskan fisheries, still recognized ADF&G as an important management entity. Even without much personal information about ADF&G decision-making, personal use fishers often assumed that the Department was "doing a good job because there are still plenty of fish coming in." Other fishers were more concerned with the state of the relationship between the BoF and ADF&G, with some fishers indicating their beliefs that ADF&G is a professional entity tasked with providing sound, scientifically based data upon which the BoF "should" base their decisions. Many fishers, on the other hand, still feel that the BoF disregards much of what ADF&G suggests or supports, and at times were disrespectful in their dealings with Department biologists.

Our research team had an opportunity to witness this interaction during an emergency BoF meeting called to discuss an emergency petition during the summer of 2012. On July 19th, 2012, the BoF convened to discuss an emergency petition submitted by a set gillnetter. While the petition was ultimately withdrawn, and thus the issue dropped entirely, the dialogue between the BoF members and the ADF&G biologists was, at times, demeaning and disrespectful. A dismissive attitude was evident in comments made by several BoF members; comments were made that

were disparaging of ADF&G's work and expertise, and one that prioritized hearsay over competent and thoughtful research and analyses completed by ADF&G staff. I was surprised by this behavior, given the public venue in which the meeting was held.

Later, during an interview with an ADF&G staff member, our team inquired as to the interview participant's feelings about the meeting and the relationship between ADF&G and BoF members. The staff member reported that this unprofessional dynamic was indeed a problem, and that "ADF&G department officials are attempting to address the matter with the BoF." Often, ADF&G and BoF members alike were described by fishers in disparaging terms, underlining the lack of respect for the science and politics behind the fishery's management hierarchy.

One argument in particular stands out from other points of skepticism described by almost all fishers, and this is the debate over the concept of overescapement. Recall that overescapement describes such a volume of fish returning to a river that a particular ecological barrier is surpassed, reducing the number of future spawners per returning individual. In essence, the river and lake ecosystem utilized by spawning fish and their offspring can only sustain so many fish, and after a certain threshold is reached, fish begin to have a diminished chance of surviving to return to spawn after their own life history plays out. Many fishers, in particular sport fishers, thought this concept to be "ridiculous," citing that overescapement of rivers happens frequently in Alaska and "none of those runs have collapsed." While it is true that many rivers are escaped past their optimum escapement level, the concept of escapement does not suggest that a salmon run will necessarily collapse during a year of overescapement. Instead, it suggests that the return per spawning fish will diminish over time, leading to weaker runs in the future – an important distinction and one that must be recognized when assessing management decisions by any federal or state agency.

The concept of escapement has been likened to other predator-prey relationships as capture in other areas of biological analysis and ecosystem food

webs. Some fishers argue, however, that overescapement is entirely fictionalized, cogent but empirically fallacious, and artificially created by ADF&G to support commercial fishing interests. Much of this rhetoric seems to stem from publications by organizations such as Kenai River Sportfishing Association (KRSA) and leadership within the sport fishing and guiding fishery, many of whom seem to support the idea that escapement is an unreliable management tool. An ADF&G biologist refuted this idea, stating that escapement models have been historically successful in managing fish stocks and predicting the strength of future runs. This biologist also made the point that the State's constitution requires the Department to manage, "for the maximum benefit of its people (§2)", and that "all replenishable resources" will be managed on "the sustained yield principle, subject to preferences among beneficial uses (§4)," as mentioned earlier in this chapter. These sections of statute require that ADF&G biologists manage under the principles of escapement and aim for annual escapements that fall within the optimum escapement goal range. As previously mentioned, this range is between 700,000-1.1 million individuals in 2012 (P. Shields, personal interview, July, 2012). Clearly, while some fishers argue that overescapement is an unreliable management tool, biologists are nonetheless bound both by the law and the best available science to continue to use escapement as their primary management tool. Literature from research on other fish stocks supports this approach, making it reasonable to assume that escapement is a reliable measure upon which to ascertain the health of future runs, and to manage for current runs (Kyle 1996; Milner et al. 1985; Robb and Peterman 1998; Wilbur and Frohne 1989).

As is evident in this discussion of 'beliefs' surrounding overescapement, a great deal of mistrust and a history of perceived wrong-doing by both ADF&G, the BoF, and opposing advocacy groups has built up over the years. While much of this mistrust is based in inaccuracy and rumor, some of it still remains to be clarified through future research and policy decisions. Ultimately, it appears that much of this mixed-messaging; for example, arguments over scientific concepts such as

overescapement stems from a few individuals controlling larger advocacy groups, many of whom have held their post for long periods of time and are recognized as "the face" of their fishery. These individuals act as political figureheads and, in some cases, are considered experts on all things fishery-related. Their activity and vocal presence shapes the debate amongst advocacy groups and, through opinion and unfounded 'truths' being purported as fact, likely make the actual conflict around this resource appear more prominent than it actually is. Additionally, due to the relatively small nature of the area and the population involved in these issues, long-term relationships and feuds among groups appear to have become so deeply entrenched that reasonable science and new data are rejected when they do not match previously held beliefs. Indeed, one researcher in our team was labeled "naïve" by both sport and commercial advocacy group leaders, and dismissed outright when presenting new information and suggesting methods for problem solving. It appears that drastic ecological or economic changes may be the only catalysts capable of sparking willingness for compromise and collaboration among the various interest groups, though it is my fear that such cooperation may come too late for the resource to continue to thrive.

## Preface to Chapter 3

**Figure 16:** Pulling in the nets

*I've gone fishing thousands of times in my life, and I have never once felt unlucky or poorly paid for those hours on the water.* – William Tapply

**Tuesday Morning, July 13th**

Phil and I are out conducting interviews, haunting local coffee shops with free Wi-Fi, trying to stay up with the ever-changing king run. I call the commercial recording as we're driving back to camp and I am dismayed to hear the biologist announce an indefinite closure. Indefinite until Thursday I think to myself. Surely they'll open us Thursday. We've barely touched the fish! I chalk the tense wording up to ADF&G's need to come across tough on the low king return. As we head back to camp, I see Craig heading into town. Odd, but perhaps he's heading to the store? I push it out of my mind and Phil and I return to fish camp.

An hour later, Craig pulls into camp. Phil is on a teleconference, so I greet my uncle alone on our sunny porch and offer him a beer.

"Closed!" he shouts as he approaches.

"What?"

"We're closed! I just went to Fish and Game and they said we're closed for July." My uncle shakes his head and folds his arms. I am stunned into silence.

Then, "Fuck."

After a few minutes, I force my brain to think of the next reasonable action.

"Are you going to go home?" My uncle spends his non-fishing time in Tacoma, Washington where he and my aunt bought my grandmother's home and maintain ties with Dad and the rest their siblings.

"I leave Thursday morning. We'll go out today to get the gear and pull the boat out tomorrow."

"I'm so sorry Craig. Shit. This sucks."

"Double fuck!" he says again. He gives me a hug. I'm trying to grasp what has been lost, what will be lost for the entire setnet fleet. Craig had hoped to pull a portion of his income (to the tune of $20-30,000) this season. I know other people depend on fishing much more heavily, and for some younger folks, this catastrophe of a season could mean the difference between buying into the fishery and choosing another path. The choice for some is between paying for college and taking out

student loans. I count myself incredibly lucky to not desperately need the money from fishing. My loss doesn't have dollar signs, but is in the lost time with family, the lost experience in a family business, and the lost ability to represent the fishery in my research from a firsthand perspective.

Phil gets off the phone and I tell him the news. He stares at me with a blank face slowly overcome with shock and then realization of the verdict that has been handed down.

"Fuck," he says.

"That's what I said."

~

Later that day we pull the nets out of the boat and stack them into totes for winter storage. As we stack them into the crane's net, dipnetters floats by in their skiffs. One man shouts as he floats by:

"Good thing you're pulling out! We'd never catch any fish if you guys were out there!"

From the dock, hot tears well in my eyes. I'm sure the man meant it as a joke, blissfully unaware of our situation. My uncle keeps his eyes down and continues to stack the nets. I feel ready to explode with the injustice of the situation and frustration boils up in my chest and throat. My voice feels paralyzed. I force myself not to cry and try with all my might to reabsorb my tears as the nets lift up and I position them in the bed of the truck. Hundreds of dipnet boats float down the river, some only a boat length from us. The run has picked up and fish are hitting nets frequently as we pull ours from the water. I try to think of the king situation, think of the need for conservation. Still, I can't help but mourn the multitude of losses this closure means for my uncle, and our time together as a family. What about next year? Is this the end of our fishery?

I think of all the families we've spoken with. What about them? This is "part

hobby, part mental disorder" for my uncle, but for others, it's their livelihoods. This is their children's college fund, their mortgage payment, the loans they have out for the capital to buy their sites in the first place. What about them?

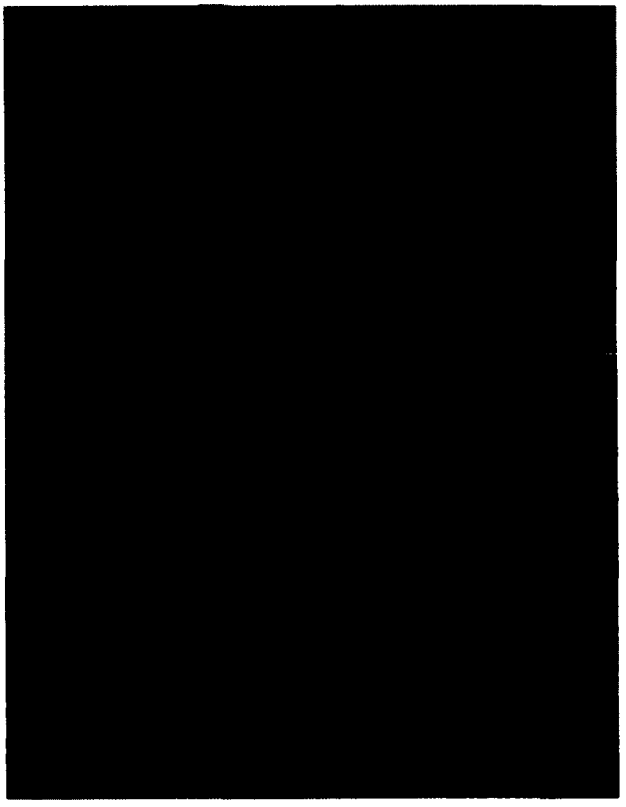

**Figure 17:** Pulling the skiff

On the next tide we skiff out to the sites and pull all the buoys and ziplines. The weather is spectacular and fish jump at the mouth of the river as the tide slows and begins to change.

*To go fishing is a sound, a valid, and an accepted reason for an escape. It requires no explanation. Nor is it the fish we get that counts. We could buy them in the market for mere silver at one percent of the cost. It is the chance to wash one's soul with pure air, with the rush of the brook, or with the shimmer of the sun on blue water.*

– Herbert Hoover

Wednesday is a bitter day. We stalk around camp, Danny on the phone deliberating with his worried parents the merits of staying or heading back to New York.

"Well, I still have the cannery job," he says. I can hear the high pitch of his mother's concerned voice on the other end. My own mother calls that afternoon. She tries to find the silver lining in the situation. I tell her to reassure Danny's mom. He'll be fine to stay the whole season, the cannery money would be good, too. We both know it's not the same as fishing, but what can we do?

We head out for one last trip that afternoon to pull our anchor lines and replace fraying rope. The weather is choppy, but I think we all would have been happy with a gale if it meant fishing. But we're not fishing, and it's raining, as if the cosmic forces that be just want to rub it in a little harder. Our work is brief and salty as we heave against the current and cinch the last rope into place.

"Until next year!" Scissors says, turning for the river. I close my eyes on the ride in. It seems mortally unfair as we pass the dipnetters and dodge closely by them in the ebbing river. We lift the boat out with a crane, an exercise in questionable judgment if I were to be consulted.

That evening, we sit down in the cook shack as dinner roasts in the oven. I hadn't expected to do this final interview until August, at least. But Craig flies out tomorrow, and we don't want to miss him. Phil can't wait to get his thoughts on the closure. I'm curious too, but most of all, I want to squeeze in a few recorded moments with my uncle. I thought we'd get to know each other as adults, as family,

this summer; but our time has been cut short. I gather my recorder and tablet and join Craig and Phil at the table. I crack a beer.

"So first question. Tell us about how and why you became a fisherman?" I take a sudsy sip.

"Well," he says, "originally it was to be up here with your dad."

I take a deep breath and begin to write.

**Thursday, July 18th - Dawn**

I wake up at 5:45am, just like our first and last opening. Craig is already putting away a cup of coffee and we share the chilly morning in silence. As we gather his belongings, he hands me wads of carefully folded bills.

"$150 for Danny. $100 for you plus $50 for the hanging twine you bought." I try to give it back, feeling incredibly guilty at the thought of taking unearned money. My uncle insists I keep it. I reluctantly pocket the money, stuck between my own guilt and the awkwardness of forcing the money back into his hands, and leave Danny's share in his trailer.

I help Craig load his suitcases into the truck and we pull away from the still cannery. The sky is pink with the rising sun and already dipnetters are arriving at the beach to try their luck. We roll past. I don't trust myself to speak without the embarrassment of my voice cracking with emotion. God, it feels so unfair.

We ride in silence to the airport. It's comfortable and sad. I park in the no parking zone and carry his personal fish box into the airport. We go through the uncomfortable ritual of me waiting while the ticket agent checks IDs, bags, and issues his boarding passes. My presence is totally unnecessary and I could get a ticket any moment for my blatantly illegal parking job, but I can't bear to leave him standing disappointed and broke in the airport, all alone.

Finally, the moment arrives to say goodbye. I hug my uncle and wish him a safe trip. He thanks me for volunteering as crew this season and I grin as I pull away and he walks to his gate. With nothing left to do but drive away, I leave the airport

and choke back sobs as I pull onto the main drag.

The morning is spectacularly beautiful, but I can't push down the misery. Fishing is so much more than money. It is family brought together; it is traditions handed down to younger generations; it is an experience that puts you up close and personal with the land you live on and the seas that break on our beaches; it is building a stewardship with our resources and community between neighbors.

I am heartbroken, but I am also steeled in my resolve to discover the secrets of this fishery and find the solutions that make this the last season that ended before it could ever begin.

I fill the truck's gas tank with my "fish money"; Craig can start next year with a full tank. Back at camp, I force $40 on Phil, insisting that it was intended for him by Craig as gas money. The lie goes unnoticed and he spends it on beer for camp and gas for the research vehicle. I feel relief to contribute in at least a small way, but it seems a pittance of what could have been.

~

# Chapter 3:

## Perspectives on the Economics of Cook Inlet and Kenai River Fisheries

### Introduction to Fisheries Economics

In the Cook Inlet and Kenai River fisheries, the economic value created by the harvest of salmon and the various value-added services related to that fishery feature prominently in arguments over allocation rights. All fishing groups point to their own sector's economic contributions to local and state economies as justification for greater allocations of harvestable surplus during the fishing season, or as an argument that fishing closures and restrictions should focus first on other groups, should conservation concerns arise. While each group's argues that their sectors bring the greatest proportion of economic development to the region, none are exempt from critique and most, in fact, are based on information derived from rumor or poorly interpreted economics. In this chapter, I examine the perspectives and attitudes of fishermen to understand how they perceive the economic arguments for and against their own fisheries, as well as their experiences in seeking marketing opportunities for their catch. I also turn to expert opinion to determine the actual economic contributions of each fishing sector, and compare them to the perceptions of fishers. I situate these data in the context of Alaska fisheries on a local, state, and international scale and examine the effects of labeling, marketing techniques, and the effects of management on small-scale marketing efforts.

### Alaska's Fisheries in a Global, National, and Local Market Context

Alaska's fisheries, while rooted firmly in the culture, identity, and economy of Alaska, span the globe in their economic reach and influence. Today, the commercial fishing industry in Alaska provides nearly 50% of United States' wild landings and creates over $5.8 billion in direct and indirect economic outputs. The

industry employs more workers than any other in Alaska and ranks third in the state for total economic value, behind North Slope oil and the federal government (National Marine Fisheries Service 2010). Alaskan seafood products span a range of products from frozen fish sticks comprised of Alaskan cod and Pollock to wild Alaskan salmon marketed increasingly to high-end restaurants as they compete in the same international market with more cheaply produced farmed Atlantic and Pacific salmon (Asche et al. 2005). Economic research shows that this same-market competition leaves all sources of salmon, including both wild and farmed fish, vulnerable to market impacts occurring within smaller markets as it expands to international trade of the impacted commodity. In the case of Alaska's salmon market, increased volumes of farmed fish flooding the market can drive Alaska's wild salmon price down and impact the lives and livelihoods of small-scale fisheries (Asche et al. 2005).

Wild stock fisheries face an uncertain future as expansion in the world's human population (particularly within developing nations) and economic development drives an increased demand for protein from both agriculture and fisheries (Hilborn et al. 2011; Pauly et al. 2005; FAO 2010). Global fisheries, many of which are currently overfished or in declining or recovering status are constrained by ecosystem productivity and management, and may be further constrained by ongoing changes to global climate (MacNeil et al. 2010; Allison et al. 2009). Thus, any global increases in fish consumption world-wide as a major source of protein can only come via increased production from aquaculture (or farmed fish) and subsequently, both population growth and changing food preferences worldwide are perceived as driving increased demand for inexpensive seafood (Merino et al. 2012).

While seafood consumption in the U.S. has remained at relatively stable levels for the last several decades, economic limitations and public demand for inexpensive sources of Omega-3 fatty acids and other benefits of seafood based protein grows as health benefits are tied to their consumption (Daniel et al. 2011)

The USDA has recently revised their guidelines, now recommending twice the previous amount of fish consumption by Americans (USDA 2010). This demand creates unique challenges for Alaskan fishermen who must cope with the rising cost of doing business, the unpredictability of management effectiveness and access to harvesting opportunity, all factors that create difficulty in offering an inexpensive yet high quality product. Thus, Alaskan salmon fishermen have begun to shift their marketing strategy toward producing a high-quality high-end product aimed at upscale market segments that will tolerate the high price of production (Herbert 2010).

However, as Alaskan salmon markets are increasingly tailored by entrepreneurs interested in producing high quality products as opposed to commodity-style and processed products, producers find themselves competing with farmed salmon that can be produced, marketed and distributed at ever-decreasing costs. In addition to this competitive global salmon market, Alaskan salmon producers also face ecological pressures from Alaska's other prolific and highly profitable fisheries.

Alaska Pollock is the highest yielding fishery in the Bering Sea and one of the highest yielding of all US fisheries, with catches that are sold as processed fish products in the U.S. and internationally. Because this fish is economically accessible even as economic recession narrows consumer's access to protein, the demand remains higher than Alaskan salmon, despite seasonal and annual market driven economic variations (Christensen and Manser 1977). Pollock fishing, however, primarily uses trawl gear to harvest fish across vast areas and in large volume. The down side here is that trawl gear indiscriminately harvests anything in its path, including non-targeted species like Chinook salmon (*Oncorhynchus tshawytscha*). Also known as King Salmon, these are a highly valued sport and commercial fish in Alaska's salmon fisheries elsewhere in the state. The indiscriminate bycatch harvest of this fish, which in recent years has reached number upward of 100,000 or more, has been a point of serious contention between the Pollock trawl fishery and salmon

fisheries. As king salmon runs across the state of declined for reasons yet to be fully understood, established management plans are beginning to fail the various users who depend on salmon runs for subsistence and their livelihoods. This trend is best documented in Alaska's Yukon-Kuskokwim river system where over the last several years, subsistence users have faced major shortages and lack of access to kings, an essential dietary staple and important cultural symbol (Loring and Gerlach 2010).

Most recently, the Cook Inlet salmon fisheries are beginning to see similar trends in declining king salmon returns, creating highly contentious management scenarios and unpredictable access to the salmon resource for commercial and sport fishers. As will be discussed later from the perspective of impacted fishermen, this problem seriously hampers efforts to create small, personalized markets for fishermen and undermines the potential to sustain their fisheries and to pass it down to future generations, and well as negatively impacting the economic well-being of individuals and local communities surrounding the fishery.

In the United States, seafood stocks around the country are in varying states of decline or recovery (NMFS 2010). Local small-scale fishing operations have in many areas been replaced with large "factory ships" that are capable of harvesting and efficiently processing tremendous volumes of fish and other seafood without pause. Similarly, fish-finding technology and capture techniques have improved over the last several decades, making fishers significantly more effective at harvesting their target species. This transition from small-scale to large-scale fisheries undervalues the social and economic impacts of small-scale fisheries in several ways. Large-scale fisheries are primarily economically driven, with owners and operators prioritizing profit over other benefits of fishing. Vessels owners begin to favor larger boats and smaller fleets, employing the most deckhands and workers for the lowest price. Often this means that foreign laborers replace Alaskans as on-board help, possibly severing the tie between local workers and their personal ownership of local seascapes and fisheries resources. Large-scale fisheries also tend to involve gear types (such as trawl nets) and harvest methods that will harvest

large volumes in short periods of time. These practices sometimes increase not only the catch of targeted species, but also bycatch of non-targeted species creating additional stressors on both the environment and the fish stocks (Cochrane et al. 2011).

Even where small, locally based fisheries are the norm, many noteworthy benefits of those fisheries to their local communities are not evident in financial or economic terms. As such, there is a danger that they will be lost on single-species management that focuses on economic gain by users and ongoing sustainability of the ecosystem (Finley 2011; Link 2010). For example, the components of individual, cultural and community identity, community health through engaged and active livelihoods, and family dynamics among small fishing businesses are rarely given due consideration in management decisions and the development of management plans (Finley 2011; Link 2010).

While the national standards of the Magnuson-Stevens Act described earlier are aimed at producing ecologically sustainable fisheries with respect to fishing dependent communities and economic opportunity of commercial fishers, these policies are limited by shared managerial rights of state management agencies. State management and politicized managerial bodies are ultimately responsible for implementing fisheries management at a local level, though some influence from and cooperation with federal management agencies is expected. However, because of the highly politicized structure of state management, maximally allocated fisheries become ground zero for highly contentious competition for harvest opportunity and access between user groups. Some fishers have described this process as a "pendulum that swings both ways," which arguably demonstrates how fishermen may often perceive themselves to be on the "wrong" side of management when regulations restrict their fishing opportunities. Often, fishers perceive limitations to their ability to access and harvest fish as due to prejudiced or 'unfair' management decisions. For some fishermen, litigation is often viewed as the only

means of recourse for fishermen who feel disenfranchised or threatened by allocation decisions.

*Ecolabeling, Marketing, and Sustainability in Alaskan Fisheries*

Alaskan fisheries are marketed as healthy, vibrant, and sustainable stocks capable of producing high-quality food products and supporting local livelihoods of fishermen (Alaska Seafood Marketing Institute 2009), but a growing number of critics are beginning to question the "sustainable" labeling of Alaskan fisheries. Ecolabeling, or labeling of wild food products to promote sustainable ecosystems and to sell the idea of ecologically sustainable consumption to customers, is not a new phenomenon to the seafood industry (Ward and Phillips 2009). However, an increasing number of Alaskans in both rural and urban communities, many of whose livelihoods are directly tied to fishing, currently struggle with socioeconomic challenges resulting from the high and rising costs of food and fuel, limited opportunities for employment, and the effects of climate change on local ecosystems. Some research suggests that these struggles are not adequately reflected in the "sustainable" label as applied to most Alaskan seafood products (Loring 2012).

In the U.S., organizations like the Marine Stewardship Council (MSC) and, in Alaska, the Alaska Seafood Marketing Institute (ASMI) both participate in "certifying" the sustainability of species-specific fisheries. The MSC, which is a wholly independent organization, mainly addresses the "fishing stage" of an overall fishery; that is, the actual harvest and delivery of a fish product for processing. While the fishing stage is considered to be the most environmentally destructive, other aspects of a fishery can produce other means of damage, but are as-of-yet not considered in the "sustainability" label. Energy consumption, emissions of anti-fouling agents at the fishing, harvesting, or production stages all may have significant impacts on both the environment and well-being of people and communities participating in the fishery (Thrane et al. 2009). The Alaska Seafood

Marketing Institute (ASMI), which is a public/private partnership between the State of Alaska and fishing industry leaders, is important to the certifying process but does not provide the actual certification. Instead, they act as facilitators to the certification process.

In Alaska, both ASMI and the MSC play important roles specific to Alaska's fisheries and seafood industry in an effort to ensure ongoing sustainability. The ASMI's slogan, "Wild, Natural, Sustainable," is a registered trademark and part of their campaign to improve the competitive position of Alaska seafood in a global market that is both dominated and heavily influenced by the farmed-fish industry (Hébert 2010).

Moreover, in addition to producing high-quality products, promoters of Alaskan fisheries are developing a niche market in the growing desire of consumers to access local food systems and consume regionally harvested food products. They also want to capitalize on the public's desire to be environmentally and socially just consumers, thus creating the marketability for a "sustainable" label attached to Alaskan seafood (Verbeke et al. 2007). Through visual marketing and the romaniticization of Alaskan fishing life and communities, this marketing technique has begun to take-hold as an appealing icon of Alaskan fisheries and the lives of fishermen.

However, examples of why this label insufficiently describes the state of a fishery can be found in Cook Inlet and the Kenai River. Conflict over allocative and management decisions, the health of the resource, and increasing harvest pressure on the ecosystem by growing human populations in the nearby Anchorage and MatSu Valley areas go unrepresented from a solely biological perspective of the fishery. As consumers depend more heavily on labeling for responsible consumption of globally produced products, critics of ASMI's ecolabeling practices argue that consideration for socioeconomic wellbeing of the communities and

livelihoods dependent and heavily intertwined with Alaska's sustainably labeled fisheries must be a component for labeling considerations (Loring 2012).

**Perspectives of Economics and Fisheries in Cook Inlet**

The many communities on and around the Kenai Peninsula depend to some degree on fishing - sport, commercial, or otherwise - for a large portion of their local economy. Indeed, the ports of Homer and Seward rank regularly among the top twenty US fishing ports in terms of dollar value of wild landings, while Kenai and Soldotna fuel their local economies with fish-driven tourism and local commercial landings. The Kenai River hosts the largest road-accessible salmon run in Alaska and is an extremely popular sport fishing location for tourists and locals alike. The river is well known for its abundance of sockeye salmon, but the smaller run of King salmon are truly the draw for out-of-state visitors who wish to catch a "monster." The river's sockeye run provides a source of harvestable fish for the drift and set gillnet commercial fleets that fish Cook Inlet waters, hoping to intercept sockeye (and other species of salmon) as they migrate toward their spawning grounds each June, July, and early August. The sport and commercial fisheries utilizing this system have repeatedly come head to head in conflict over access to the migrating salmon resource and allocation ratios between the fisheries.

One of the principal arguments leveraged by each of these fishing groups to justify their right to access to these fisheries rests on the economic contribution made by their sector to local, regional, and state economies. The Alaska constitution, in fact, requires that "the legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the *maximum benefit of its people* (Article 8, §2, emphasis added)." Within the context of this clause, the argument for economic worth is made to bolster the value and economic contributions of a fishery. While some economic studies have been done in this area to measure these contributions, most common perceptions are based on rumor or heard from trusted members of

their fishing group and peers. Regardless of what the actual economic values are measured to be, belief by locals in the economic strength and importance of their fishery is the driving force behind much of the contention about differential allocation and disagreement about management solutions.

Of the many nuanced economic based arguments utilized to justify allocation preference to a particular sector of the fishery, three broad arguments are used most frequently and by all fishers to some degree or another. In discussing these arguments, they may be described as:

1. Locality of fishermen and the associated expenditure and income gained from fishing activities;
2. Overall profit of a fishery and subsequent economic contribution to local communities, businesses, families, etc.
3. Based on these previous two attributes, determining which fishery within Upper Cook Inlet and the Kenai River provides the most economic benefit to Alaska and the Kenai Peninsula, leading to arguments for additional allocation of the salmon resource to a particular fishery;

To understand the commonly held perspectives regarding these topics, I draw from interviews and also from the various reports that fishers commonly cite in support of their argument. I compare these studies and perceptions to data from the State of Alaska and ADF&G. I also draw upon a report by Gunnar Knapp, an economist with the Institute of Social and Economic Research (ISER) at the University of Alaska Anchorage, one in which he compares state fishing economic contribution reports for both sport and commercial industries, and makes several observations about the nature of economic arguments and their relationship allocation and other management decisions.

*Perceptions of Fishery Value by Resource Users*

Sport fishing guides, in interviews, describe how the value of the tourism industry in Alaska is driven primarily by tourists drawn to the Kenai Peninsula and

its communities for sport fishing opportunities. Some sport guides estimate the total value of the fishery at $1 billion. "That's with a "B", explained one sport guide, including dollars spent on lodging, food, transportation (including in and out of Alaska), guiding services, fishing gear, processing of catch, shipping of goods, and a variety of other goods and services. Another guide estimated the average out-of-state visitor "easily" spends $2,200 on a weeklong trip to Alaska for fishing, an estimate supported by interviews with non-resident sport fishers.

I was unable to find statistics on the residency of most sportfishing guides, but leaders of the Kenai River Professional Guides Associated speculates that those numbers are not kept in any official capacity. One guide, however, suggests that most guide operation owners are locals, but likely hire seasonal help from both in and out of state. Guides are also adamant about their industry's economic contribution to local community economies, stating that most guides operate as small businesses and spend a large portion of their earnings in the region.

The Kenai River Sportfishing Association (KRSA) is a major advocate for sportfishing rights and allocative decisions on the Kenai Peninsula. Leadership within this organization effectively disseminates regular reports and information about the state of the sportfishing industry, particularly emphasizing the industry's contributions to state and local economies. KRSA keeps their own data on the economic value of sport and commercial fishing and in 2008 published a report that they tout to be "a landmark economic report." Economic Values of Sport, Personal Use, and Commercial Salmon Fishing in Upper Cook Inlet states that the ex-vessel values for the commercial fleet total $18 million and create approximately 500 average annual jobs (2008). In comparison, the report further states that sport and personal use fishing produces between 6,100 equivalent jobs and $186 million in income.

While self-promoting actions are common in advocacy group work, KRSA's work also extends to writing proposals that would influence allocative decisions for other sectors of the fisheries, often supporting their arguments by pointing out the

economic and other contributions made by other fisheries (such as set gillnetters, drift gillnetters, and others). Often, this comparison is made in an unfavorable light toward the commercial industry. In one example, KRSA's website states:

> For salmon in Upper Cook Inlet, more than 80% of the economic values are generated from the 20% allocation to sport fishing and personal use, while less than 20% of the economic values are generated from the 80% allocation to commercial harvesters and processors (KRSA website).

These reports and actions by KRSA do not go unanswered by commercial advocacy groups. Commercial interests such as the United Cook Inlet Drift Association (UCIDA) and Kenai Peninsula Fisherman's Association (KPFA) often cite similar economic reports to support the contributions by their industry. The ex-vessel value of the commercial set gillnet fleet, which describes the value of fish per pound before processing, is regularly reported to be about $33 million, but according to one commercial fisherman "that's just ex-vessel value. There's a multiplier in there, and all of that money gets recycled back into the community."

Based on data from my interviews, many commercial fishermen feel that their industry is unappreciated for its economic contributions to local communities, and describe themselves as small, family owned and operated businesses that in many cases have been in the family for generations. They view the sport industry's estimate of its own economic value to be all-inclusive of every tourist dollar spent on the Kenai Peninsula, an assumption that they feel is often not allowed for their own industry.

The United Fishermen of Alaska (UFA), whose mission is "to promote and protect the common interest of Alaska's commercial fishing industry as a vital component of Alaska's social and economic well-being," publishes an annual edition of Alaska Community Commercial Fishing and Seafood Processing Fact Sheets (2011). This report covers a variety of fishing related topics and statistics as they pertain to jobs in fishing and processing, transportation, benefits, and revenue to Alaska from fishing activities in coastal communities and boroughs around the state,

and is notably lacking in the narrative found in the KRSA report supporting the contributions of the industry. As an example of its findings, the report states that in Kenai, Alaska in 2010, total ex-vessel income of Kenai-based fishermen totaled over $10 million, with the City of Kenai benefiting $147,571 and the Borough receiving $622,268. This report goes on to demonstrate similar and sometimes more economically substantive values to other communities on the Peninsula, including Homer (where 1 in 5 residents participates in an Alaskan fishery and ex-vessel value for Homer-based residents is estimated at over $77 million), Seward, Soldotna, and the Kenai Peninsula Borough as a whole. Clearly, these numbers reflect significant economic input into Kenai Peninsula local economies. However, these numbers also paint a different and even conflicting picture of commercial economic contributions than is captured in the commonly held perceptions of Peninsula residents.

Another argument frequently used by both sport and commercial fishing interests is that of the residential locality and legitimacy of its membership. In the course of interviewing fishers for this project, perhaps the most common misconception among non-commercial fishers of the commercial fleet regarded the ratio of Alaskan residents to out-of-state residents who comprise the fleet. According to the Alaska Commercial Fisheries Entry Commission (CFEC), 82% of East Side Set Gillnet permit holders claim residency in Alaska, with 83% of those residents listing addresses on the Kenai Peninsula. Similarly, the Cook Inlet commercial drift gillnet fleet reports 72% of permit holders being Alaska residents. Despite these findings, reports from guides, private anglers, and personal use fishers, and even other commercial fishers estimated Alaska residency ratios within the commercial fleets to range from 10% to, at most, 50% of permit holders within either fleet. While it is likely the case that some fishermen with in-state residency do keep out-of-state residences as well, it seems unusual that this measure of financial success (owning more than one home) is held in contempt when considered in the context of this fishery.

Personal use fishers are required to be Alaskan residents and there is little

evidence to suggest that non-residents illegally harvest a significant number of fish during the July season. However, our surveys with 85 individual fishers suggest that approximately 90% of personal use fishers live outside of the Kenai Peninsula Borough. Issues of local access, with local as used here meaning Kenai Peninsula residents and not just Alaska residents, is a frequent complaint amongst the few residents sampled during short interviews, with many participants expressing feelings that they were "crowded out" of the personal use fishery due to large numbers of fishers and limited physical space along the river mouths.

Since wintertime locality, or where fishers live during the non-fishing months, is commonly linked within economic arguments to economic gain in Kenai Peninsula communities, the locality of fishermen becomes paramount in asserting the benefit of a fishery to the local economy. As demonstrated, the majority of all users engaged in salmon harvest or salmon harvesting service in Upper Cook Inlet and the Kenai River are Alaskan residents, many of whom are local to the Kenai Peninsula Borough. While some interview participants raised the concern that records may indicate locality based on an address that is seldom occupied by a permit holder, verifying this claim was not a priority of this research. Future research could easily investigate this perception through a survey of all commercial permit holders in an attempt to obtain more detail about their residency patterns.

**Fisheries as Barriers to Economic Vulnerability**

To fully understand and appreciate the integral role the inclusion of *all* Upper Cook Inlet and Kenai River fisheries play, it is important to examine the economic value each fishery contributes and in what state and national economic conditions one fishery might be more resilient than another. To illustrate this dynamic, we have identified the Kenai Peninsula Borough as the boundary of the local economy with the understanding that other communities in Alaska participate in the purchase and sales of goods beyond the Borough's boarders. The Kenai Peninsula Borough acts as microcosm to the State's economic balance, and can provide useful insight as to how

the balance of economic health and well-being might shift, should one industry be allowed to falter.

In 2010, the Kenai Peninsula Borough Department of Economic Analysis published a Gap Analysis that outlines the current economic breakdown of industry, sales, and revenues produced in the Borough. The report also defines areas of potential growth to increase the strength of the local economy. The report gives a breakdown of gross sales by line of business within the Borough; in 2009 tourism made up 4% of total sales and the largest slice of the economic pie was produced by what is vaguely titled "sales", at 28% of total gross sales (2010). The report outlines a number of other services and sales that makeup the fabric of the Kenai Peninsula economy, demonstrating that the economy is diverse with no one industry dominating any other. However, the report does not clearly distinguish between its defined categories of economic production, thus making it unclear what something like "tourism" really includes, or if tourists spending dollars in "non-tourist" stores (such as a grocery store) count under tourism dollars or sales dollars. Regardless, it is clear that many economic sectors overlap and the economy as a whole would be weakened by the decline of multiple sectors.

According to the report, gross sales in 2009 reached over $2.7 billion. 2008 was the first year that reported taxable sales within the Borough reached over $1 billion. However, due to the national recession and other economic factors, gross sales dropped 14% from the 2008 to the 2009 season, a decline of $440 million. Similar trends can be found in the tourism sector. We already know that tourism within the Kenai Peninsula Borough is a major contributor to the region's economy, with over 500,000 people visiting the Kenai Peninsula annually (Alaska Department of Commerce 2009). For the past 20 years, tourism has been one of the fastest growing industries within the Borough, but has also been one of the hardest hit in recent years. After reaching a peak of $207 million in sales in 2007, the industry has dropped off 43% between 2008-2010. In 2009, the tourism industry was valued at $117 million in gross sales. At its peak, tourism was the fourth largest industry in

the Borough, but in 2009 had diminished to the eighth largest. This decrease is blamed on poor national economic conditions, and the Borough has expanded efforts to increase the number and accessibility of recreational activities on the Peninsula.

While tourism sales figures may not clearly illustrate the economic impact of sport fishing activities, there are other means by which to evaluate the sportfishing industry's economic value. An ADF&G representative within the permitting division explained that the while the Department does collect addresses during the sale of sportfishing and guide permits, many fishers have their permits sent to Alaskan addresses for collection when that fisher arrives in the state, indicating an out-of-state residency. Thus, ADF&G values are not necessarily a good indicator of sportfishing money that stays in Alaska. Despite this, it is important to take a look at sport license sales as it provides an indicator of participation within the sportfishing industry and the sort of revenue that is generated.

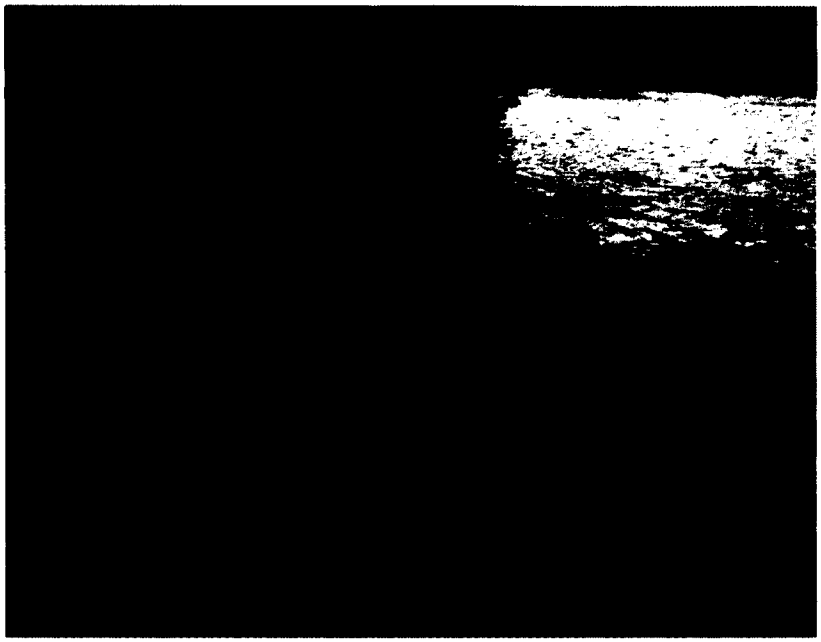

**Figure 18:** Sport fishing on the Kenai

According to 2011 ADF&G statewide records for license sales, 9,035 fishing licenses were purchased by people reporting out of state permanent addresses, and 54,171 fishing licenses were purchased online, making the purchaser's point of origin difficult to determine. Based on the same report, 231,879 licenses were purchased by people claiming in-state residences for Region II, which includes the Kenai Peninsula and Cook Inlet area, as

well as a number of other distant communities such as Kodiak, Port Moller, and South Naknek, for a total of 245,847 fishing licenses sold for Region II sport fishing. Clearly, sport fishing is still extremely popular, though sales have clearly declined since 2005 and 2006 when sales for the same area topped 300,000 licenses.

Clearly the number of licenses sold are high, the value of these licenses varies. An Alaskan resident sport fishing license in 2012 cost $24 for the entire season. Non-resident licenses were more expensive with the cost varying by the number of days the license was valid. For sport fishing, licenses were sold in 1-day ($20), 3-day ($35), 7-day ($55), and 14-day ($80) increments. In addition, fishers must purchase a 'king stamp' (beginning at $10 for one day and increasing incrementally for longer periods of time) if they wish to harvest Chinook salmon. While there are some exceptions to these values (i.e., active military licenses are less expensive), the value of hundreds of thousands of sport licenses, particularly to non-residents, could amount to a significant economic return.

*Economic Contributions by Sport and Commercial Fishing on the Kenai Peninsula*

According to the CFEC, the Kenai Peninsula Borough is home to 1,428 permit holders of various fisheries (2010), with an estimated ex-vessel income by a Kenai Peninsula Borough-based fisherman of over $122 million. In 2009, the Borough hosted 1,846 seafood processing jobs, just over 46% of which were held by Alaskan residents, though they earned over half of the processing wages paid out (Alaska Department of Labor 2009). The first wholesale value of this processed catch was $151 million, contributing to the total fishery taxes levied by both the Borough and State, which equaled over $1.7 million to each government entity.

However, the economic advantages of fishing are not without their drawbacks. In 2012, a very late Chinook salmon run created conditions under which set gillnet fishing was closed for a majority of their fishing season, effectively creating a bust season for most affected fishers. While the economic losses caused by this closure have not yet been fully realized, many fishers interviewed estimated

losing at least half of their personal household income. Due to the high wintertime locality of set gillnet fishers to Kenai Peninsula communities, it is reasonable to assume that their lost personal income will also negatively impact their local community economies as they have less to spend over the course of the winter.

The personal-use dipnet fishery, which is often included with generalizations of tourist-based fishing, takes place at the boarder of the marine and freshwater environment surrounding the mouth of the Kenai and Kasilof Rivers. This fishery has exploded in popularity within the last five years with many of the expenses of maintaining the fishery, sanitation, and safety of participants falling to the City of Kenai and other local government agencies. It is estimated that approximately 500,000 personal-use fishers participated in the fishery in 2012 with participants self reporting expenditures during the fishing trips ranging from $100-$2000, depending on their original locality, size of fishing group, and duration of their trip to the Kenai Peninsula. Each year, the City of Kenai produces a report documenting the expenditures and revenues of the City as related to the dipnet fishery. In 2011, the City had a total generated non-grant revenue of approximately $320,634, and a total non-grant expenditure of approximately $302,262. These figures reveal a gross revenue gain of $18,371.33, which was a 12% (or $33,599) increase from 2010. In this same report, the Kenai City Police Department reported expenditure increases from $25,582 in 2010 to $40,176 in 2011 related to dipnetting activities. Call for service from the Department that were unrelated to cash pick-ups nearly doubled, while the number of calls related to disorderly conduct, harassment, assault, or other disturbances nearly tripled in 2011.

The report describes at length the other impacts that the dipnet fishery has on city operations, and other agencies that the City partners with to manage shared jurisdictions such as ADF&G and the National Park Service. While several jobs were created to help manage additional boat, vehicle, and human traffic in the area, many roles were taken on by volunteers (such as for traffic control) and extra stressors were placed upon the roles of the City and its various departments in handling the

personal-use fishery and its participants.

In 2012, a report similar to the one discussed above was published detailing the expenses and revenues to the City of Kenai accrued during the 2012 dipnet season (July 10-31st). The City generated approximately $362,088 in non-grant revenues, and spent approximately $364,757 in non-grant monies. This created a deficit of $2,669.51, though non-grant revenues in 2012 exceeded those of 2011 by nearly 20% due to an increase in camping fees and a greater number of participants in the fishery. As in 2011, police responded to an increase in calls related to the dipnet fishery, with other City departments also experienceing an increased workload during the fishing season (11). Volunteers also responded because of the fish waste and litter left on the beaches, a waste problem that has increased along with increases in fisher participation.

Clearly, the economic burden of supporting the Kenai and Kasilof personal-use dipnet fishery falls primarily to the City of Kenai and other government agencies, with expenses not consistently being equaled by associated revenues. Much contention and debate revolves around this issue with other fishers raising questions about how this fishery will be regulated, how large it will be allowed to grow in terms of numbers of participants, and who will be financially responsible for mitigating damages and waste left behind by users. Some contend that this responsibility should fall to the user group itself, which is currently represented by the South Central Alaska Dipnetting Association (SCADA). Interviews with the leadership of SCADA illustrated that though many efforts have been made to develop a base of resource users that, through membership fees, could fund many of the maintenance and improvement projects required by the overwhelming popularity of this fishery, little progress has been made in successfully building such a base.

"We've put fliers on cars, talked to people on beaches, but no one seems interested in taking responsibility for that fishery" a SCADA member explained. His comments support findings from beach surveys suggesting that personal-use

fishers, especially those who do not reside on the Kenai Peninsula, have little awareness of the fishery's health or allocation outside of their own access to harvest fish and the associated regulations with that activity.

Upon examination of the information presented here, it becomes clear that while attitudes toward the economic contributions of various fisheries in Upper Cook Inlet and the Kenai River are varied and, at times, discussed with bias toward one fishery over another. Evidence of fluctuations within the economic gains of each industry is clear over a period of even a few years, suggesting that no one side of the fishing industry could provide long-term economic stability to the region under pressures such as economic recession or poor salmon runs. Thus, it is reasonable to conclude that the attitudes of fishermen about the economic contributions of their individual fisheries are somewhat biased and under-appreciative of the economic needs and balances of the region. Many people, particularly fishers, in their pursuit of self-justification and protection of their economic sector are actually arguing against the economic diversity and resilience that Kenai Peninsula communities currently enjoy. However, pointing out to resource users the flaws in their reasoning toward allocative gain within resource management is a tentative endeavor at best. To support this argument, the next section presents the best available State and agency-collected data.

**Comparing Economic Contributions of Fisheries in Cook Inlet**

Comparison between commercial fishing activities and tourism-based fishing demonstrate the contributions and recent weaknesses of both industries but do not necessarily answer frequently asked questions about these fisheries: which fishery offers the most economic benefit to the Kenai Peninsula communities and peoples? To better answer this question, we turn to two reports published with the goal to understand the economic impacts and contributions of the fisheries in question (sport and commercial). The Alaska Department of Fish and Game, Division of Sport Fish, released in 2008 a report entitled *Sport Fish Report: Economic Impacts and*

*Contributions of Sport Fishing in Alaska.* The following year, the Marine Conservation Alliance in conjunction with the At-Sea Processors Association and Pacific Seafood Processors Association released a very similar report entitled *Commercial Fishing Report: The Seafood Industry in Alaska's Economy*, which utilizes data released by the State of Alaska. Gunnar Knapp, an economist with the University of Alaska Anchorage, wrote a report comparing these two reports with the purpose of shedding light on which fishery may have a more significant economic contribution to the Cook Inlet region, and how that impact relates to allocation decisions. This report was released in early 2009 and was presented to the Cook Inlet Salmon Task Force in early January of that year.

Knapp begins his analysis by stating a starting economic principle: sales of an industry to non-residents have a different effect on the Alaska and regional economies than do sales to residents (9). He demonstrates that sales to non-residents bring in new money to an economy and increase its size, whereas sales to residents does not necessarily bring new money into the economy, and does not necessarily increase its size. Because of this distinction, he uses the phrase "impact" instead of contribution to measure economic benefit brought by sales primarily to non-residents in which new money enters the local economy and the economy itself grows. Knapp also notes some important things to keep in mind when considering the economic impacts of fisheries:

- That how fisheries are managed affects their economic impacts;
- That economic impacts are necessarily proportional to fish catches;
- That even if catch volume and allocations within the fishery remain static, economic impacts by the fishery may change significantly between years (38);

In comparing the two reports, Knapp finds that the estimated statewide impact from total sales from sport fishing equates to $0.9 billion, total income is $0.32 billion, and total jobs held are 9,437. In comparison, total sales from commercial fishing are $5.8 billion, total income is $1.75 billion, and total jobs are

78,519. Based on these values, commercial fishing appears to have an economic impact six times that of sportfishing when taken statewide. However, Knapp notes that these conclusions are highly approximate and depend on numerous assumptions used when compiling the two reports (21). With respect to jobs and employment opportunities, the reports do not record the ratio of resident to non-resident employees, and further notes jobs in both fisheries are retained by non-residents.

Because of the way these reports were compiled and the data they present, Knapp states that it is impossible to compare the two reports in terms of determining the economic importance of either fishery to Cook Inlet specifically. However, it is possible to compare estimated direct sales within the Cook Inlet region to non-residents. Sport fishing sales earn an estimated $275 million, while commercial fishing estimated first wholesale value is $163 million. However, the sport fishing report includes Anchorage in the Cook Inlet region direct sales estimates, thus creating the potential that the sales earnings are overestimated (24). The commercial fishing report gives the value for wholesale sales within Upper and Lower Cook Inlet, which excludes Anchorage.

Evaluating these economic values, the economic impact of sport fishing may be as much as 50% greater than for commercial fishing. However, Knapp again notes that this economic value may be overstated due to the communities, such as Anchorage, are included in the Cook Inlet region within the Sportfish report (38). Knapp also points out a number of ways economic information is often misused in comparisons such as between these two fisheries:

- Economic information that isn't relevant to a policy issue (such as that of allocation) is often presented and then considered by managers;
- As previously mentioned, economic impacts are not necessarily proportional to fish catches;
- The accuracy of estimated economic impacts or values are often overstated (39);

These misconceptions about how economic data can be applied to management arguments came up frequently in interviews with fishers from all fisheries. These same arguments are also found in the KRSA report, as quoted earlier in this chapter.

Despite the many limitations of these reports and their comparability, Knapp does make some general conclusions about sportfishing and commercial fishing within Cook Inlet. Knapp determines that:

> It seems reasonable to conclude that the average economic contribution and impact per harvested salmon is considerably higher for Cook Inlet sport fisheries than for Cook Inlet commercial fisheries. Nevertheless, I believe the studies provide relatively little if any useful policy guidance on sport-commercial allocation issues for Cook Inlet salmon (40).

Knapp goes on to comment as to why his conclusion regarding higher economic contribution per harvested salmon within the sport fish fishery should *not* necessarily imply reallocation of salmon to sport fisheries. He points out that, as previously mentioned, allocating more salmon to sport fisheries will not necessarily result in a proportionally higher economic contribution, nor will any created jobs or income necessarily go to Alaskans. There is simply not a one-to-one tradeoff between commercial and sport harvests, and increased sport allocations could create additional stressors on the ecosystem as a result of more human traffic, crowded fishing conditions, and habitat degradation to mention but a few examples. Additionally, Knapp notes that the commercial fishing industry in Cook Inlet will not continue to be viable without a certain threshold level of fishing opportunities, regular openings, and adequate environmental conditions in which to fish (41).

**Conclusions**

Alaska's fisheries are an important institution within the global and national seafood markets. While the sales of wild Alaska fish, particularly salmon, are threatened by competition with farmed fish, poor labeling practices, and misleading

impressions of sustainable fisheries, small-scale Alaskan fishermen continue to harvest large, healthy runs of fish. The future of the runs and the marketing structure itself, however, may be in jeopardy as management becomes more politicized and consumers search for cheaper sources of seafood-based protein. In addition, human pressure on Alaskan fisheries, particularly within Cook Inlet and the Kenai River, is creating additional environmental and anthropomorphic stress as fishermen try to maintain their livelihoods and associated fishing identities while balancing economic considerations. These stressors can create uncertain environmental and managerial conditions within which fishermen's attitudes about allocation rights are shaped.

The economic value of the fisheries surrounding Cook Inlet and the Kenai River, primarily between sport and commercial fishers, is one of the primary arguments used to support allocation preferences and rights within decisions made by the Alaska Board of Fisheries and other state agencies. Both sport and commercial fishers and advocacy groups argue the merits of their respective fishery's economic contributions to local communities and the state. These attitudes about economic contributions contrasted with statistics collected by the State of Alaska suggest a gross misunderstanding of economic contributions by both fisheries, each often exaggerating the value of their industry and undervaluing the contributions of the other.

The roots of fishing rumors are often difficult to pin down, but in this case, several reports emerged as the primary source for common attitudes about economic contributions by fishers on the Kenai Peninsula. While the basic premises of these reports are generally well-known, certain members of the fishing communities, particularly those in leadership roles for fishing advocacy groups, seem to be the primary disseminators of information that supports the economic arguments for their fisheries. Quite often, these points are broken down into brief talking points, often leaving out important nuances or caveats that quantify the data in economic reports from the state, or published privately by these groups. This is

an unfortunate trend that interviews suggest is creating animosity and dehumanizing impressions of fishermen to outside observers and fishermen themselves. This trend is likely to continue unless leadership within the various fishing communities take accountability for the information that they choose to share with their members, and how, when, and if their goals as associations move from proving other groups wrong toward finding common ground and shared goals and values.

Undoubtedly, both sport and commercial fishing are economic engines of their communities, though to what degree each contributes is not yet clear. Data collected from the State of Alaska and published in two reports, each touting the economic value of either sport or commercial fishing, were compared by Dr. Gunnar Knapp and found to both exaggerate and overestimate their fishery's value. Ultimately, sport fishing may produce more economic gain per fish harvested, but produces less economic value as a state industry than do commercial harvests. However, Knapp points out that it is unreasonable to make allocation decisions based entirely upon economic data, in part because of the warranted and unwarranted array of economic principles determining the relationship between fishery growth and value, as well as for reasons of equity and socio-cultural factors associated with the fisheries.

In addition to Knapp's arguments, it is important to consider that each fishery has limitations. Sport fishing and non-resident revenue (demonstrated to grow the economy), both components of tourism, tend to decline during years of low economic return in the rest of the United States such as during the recession at the end of the last decade. Commercial fishing, similarly, suffers economic losses during weak fish returns or when certain species, such as King salmon in 2012, run late and prevent harvesters from accessing fishing opportunities in an effort to exercise conservation measures. Because of these different weaknesses, sport and commercial fishing actually complement each other in their ability to balance vulnerability and create a more resilient local economy that balances both on

tourism and the fishing resource.

Ultimately, it is clear that the households and communities of the Kenai Peninsula would be impacted greatly if it, as the result of policy, management, or environmental change, became locked in to one or few fisheries and lost the diverse portfolio on which they presently rely (Allison and Hobbs 2004). I speculate that these impacts will be felt most strongly by the small and the new business owners that make up the newest entries into the fisheries. Furthermore, I argue that those attitudes that promulgate inaccurate information and encourage animosity among fishers over economically based allocation arguments do nothing to improve the state of the fishery or economic conditions on the peninsula.

In the future, further research could be helpful in answering several of the questions that are left unanswered by the currently available economic reports published by private groups. Additionally, future reports that encompass the economic contributions of all fisheries and demonstrate their collective importance to regional economies may go a long way toward fostering appreciation among groups, and in dispelling rumors and myths about locality of fishers. Finally, identifying the source(s) of poorly collected or presented economic data and creating a written critique of those sources may help mitigate the effects on public perception of the fishery both on and off the Kenai Peninsula. These and other economic efforts, if organized in a collaborative and multidisciplinary approach, may be extremely useful in narrowing the gap between commonly held local perceptions and the realities of fisheries and local economies on the Kenai Peninsula.

**Human Dimensions of Climate Change in Alaskan Fisheries**

Alaska's fisheries, particularly those that target salmon, are considered in the public consciousness to be remarkably sustainable and well-managed by comparison to other major commercial fisheries globally. However, fisheries that may appear to be economically and ecologically stable in present climatic and

environmental conditions could be rapidly jeopardized by changing climate conditions or increased harvest pressure.

As noted in Chapter 1, Alaska's fishing industry, both within the commercial and sport sectors, creates a third leg to the "bar stool" of Alaska's economic structure. With such a major role in Alaska's economy, the fish and seafood industry may serve as an indicator of ongoing marine health by providing a measure as to the health and harvestable level of key fish stocks (NCA 2013).

The scientific community is just beginning to understand the tremendous impacts that warmer ocean temperatures, spatial and temporal shifts in marine productivity, and available prey may have on economically valued fish species. One yet unrealized loss may be the incalculable ecological and economic value of lost biodiversity due to sea-level rise and warming temperatures. The biodiversity of the circumpolar region, while perhaps lower in overall species richness than more temperate regions, still hosts a wide variety of flora essential to local indigenous peoples and the continued survival of dependent fauna. Western Alaska in particular has a huge potential for loss since its relatively flat topography (a magnifier in the case of rising sea levels) and extreme weather conditions are already contributing to marine intrusion and the forced relocation of human populations (Menon et al. 2010). Loss of ecosystem biodiversity along with cultural and traditional knowledge of existing fauna has yet to be economically and culturally evaluated.

These types of changes will likely have a serious and profound effect on the peoples of Alaska and the Circumpolar Arctic who depend heavily on fishing for their livelihoods and as a staple to their cultural traditions and identity. In a more contemporary sense, losing fish stocks or major shifts in fish migration timing and range may have a tremendous economic impact on places like the State of Alaska for which fishing is the third largest economic contributor behind the oil and gas industry and the U.S. federal government (NOAA 2011). Culturally and socially speaking, it is very difficult to predict how tremendous the impacts of a lost fishery

might be felt by the individual resource user, but the effects are sure to be dramatic and will no doubt significantly alter the fundamentals of subsistence life and culture.

*Changes in Fishing Communities*

Several major socioeconomic, cultural, and biophysical changes are likely to occur due to impacts of climate change on fish and other marine life. Changes in social networks amongst fishermen and other seafood harvesters could decrease the efficacy of fishing fleets (Loring and Harrison, 2013). Over time, those changes could also create the need to build new information sharing networks as well as potentially extend the range or relocate the home base of fishing communities as traditional harvest sites become unproductive or dangerous to utilize (Maurstad 2000). Weather events, already unpredictable and potentially dangerous in Alaska's marine waters, may increase in intensity and frequency and could change seasonal fishing patterns and affect existing infrastructure (Njock and Westlund 2010). In combination, these cumulative effects of climate change could lead to changes in household dynamics, affecting family structure and choices in selecting household and community locations. Such changes have been demonstrated to lead to emigration, particularly in rural communities such as those commonly found along Alaska's coasts (Fowler and Etchegary 2008). These changes could affect not only the overall health of families and communities, but also the supply end of the economic chain, altering Alaska's ability to provide high-quality seafood to state, national, and international markets.

As popular species, such as salmon, experience habitat changes and alter their behavior to reflect the new environment, some fishermen may be forced to choose between changing their target species or facing exponentially higher costs to access preferred species in areas where little supportive infrastructure currently exists, such as rural Alaska (Brander 2010). These changes could have major economic impacts on the popularity and profitability of fishing tourism, a major source of income for many Alaskan communities.

Regardless of predicted ecological outcomes, the effects of climate change on Arctic marine environments, fish populations, and their dependent human communities are extremely difficult to accurately and specifically forecast or predict (Grafton 2010). Perhaps the most comprehensive way of understanding multiple-variable systems and their dynamic relationship with climate change is to evaluate change on an ecosystem-based scale. One example comes from a study by Krupnik et al., identifying the effects of climate change that "challenge and threaten local adaptive strategies, including times and modes of travel for hunting, fishing, and foraging (2010)." Here Krupnik demonstrates that climate change does not simply effect one species or another, but whole ecosystems upon which certain species (such as salmon) play keystone roles in predator-prey dynamics and ecosystem services.

In short, we must endeavor to understand ecosystems in their current dynamic states and make every effort to ensure their health so as to provide a resilient buffer and monitoring baseline for understanding and mitigating the impacts of climate change. These dynamics must be understood from top-down management scenarios, as well as from bottom-up variable-based systems analyzed from a single-species perspective. Additionally, we must understand how management decisions may impact how human and ecological communities that depend on this fish resource in their ability to respond as the climate and ecosystem dynamics change.

## Preface to Chapter 4

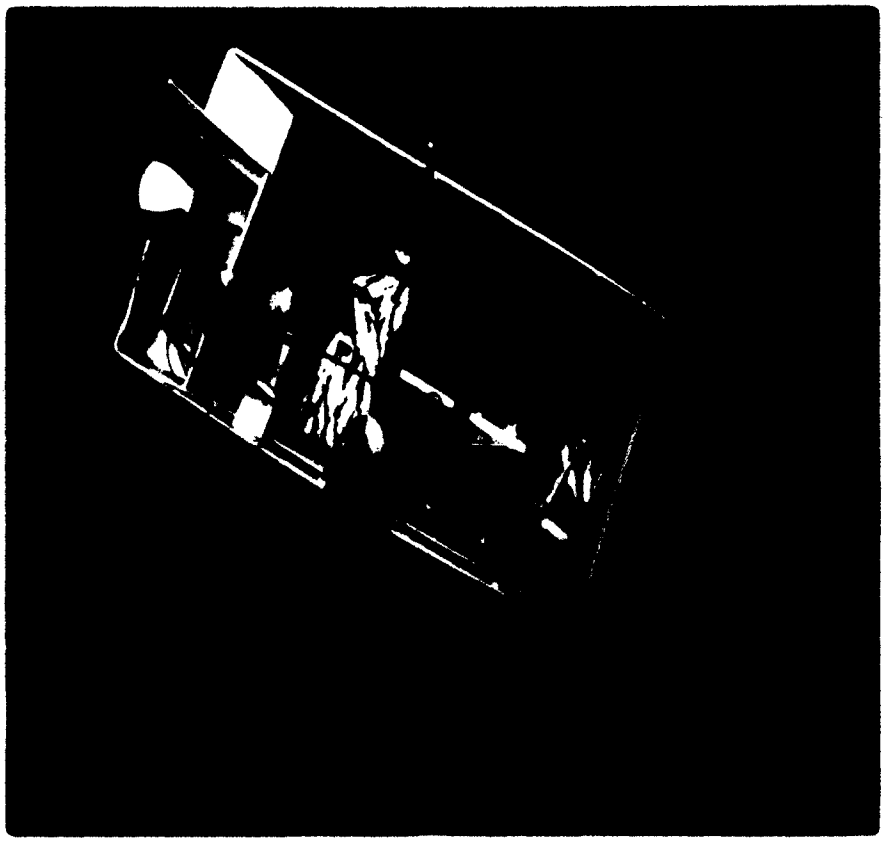

**Figure 19**: Delivering the catch

*"Perhaps I should not have been a fisherman, he thought. But that was the thing I was born for."* – Ernest Hemingway, *The Old Man and the Sea*

July begins to fizzle to a close, but the on-shore politics are rolling at a full boil. The Progress Days parade hosts two floats full of beached setnetters, their children in full fishing gear holding "proud to be a setnetter" signs. I run alongside the floats in my XtraTufs, informally polling the crowd to gauge their reaction to the fishers' plight.

Jotting notes, I surprise strangers with, "What do you think of this whole business with the setnetters? Any thoughts? Comments?"

"It's a crime that they're on the beach."

"Let them fish!"

"They should be allowed to harvest like everybody else."

"What a bunch of whiners."

"The kings should come first. It's just tough shit that they have to sit it out."

"I understand the kings aren't here, but still...do they have to sit out the whole time?

A setnetter hands a child on the sidewalk a piece of candy as they walk by, joining in the spirit of the parade. The child's mother snatches the candy from the child.

**Figure 20:** Marching to fish

"Don't eat that candy!" she snaps. "We don't support commercial fishing."

*Be patient and calm – for no one can catch fish in anger.* – Herbert Hoover

During an interview, I am surprise-invited to a setnetter barbeque. I hitch a ride with a deckhand who seems to have had no choice in the matter as to whether he would be attending. He's a college kid from Washington, up to make some money this summer picking fish. He's afraid his cash cow has run dry. I wish for some words to reassure him, but I'm in no better shape and don't have any answers. We drive in silence.

Our hosts are Jenny and Hans Wintred, a father and daughter, along with a dozen other family members. The barbeque is set up at the top of a long beach at the base of their family's traditional fishing cabin, standing now at over 100 years old. Fishing families from all over the area are there, and salmon roasts on the grill. Dogs chase kids around the sand while older kids play beach volleyball and adults gather at picnic tables to do what fishermen do best: bullshit and bitch.

The salmon is delicious and the company jovial. Despite the low tide, sockeye can be seen jumping offshore. Despite my limited investment in and commitment to this fishery, I can't imagine sitting here day after day with salmon positively throwing themselves in the way of where nets should be, knowing you're closed. It would be unbearable.

"It is," Sarah says when I ask her later on in the evening. "My family has been here, has fished this spot for 100 years. 100 years! And we have to sit here and watch this. The fish are here. Let us fish!"

Her father, Hans, agrees. He's the child of a Norwegian immigrant and has fished on this site his entire life. He's a tall man with a white beard and pepper hair. He carries the weight of a man who has enjoyed many rich meals, clad in flannel and squinting through reading glasses at the consent form.

"A net full of reds is really visible in the water. Kings won't run into something like that," Hans says. "Days with lots of reds, we don't catch any kings." He points out to the water. "We should be fishing today. Look at them jump out there!" The sun glints off the water like glass. It is so beautiful here. I ask for a tour of the cabin, and Hans eagerly shows me.

The interior walls are practically wallpapered with memorials to the better fishing seasons of the family's past. Fish licenses, permitting papers, photographs, even old recipes for family favorites tacked to the ceiling beams and wooden walls. The appliances hearken back to before my birth, and sagging couches covered in homemade quilts are stuffed into the tiny 1900's rooms. Running water is a new installment. The floorboards creak with generations of work-weary feet and growing children. It's a treasure trove of history and family and rich, tangible proof of the fabric of a fishing life.

*Govern a great nation as you would cook a small fish. Do not overdo it.* – Lao Tzu

As the fishing season came to an end, so did our research for the summer. But the fight isn't over. Over the winter, a task force was formed to help decide what should be done about low abundance years and weak King runs. I attend a meeting of the group in early January, and am troubled by the malcontent of the other attendees. I asked one fisherman, who has come to show his protest for Fish and Game's management, what he is hoping to accomplish with his presence. He is distributing a packet of "information", much of it based on opinion and hearsay. He challenges my work, and eventually my character, and the tension in the room rises with each passing hour.

It's so hard to disengage and just observe. I want so badly for this group to find some common ground, but no one seems interested in taking that path. Everyone wants to point a finger; everyone wants to find that scapegoat; much is demanded by the task force of Fish and Game biologists and researchers, and there is little they can offer other than the best estimates their science gives them. Sadly, most of these fishermen want answers, not predictions. They want assurances that their lives can continue, that their identities will be uninterrupted. My heart breaks for everyone in the room, and the dream of someday owning my Uncle's sites and fishing for myself seems to slip out of view.

The winter wears on and different fishing advocacy groups release their

opinions on the management actions both taken and left alone. No one seems happy. I wonder how long this can go on before things take an ugly turn, or people start giving up altogether. As I begin to write my thesis, I wonder if people are already suffering the losses I hypothesize as possible should the fishery slip into decline.

God, I hope not. This is my home; these are my neighbors. I feel full on information and knowledge, but there's not an answer to be found. As I approach my first thesis deadline, I begin to realize that nothing I can do or say will ever find a consensus amongst such animosity, doubt, and driven-in heels. So I set a new goal: write one thing, even one sentence that will change the way someone thinks about Cook Inlet and Kenai River fisheries. Speak one "Truth" that will convince someone to think of fishing as a part of their communities lifeblood, rather than news media entertainment. I hope I can do it. I hope I can get even one person to think differently, and begin to reach for consensus and compromise instead of condemnation.

As for me, what does my fishing future hold? I hope many fish yet to come.

**Figure 21:** Loren, Craig, and Brian 2009

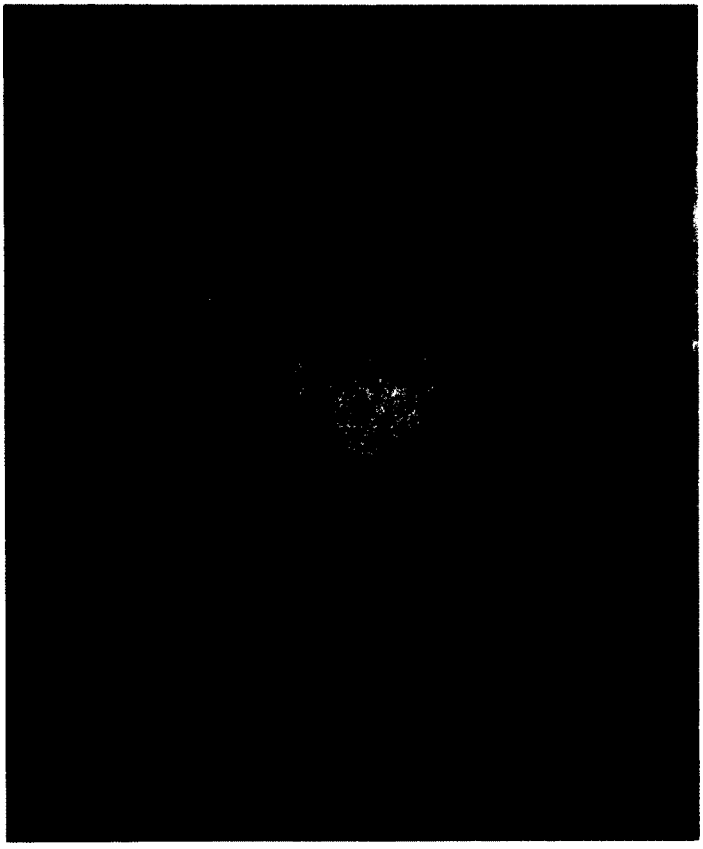

**Figure 22:** Loren, Craig, and Brian 1950's

*"All men are equal before fish."* – Herbert Hoover

# Chapter 4:
# Perspectives on the Identity of Fishermen

## Introduction

One of my main research questions asks: what are the points of contention and points of agreement between groups of fishers competing for the salmon resource in Upper Cook Inlet and the Kenai River? In the previous chapter, I discussed the economic underpinnings of the disagreements among locals. However, I think it is important to focus on more than just the obvious governance and 'bottom-line' issues, and also examine the more personal psychological and cultural aspects of these debates. This chapter presents and discusses the findings from the ethnographic and interview work conducted during the summers of 2011 and 2012. As an author's note: in this chapter I frequently use direct quotes from interview participants throughout this chapter, but deliberately omit the type of fishing in which the speaker participates. My rationale for this stylistic device is to demonstrate the striking similarities between the attitudes and values of fishers from all fishing groups, despite their perceived lack of common interest typically associated with this fishery's social conflicts. My intention is that the reader will be forced to guess which type of fishery is speaking, and ultimately will not be able to distinguish between the groups, effectively demonstrating the unity in their opinions.

## Shared Perspectives and Priorities of Cook Inlet and Kenai River Fisheries

To identify points of contention and consensus between fishers, I have used ethnographic research techniques to better understand the very personal perspectives wrapped up in the Cook Inlet and Kenai River fisheries. In exploring the data, several themes emerged that addressed the question of points of contention and points of agreement between the user groups utilizing upper Cook Inlet and Kenai River salmon fisheries. These themes illuminate the attitudes of fishermen, and, hopefully, will serve as a "launch pad" for future research to explore

the fishery in greater depth. Presented here are the three most prevalent themes emerging in the data, based upon the frequency with which they were raised in interviews:

*Personal Identity and Family Dynamics*

To all participants of this study, fishing is not just a job; it is a livelihood that penetrates deep into their personal identities, shaping everything in their lives from their home décor to the names of their children. Conversely, their personal lives have also influenced their fishing choices. Some fishermen named their vessels after wives or daughters, or shape their fishing seasons around important family events. Often, fishermen expressed that their choice of occupation was not a direct result of the bountiful years that brought strong financial gain but rather, it was the lure of the lifestyle itself that kept them "at it."

One drift fisherman, for example, commented on the sacrifices he and his wife made so that he could continue to pursue fishing:

> It's like they say, [fishing's] a lifestyle. I've been very lucky that I've been able to earn a living at this, but I spent a lot of years where I barely eked by and end up living on my wife's income so I can do what I do. This is what I do. This is who I am. And I couldn't imagine myself anywhere else now.

Other fishermen, both commercial and sport, spoke in earnest about their family ties to the industry. Fishers expressed pleasure in having their children participate in the fishery with them, often serving as crew and developing values they perceived to not be available through other occupations. One drifter grew teary eyed as he described his daughter's involvement and possible future in the fishery:

> My daughter grew up fishing, she learned work ethic, and she learned that nature rules. She learned a lot of things that takes a lot of people a lot of years to learn. It's a humbling experience. It's a risky business. Fortunately, she's going in a different direction. Sad as that is for me, yeah.

Most interview participants indicated apprehensive or dismayed feelings when considering the future of the fishery and how it might impact their children's opportunities to carry on in a family business. Most felt that entering the fishery as a young person now would be a foolish choice, one surely to end in financial ruin with the lack of predictability or security as a result of the management structure. Still, some fishermen spoke hopefully about their children's involvement with their fishery, recounting cheerful memories of their children's own love for fishing. One drift fisherman recounted a particularly poignant moment on board their family's boat with his 9-year-old son:

> So we get done for the day and we're heading back into town and I put him, kind of tucked him in and I was driving for the river and he pops up a few minutes later, he goes, "Dad, I can't sleep."
>
> I said, "Why's that?"
>
> He says, "Whenever I close my eyes, I see fish hitting the net."
>
> I said, "[Son], the same thing happens to me." I knew right then he was hooked.

Dipnetters, while their trips are shorter and more recreationally based than are sport-charter and commercial operators, nevertheless frequently indicated the importance of the activity as a family bonding and teaching experience. Many dipnetters were on the beach with multiple generations of family members, and some made the trip into a multi-day family camping trip. One dipnetter cleaned a fish with a baby on her back while responding to interview questions, saying "this is an Alaskan thing to do, a way of life. I want to be able to teach my kids that." While this aspect of personal use fishing was often under-appreciated by other fishing groups, the importance of family activities surrounding the dipnetting experience is apparent.

*Continuity and Predictable Fisheries Management*

Most fishermen have made and must regularly make significant capital

investments in order to participate in a fishery, season after season. Fishers depend on the management structure and its guiding principles (such as a fishery's management plan, or the maximum sustained yield principle) to be reasonably predictable in its influence over the fishery. Fishers depend on predictable fisheries management, based on known and valid management principles rather than political influence, for adequate and appropriate opportunities to harvest, as these opportunities are critical to their financial success as fishers, as well as other benefits of regular fishing practice (Loring et al. 2013). In addition, predictability allows them to plan their season and to make other economic choices efficiently, such as how many crew members to hire, whether to replace old or broken gear, and whether to fish at all.

Predictability in a salmon fishery may seem like an unreasonable expectation due to the cyclical nature of salmon runs and natural biological variability in the environment. However, interviewees expressed a desire for predictability in *management*, rather than in the environment, meaning that fishers would be able to more or less understand and rely upon the tenets managers will use to make their management decisions. While a management plan created by the BoF and implemented by ADF&G is thought to act as the guidelines for management, this plan is subject to political winds and ADF&G has the ability to operate outside of the plan when unexpected circumstances arise.

One prominent sport fisher and guide spoke about the importance of implementing new rules and regulations through the Alaska Board of Fisheries process through which individuals and groups may submit proposals to be considered by the board, and occasionally adopted into management law. He expressed frustration at efforts to circumvent the BoF process or otherwise ignore a "fair and public process." A representative of the sport fishers advocacy group shared how they collectively make proposals to the BoF in an effort to create predictable regulations that they can rely upon to be in effect year after year: "We do those things through the Board of Fish process, just to try to ensure a reliable

fishery. That's key for us."

Commercial fishermen expressed similar sentiments, citing the need for a predictably managed fishery so that they can plan their investments, in terms of time and finances. Similarly, dipnetters spoke about predictability being important for them to time their trips to the Kenai River in an attempt to avoid commercial fishing days for reasons of harvesting without the "nylon curtain" being in the water. One dipnetter from the Anchorage area said:

> "It's frustrating when they [ADF&G] do another emergency opener and the drift fleet is fishing. We came down today [from Anchorage] because we thought they wouldn't be fishing, and we'd catch more fish."

Clearly, predictability of both the salmon run strength and the managerial controls over access to the fishery play major roles in all fishers utilizing this system.

*Prioritizing Ongoing Sustainability and Ecosystem Health*

All fishers, regardless of sector, consistently agreed that both managers and users alike must prioritize the health of salmon ecosystems in Cook Inlet above all other issues. For commercial fishers, this point came back around to avoiding overescapement in the Kenai River and protecting in-river habitat like riparian zones, river banks, and spawning grounds. Sportfishers agreed with in-river management concerns, and cited many examples where groups like KRSA and professional guiding groups have self-imposed restrictions to protect spawning habitat and keep anglers off eroding riverbanks. Still, all groups believed that more could be done, especially at the management level.

Some fishers described sustainability concerns in the context of fishermen being excluded from management decisions, especially during the in-season period. They justified their expertise by extensive time spent on the water, and first-hand sightings of important management concerns on a daily basis (i.e., fishing violations, large volumes of fish moving in-river, jumping fish in the marine environment). Some spoke of developing new, integrated ways of including fishers in day-to-day

management decisions at the local level, such as electronic reporting or an App that will allow fishers to report sightings of fish and other relevant phenomena.

Fishers also spoke of sustainability in another way; that is, they described a fishery that was sustainable and managed with a "biology first" framework. This, some fishers said, would create a scenario in which advocacy groups would be less necessary to fight political battles and fishermen could focus more time and energy on fishing, marketing their catch at a local level, and enjoying their livelihood. One fisherman described his feelings succinctly by saying, "I just want to stop fighting and fish."

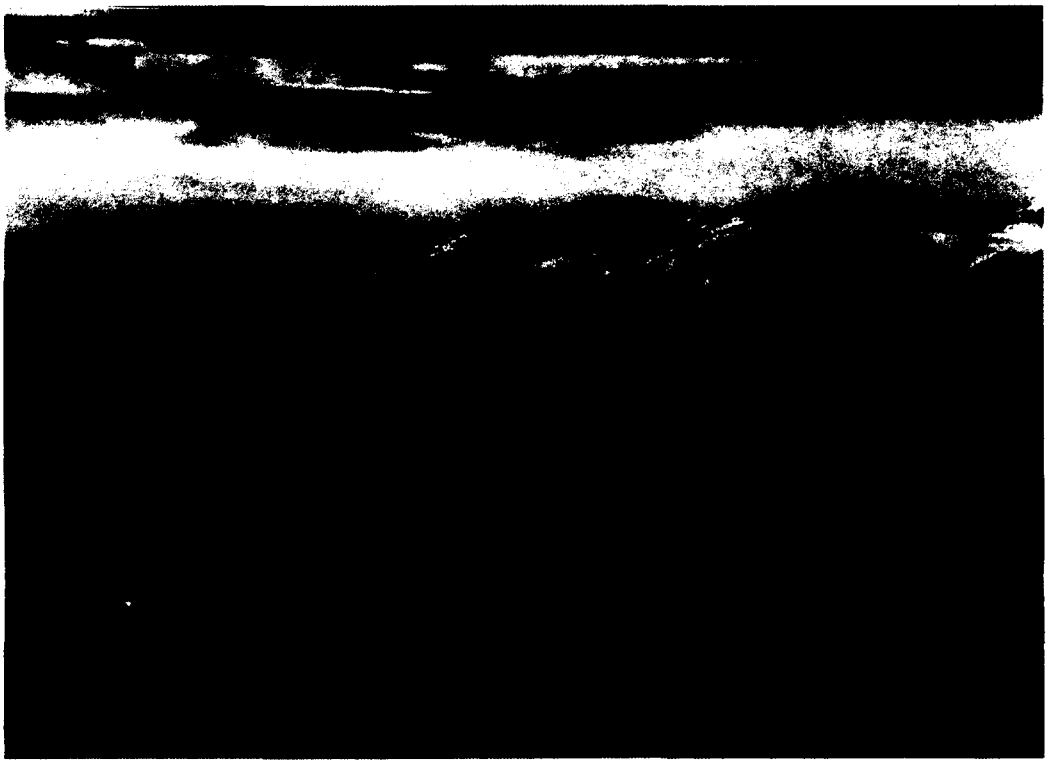

**Figure 23:** Perfect day on the lake

*Points of Contention*

Despite the many points of agreement noted above, fishermen also continued to disagree about several important aspects of the fishery: primarily *who* should bear the burden of conservation, what those burdens should be (e.g., abstaining from fishing, being limited in catch quantity, limited access to harvest

opportunities), and how management (such as the BoF and ADF&G) should play a role in creating those rules. Some fishermen, particularly those affiliated with personal use and sport fishing, had more positive things to say about the BoF process, but fewer positive things to report about ADF&G's research and fish enumeration work. Commercial fishermen, on the other hand, tend to take the opposite view of that of the other fishing groups. While there are numerous reasons that these perspectives may have manifested with such division within these groups, one fact became clear: the different fishing groups in this region view management entities and actions from very different perspectives which contribute to, and may be the aggravating factor for on-going contention among the groups.

*Contribution Factors to Opposing Perspectives*

Though the perspectives of the fishing groups discussed in this thesis may run in direct opposition to one another, the reasons for that opposition are surprisingly uniform across the fishery. Many fishers expressed concerns with other fishers and advocacy groups spreading inaccurate information about them, or concerns with poor media representation. One such example of this that frequently arose during interviews was the economic value of the commercial setnet fishery, particularly for East Side setnetters. During the summer of 2012 when fishing closures swept across the setnet fleet and greatly affected sport guides, local print media ran sometimes sensationalized headlines describing the events. Indeed, hearing inaccurate information about fishing economics, residency of fishers, and the extent to which fishing closures created a worsening plight for fishermen was a frequent occurrence over the summer.

Some fishers also alluded to deliberately malevolent behavior by particular members of fishing groups, particularly within the sport and commercial fishing communities. While these individuals will not be named here for purposes of anonymity and research integrity, the belief that one or two powerful, and often wealthy, individuals were exercising influence over ADF&G and the BoF was

widespread and powerful amongst research participants. Regardless of whether these allegations are true, many fishers active in local politics appear to base their arguments and actions on these beliefs. The depths of these beliefs and perceptions were not plumbed during this research project, but would be prime territory for future research efforts to seek out and identify the source of misinformation and power struggles amongst fishing groups.

However, perceptions of malfeasance and deliberate misrepresentation of fishing groups on the part of opposing group members do not manifest entirely on their own. Rather, interviews from this research suggest that there are a few important contributing factors to why these arguments, often based primarily in fiction or misinformation, hold such sway within these fishing communities. These factors include the 'aging of the fleet', creating a scenario where aging fishers feel pressure to maintain the status quo; fearing that any changes to the fishery may ruin their future economic gains late in their working lives, leaving them no time to regain them before retirement age. Another factor stated by fishers is the fear of losing fishing not just as a livelihood, but also as a major part of their personal and family identities. Finally, the ingrained culture of conflict around this fishery seems to, to some degree, perpetuate itself as younger fishers inherit the quarrels of their elders.

Many fishers, particularly within the commercial drift and setnet fisheries, commented on the "graying of the fleet," acknowledging that fewer young men and women are buying into the fleet at the same rate that older fishermen are retiring out of it. While it is difficult to ascertain if this perception is supported by any collected data, it may be a reasonable assumption; all but a handful of our interview participants within the commercial fleet were over the age of 50, and nearly all were male. Several participants expressed their need to be able to maintain their fishing livelihoods. One man in his early 60's said, "I don't have a 20 more years to rebuild what I've earned fishing. I have four or five years," indicating his need to fight to retain his fishing lifestyle and earning power.

If many members of the commercial fleet share these sentiments, and our interviews suggest they do, then it stands to reason that these primarily aged, male fleets with deep and powerful emotional and personal ties to their livelihoods may depart from rational thinking to more emotional and defensive arguments when challenged by management decisions or misinformed members of other fishing groups or community members.

Another notable contributing factor may be the longevity of the leadership within fishing advocacy groups. Certain figure heads become very well known within the fishing communities, and any inflammatory remarks, actions, or gestures they make appear to be retained by the collective fishing community, and often are not forgotten or forgiven over time. According to our interviews, many fishers have strong feelings of resentment, anger, and distrust toward individuals that have lead fishing advocacy groups over an extended period of time. This animosity may point toward an important reason to have continuously revolving group of leaders, or to create consensual bonds between leaders and aim for a more collective means to address fishing problems rather than pitting one fishing group's influence against another's. In a related vein, many fishers view serving as leaders to their fishing sector as a burden and obligation rather than privilege. Said one fisher when asked why he served on his advocacy group's board:

"I wasn't smart enough to not raise my hand."

Another fisher echoed that sentiment, saying, "I really appreciate Craig and Jim[3] serving on the board. They [board members] came to me and I said "no way." Those guys doing it means I don't have to." Clearly, service to the fishery in a public role is not a coveted position, and may place undue stress and pressure on fishers already participating in an energy-intensive livelihood.

It is also worth noting that very nearly all the leadership within the BoF, ADF&G, and all advocacy groups included in this research are entirely made up of

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[3] Names changed for anonymity

male participants with very little visible female input. While the fishing industry is indeed a largely male occupied occupation, women do participate and are underrepresented in leadership. The relationship between female participation in resource conflicts and the degree to which animosity exists between stakeholders may be an interesting point of future research.

**Discussion**

The key findings of this research revolve around three emerging themes that demonstrate both the points of conflict as well as the points of agreement between traditionally opposed fishing groups who collectively utilize both Upper Cook Inlet and Kenai River fisheries. These themes of prioritizing sustainability, family and personal identity, and predictability within the management of the fishery all demonstrate the components of fishing that fishermen themselves value and find essential to their livelihoods. Similarly, three themes emerge in describing points of contention between fishing user groups: who or which user group should bear the burden of conservation, what those burdens should be, and how management plays a role in creating conservation rules and regulations. These points of contention demonstrate the different viewpoints from which fishers approach the fishery, and further illustrate their relationship with their livelihood or recreational experience.

Examining themes of agreement between fishing groups, it is clear that most participants value fishing as more than just a source of wage earning or recreation. In fact, it serves as an activity that helps fishers define their own selves, as well as provide an economic benefit to their families (Aoyama et al. 2012; Dombrowski 2007; Kawmura 2004). Involvement in family operations by members from several generations suggest that fishing provides a means by which parents can pass on values to children, as well as teach them a skill that may provide for them and their families in the future. Commercial fishermen, both drift and set gillnet, emphasized the importance of fishing to family and personal identity, while sport fishermen tended to express more frequently themes of identity as fewer members of their

group had family oriented business models. Personal use fishers demonstrate the value placed in family involvement as well, though many indicated that they would be able to replace fishing as their family bonding activity of choice if necessary.

Because such importance was placed on the fishery as more than a means of earning a living, it was not surprising that all fishing groups are concerned with the ongoing sustainability of the fishery and, by extension, their ability to participate in it as their most significant priority. Though all fishing groups agreed with one another on this issue, most individuals commented in some way (some in passing, some with pointed clarity) about their belief that other fishing groups were not as interested as their own group in conservation and a sustainable fishery. This brings up an interesting and noteworthy point and begs the question: if practically all users are in agreement that sustainability of the fishery should be the first priority of fishers and managers, then why do they simultaneously believe that other fishers are not as interested in working toward that priority? One answer could be that there yet lays an undetermined factor driving a wedge between fishers, despite their similar priorities and perspectives. Some interviews suggested that certain individuals, particularly those heading advocacy groups with significant political clout, may be responsible for propagating feelings of distrust misunderstandings between fishing groups. However, this is a hypothesis in need of further investigation before arriving at a conclusion.

Finally, predictability of the fishery's management was identified as an important component for decision making by sport and commercial operations. Dipnetters, too, expressed frustrations when unable to make choices based on reliable, well-disseminated information, though few experienced long-term complications due to unexpected changes during the fishing season. Though many fishermen agreed that the cyclical lifecycle of salmon produces unpredictability in the profitability of any particular season, they viewed this as different from lack of predictability within management. Management, a point that they generally agreed on, should allow a relatively stable and fair set of rules by which fishermen can plan

their future activities. "Fair rules," however, are not necessarily well defined by participants, and, again, could be the subject of future study.

Turning to the three themes addressing points of contention: primarily *who* should bear the burden of conservation, what those burdens should be, and how management should play a role in defining and doling out those burdens, it becomes clear that these findings outline that most fishermen want very similar results and assurances from their fishing activities. Sustainability is the foremost priority for fishermen, and while they agree on this point, they also disagree as to how it should be accomplished. Indeed, all points of contention identified in this study revolve around sustainability and access to harvesting opportunities.

During the summer of 2012, management decisions made by the BoF and ADF&G managers for purposes of Chinook salmon conservation kept set gillnetters out of the water almost for the entirety of the season, and dramatically restricted other fisheries from their normal fishing practices and allocations. Setnetters participating in this study recognized the need for conservation, but felt that their "sacrifice" went unmatched by other groups. This was perceived as unfair by setnetters, though other fishing groups (particularly sport and dipnetters) perceived the setnet closure as the most effective way of conserving King salmon. Regardless of the effectiveness of the closure, the burden of conservation is generally perceived to be unfairly handled amongst the fishing groups by some but not necessarily by all fishers.

There was also significant disagreement about what the burden should look like in terms of restrictions. Setnetters were required to abstain from fishing entirely, while sport fishing operations were required to catch and release King salmon, and then abstain from fishing for Kings at all by switching gear types. While these management strategies effected all fishing groups, some argued that their group was disproportionately effected in comparison to others, an issue that the BoF and ADF&G had a difficult time rationalizing to stressed fishers. This breakdown in communication between management and users ultimately

demonstrates why the third point of contention – what role management should play in creating conservation rules and regulations – was so adamantly emphasized during interviews.

Many fishers expressed perceptions of politically based management heavily influenced by money and political pressure. All fishers with this point of view agreed that biological science based management was superior in maintaining a sustainable fishery to what one fisherman called "ballot box biology." Further research focusing specifically on the politics and pressures of salmon regulations both at the state and federal level might be helpful in better understanding the source of these perceptions.

Ultimately, one important conclusion arises from the identification of contentious points of disagreement; that agreement is possible between traditionally opposing fisheries, and resource sharing is possible through collaborative solutions and resource management. Methods such as sharing, collaboration and communication between fishing groups, and biological management based on ecosystem health rather than production have proven effective in other fisheries, and possibly could be equally effective here (Irvine and Kaplan 2001; Gatewood 1984; Finley 2011).

While the results of this study were multi-faceted and the data sources were rich, there still exists strengths and limitations to this research. Briefly, the strengths lie in the tremendous amount of time spent participating in the fishery by the researchers. In addition, participants often volunteered themselves for participation in the research, and had little if any reason to be dishonest or misleading in their answers to interview questions. Finally, one member of the research team was intimately familiar with both the area and the fishery, thus providing additional insights and utilizing pre-existing relationships to further the research.

However, limitations to the applicability of this study exist as well. This study is very specific to this particularly fishery and, like other qualitative research,

may not generalize to any significant degree. Finally, while the study is interesting and provides substantial insight into the fishery, it remains to be seen whether the results of the study will be utilized within the management and resource users of the fishery to any practical extent.

*Cultural Health and Identity*

The physical threats of climate change to arctic peoples and their environs may be the most apparent changes to the environment documented in current climate change literature, but effects on culture and the social structure of indigenous and other arctic communities are increasingly becoming the more threatening issue. Rising rates of suicide, domestic violence, and substance abuse have been matters of great concern in the rural and indigenous communities in Alaska for several decades. Direct links between addiction and violence have been well documented (Borowsky et al. 1999), but recently links between community, cultural identify, and culturally based solutions to high suicide rates have come to the forefront of this tragic issue.

For example, a case study involving Yup'ik youth in Alaska focused on suicide and co-occurring alcohol abuse found that local youth were able to pinpoint protective factors in their community effective in preventing or intervening with suicide. Overall, community-based models for public health promotion and intervention are found to be most effective in prevention by using culturally appropriate and place-based intervention techniques and community-based prevention methods (Allen et al. 2009). Namely, allowing youth, especially males, to participate in traditional activities and contribute to their communities as providers and leaders. Colonization and other Western influences have wreaked havoc on traditional cultural structures, belief systems, and methods of subsistence and the passing of tradition between generations. It is important that policy affecting arctic peoples and their environments include co-management strategies and allow for traditional ecological knowledge to play a major role in determining future

management decisions (Armitage et al. 2009; Crona and Bodin 2006; Berkes 2009; Cinner et al. 2012).

The success of such methods indicate an area of potential study in identifying the community level outcomes to suicide prevention and applying them toward the human dimension problems of climate change and cultural destabilization (Aoyama et al. 2012; Thornton 2001; Powell et al. 2006). Even aside from issues of suicide, the cultural and social impacts of climate change must be considered at a greater magnitude than they current receive. Understand the impacts of climate change on culture and societies, particularly on indigenous groups, and the resulting behaviors necessary to adapt to sometimes severe change is a currently underrepresented piece of the climate change literature (Adger et al. 2011).

# Chapter 5:
# Concluding Thoughts

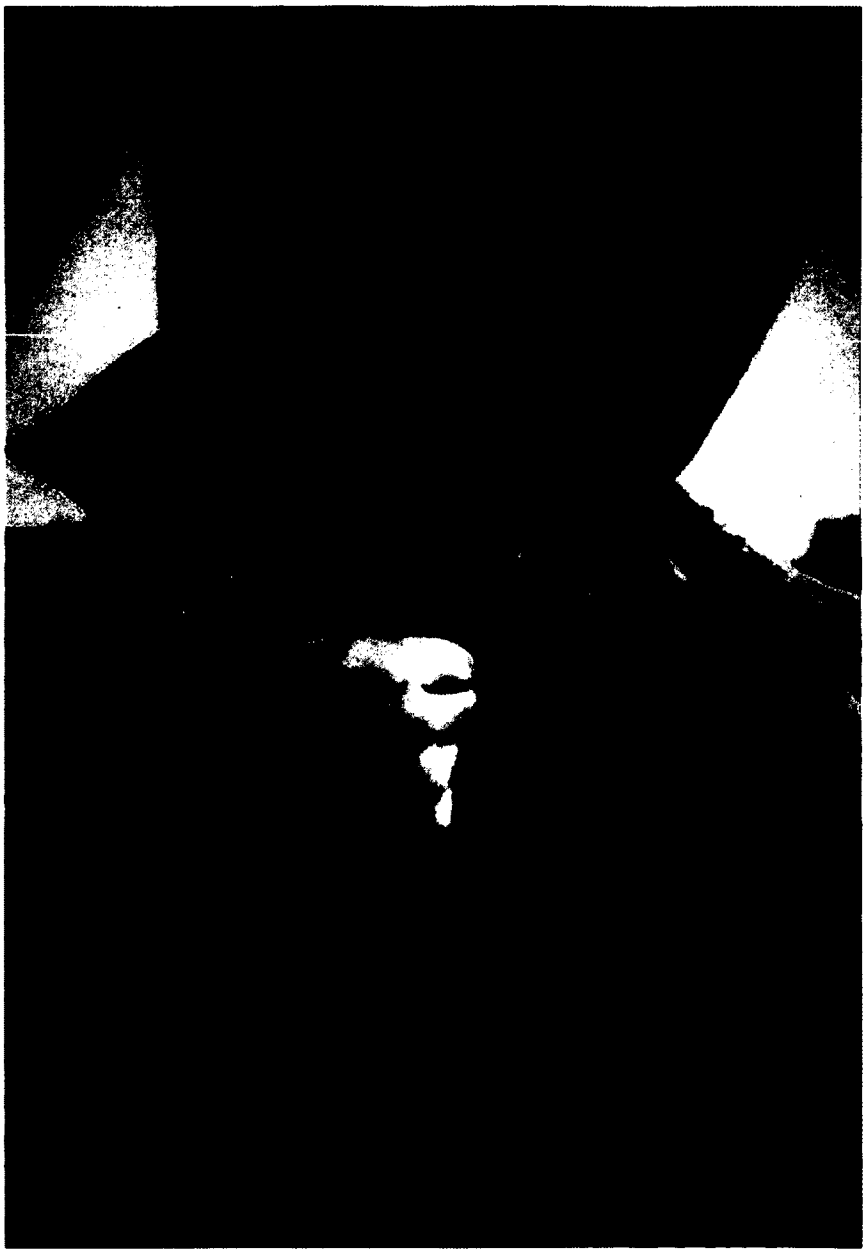

**Figure 24:** Ready to fish

*"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid."* - Einstein

Throughout this thesis I have tried to provide you with an extensive background of the Cook Inlet and Kenai River fisheries, and with multiple perspectives on the contentious resource conflicts that exist here. I hope that I have illustrated to you, the reader, the struggles that fishermen and women in this region undergo every season, how these struggles are amplified by management decisions, that there are personal identities and livelihoods at stake here, and, finally, provided some insight into the regional economic and other impacts that result from conflicts over the fisheries. By way of conclusion, I review and summarize the findings presented in this thesis by situating them within the framework provided by Redpath et al. (2012), a framework that helps us better understand the context of natural resource conflicts. I will then conclude with some personal thoughts about this research and the future of this fishery.

**Understanding Resource Conflict Resolution**

Conflicts, especially those over resources, are highly characteristic of humanity and have emerged in many forms over the course of history. The challenge in addressing them lies not in "solving" or "preventing" disagreements all together, perhaps a practically unachievable feat, but in mitigating the damage that they inflict on communities and ecosystems when they do occur, and in learning to develop resource management approaches that incorporate effective and equitable conflict avoidance and resolution practices. Conflicts may arise under any number of circumstances, though in the case of Cook Inlet and in Kenai River fisheries, several scenarios for conflicts are obvious: (1) when the respective positions of parties representing conservation interests are threatened by the positions of those holding alternative views and perspectives; (2) when conservation objectives are imposed on others, either from the top down such as we have seen with federal and state regulatory issues, or from the bottom up as a result of conflicts among

resources users themselves ; and, (3) when species of conservation interest have an impact on humans, with impacts being potentially negative as well as positive (Redpath et al. 2012). We can also partition conflicts into two components: impacts that deal with the direct interactions between humans and other species, in this case salmon, and conflicts that center on human interactions among and between those seeking to conserve species, with conservation too often situated in a context of competing goals and vested interests.

On the surface, resource conflicts may appear to be only about impacts on species or ecosystems, but the origins of conflict often go beyond superficial differences of opinion among stakeholders and root themselves in deeper human issues such as power relationships, changing attitudes, and values rooted in social and cultural history, personal and community identity. Redpath and colleagues. (2012), as discussed below, point out that of the six broad, non-exclusive categories of conflict commonly identified, only one actually relates to a lack of ecological information about a resource. They argue instead that conflicts most often arise for other reasons, such as when stakeholders differ in their understanding of human-animal relationships (e.g., the ethics and effectiveness of catch-and-release fishing), when they are excluded from conservation planning (e.g., relationships between BoF, ADF&G, and fishers), when they are disadvantaged in negotiation (e.g., perceptions amongst advocacy groups that other groups are better funded or have stronger political connections), or when historical factors make conservation appear threatening to their livelihoods (e.g., perceptions of unfair balance in burden of conservation amongst fishing groups) (Redpath et al. 2012).

*Barriers to Conflict Management*

So what are the difficulties of managing resource conflicts? In the Cook Inlet and Kenai River salmon fisheries, this is an especially important question. Most recently the Cook Inlet Task Force spent much of their meeting time in the winter of 2012-2013 posing questions to ADF&G researchers and biologists, in some cases

demanding more information as their perceived path to "better management." At this same meeting, solutions for "the King problem" – a now familiar euphemism for the weak run of Chinook salmon in 2012 – were proposed in an effort to solve problems, but without much apparent consideration as to their appropriateness or chances of success, either biologically or politically. This theme of inappropriate or "win-lose (Redpath et al. 2012)" solutions is described as the "black box" of problem solving; uncritically applying favored solutions (i.e., more science), without considering appropriateness or chances of success (Clark et al. 2010). These "solutions" and the unproductive outcome of these Cook Inlet Task Force meetings are simply the most recent in a longstanding mingling of science and politics in inappropriate ways, creating both "politicized science" and "scientized policy" (Clark et al. 2010; see also Pielke 2007).

As noted above, Redpath et al. outline six barriers that can limit the effectiveness of conflict management, or management of a resource within a conflicting atmosphere:

1. *Unwillingness of parties to engage*

   Groups that have fundamentally different values or goals, or perceive that they do regardless of reality, are unlikely to effectively negotiate agreements to alleviate resource conflicts. Similarly, groups may not acknowledge the legitimacy of the participation, claims, and possible contributions of other groups, and therefore may not be willing to engage with them in productive dialogue. Too often, this results in groups turning to other forms of communication and interaction to resolve conflicts, such as legislation, enforcement, and sometimes even litigation (Redpath et al. 2012). This theme is highly visible in the Cook Inlet and Kenai River fisheries, particularly amongst advocacy groups that repeatedly question and in some cases seek to undermine the legitimacy, legality, and authority of other groups. Indeed, UCIDA has recently brought another lawsuit against federal agencies in response to BoF and State of Alaska decisions in fisheries management, an action described by one

UCIDA members as "the only way to communicate with these people (Anonymous, Personal communication, July 27th, 2012)."

As Redpath and colleagues (2012) point out, distrust is one of the main barriers to effective collaboration. In the case of the fisheries issues presented in this study, a lack of trust among different segments of the fisher community and a and the various management entities was cited over and over again as a primary concern from all stakeholders in the fishery. Redpath and colleagues suggest that the processes that build trust rather than undermine it are most likely to encourage engagement (2012). In this case potential solutions are evident that could foster more sustainable outcomes, for example, actions such as "highlighting the shared nature of the conflict, engaging a powerful third party to facilitate negotiation, or by marginalizing extremists by building consensus with a critical mass of willing partners (Redpath et al. 2012, 102)" may be the most practical steps forward for Cook Inlet and Kenai River fisheries. On the positive side, most of these steps have already been acknowledged and suggested by fishers, and are supported by other literature presented in this thesis.

2. *Striving for unrealistic goals*

Redpath and colleagues (2012) also note that win-win solutions are often highly unrealistic, and the merits of arguments underlying conflicts should be acknowledged. This desire for legitimacy, particularly in economic and community based arguments, was also noted in many of our interviews with fishers. However, it does not follow that win-lose arguments are the only possibility; rather as Redpath and colleagues suggest, goals, arguments, and trade-offs need "explicit articulation when defining conflict and seeking solutions" (2012, 104). I agree with this emphasis on communication, and would add that it is possible for solutions to be considered simultaneously win-win and lose-lose in different dimensions or across different temporal and spatial scales; all groups will gain by achieving long-term sustainability, a frequently

prioritized ecological need for fishers, and by giving up some of the long-held arguments supporting their own priority to fish, priorities that include but are not limited to the economic superiority of one fishery over another.

3. *Spatial and temporal scale*

The note about scale above points to the third point suggested by Redpath and colleagues (2012), the distinction between levels of management in local resource systems, an issue that also frequently arose in interviews with fishers on the Kenai Peninsula. Federal laws and managing bodies (e.g., NMFS, Magnuson-Stevens Act) often do not achieve seamless interaction, or foster effective "interplay" with state laws and managing bodies (e.g., Alaska Constitution, BoF), and as a result local fishers frequently report feeling "at odds" with managing agencies (See also Young 2002). "In such cases," Redpath and colleagues argue:

> It is important to ensure that large-scale, top-down processes provide as much local-level freedom to find local solutions within the wider frames of coordinated large-scale policy. Top-down involvement might also help ensure that all local-level processes are fair, inclusive, and not subject to corruption and capture by local elites and power brokers (2012, 107).

This perception is supported by my interview data on fisher perspectives in arguing for local-level participation in large-scale management schemes.

4. *Financial incentives*

Financial incentives can be useful in finding resolutions to resource conflicts, but they must be appropriate, locally and effectively place-based, and culturally situated so as to meet the needs of all parties involved. Redpath and colleagues (2012) point out that, if designed incorrectly, financial incentives to achieve conservation can lead to bankruptcy, dependency, and poverty traps (see also Cinner 2011). In the case of Cook Inlet and Kenai River fisheries, many people participate in one or more fishery primarily for the financial benefits provided,

and some support themselves to a large degree with fishing livelihoods. Thus, financial issues surrounding fisher's access to the fishery are hugely important and major considerations. However, acknowledging *only* financial matters within the fishery would be an error, as many fishermen related their financial gain from the fishery as equal or secondary to personal and cultural reasons for participating in the fishery.

5. *Representations of conflict in the media*

   The issue of media sensationalism of the fisheries conflict is not new, and is clearly obvious on the Kenai Peninsula, especially during times of elevated contention among user groups and during closures or times of real or perceived resource shortages (Appendix 5 & 6). Many fishers acknowledge the local press, especially newspapers, as being inflammatory in nature and guilty of spreading misinformation. Similarly, publications by advocacy groups are perceived to present very one-sided, highly politicized and biased arguments in support of their own users, often with the effect of dehumanizing other fishing groups.

6. *Legislation*

   Many of Alaska's fisheries are highly formalized, in that legislation at state and federal levels provide the lion-share of the institutional scaffolding for their management (e.g., Alaska Constitution, creation of BoF), and politicians, for better or worse, continue to have an important role in how Cook Inlet and Kenai River fisheries are managed and allocated. Redpath and colleagues point out, however, that an important pitfall of political influence over resource conflict in acknowledging that legislation can be ignored or resisted by a user group if deemed unfair or unjustly created. Additionally, too strict or too lax laws (e.g., dipnetting regulations) can "lead to a sense of disenfranchisement...ultimately exacerbating conflict (2012, 105)."

These six barriers to the problem-solving side of resource conflicts shows how resource conflict is fundamentally centered around human differences in their

interests, views, and values. In the Cook Inlet and Kenai River region, my research identifies and acknowledges these differences among fishing groups and stakeholders, and in this thesis I have examined the facts and fallacies behind their associated arguments, and as I understand them. However, it is essential when seeking resource conflict resolution that points of consensus also be identified. In my interviews with fishers, several points of agreement frequently arose, and these are perhaps the most likely candidates for establishing the middle ground and for identifying common interests in future attempts at conflict resolution between user groups.

*Prioritizing Ongoing Sustainability*

Throughout our interviews, all fishers agreed that the ongoing biological and social sustainability of the fishery should be the first priority of fishers, managers, and advocacy groups alike. In biological terms at least, sustainability appears to be a concept that is well understood by fishers. However, when it comes to societal needs and goals, the need to put one's own fishing rights first is perceived by most fishers to overide the needs of all fishers in the fight to gain access and harvest allocations. Nearly all fishers interviewed cited feelings of weariness and exhaustion in dealing with these conflicts, and look forward to a future when these conflicts can be put to rest. In the meantime, fishers have several ideas as to how that future vision could come to fruition through inclusive and responsive management, a refocusing on consensus instead of contention amongst user groups, and the equal and reasonable restriction of fishing pressure on the resource.

Most fishers participating in this research believe that all fisheries should be treated with equality, and management decisions should be based primarily upon scientific data and "ecosystem health" considerations at the BoF level. They feel that fisheries regulations, especially within the growing personal use fishery, should be adequately enforced. Rather than a point of local pride, the personal use fishery has become a symbol for the dysfunction of the entire regime, one characterized by

wonton waste, both real and perceived, and regardless of whether or not the harvests of this fishery are of a magnitude capable of inflicting lasting harm upon the salmon populations. As this fishery continues to grow, important as it is for local and regional food security (Loring et al. 2013), managers need to consider innovative new ways to regulate this fishery in an effective and equitable manner. As one sportfisher put it, "You can't just invite the whole world to come fish on the Kenai. It just isn't big enough for that."

Similar to limited entry efforts instituted in the 1970s, some fishers have suggested to me that a lottery or other limiting entry system will become necessary as fishing popularity increases and fish runs, particularly kings, are affected by climate and ecosystem change, as well as by other factors that we do not yet fully understand.

*Personal Identity, Family Dynamics, and Economic Contributions*

Fishers identify with their fishing activities as much more than just a means of making a living. Indeed, fishing has become inextricably intertwined with personal identity and family dynamics, especially in coastal Kenai Peninsula communities. Fishers find not only economic value in their fishing activities, but also intrinsic value related to their culture and preferred lifestyle. Nevertheless all of the active fisheries in this region are important to local economies; thus, the irony is that by tearing each other down, fishers from all groups are arguably doing themselves harm in the process by destabilizing and weakening their diverse local economy. Too, they all contribute to a much darker image for their communities; one noted less for its colorful boats and buoys than for the perennial conflicts and arguments among local residents.

Because fishing in this region has been practiced for many generations, many families still currently have multiple generations of fishers from which today's practices have been passed down. Criticizing the past may insult someone's parent, while worrying for the future may speak unfavorably for the future livelihood of

their children. The issues of conservation and access that surround this fishery are not simply opinions, but are now 'truths' manifest in the cultural inheritance of one generation from another. Thus, it is essential that great respect be granted in discussion and resolution of conflict, and that equity be given to the men and women who have practiced the fishing craft since their own childhoods. Often, fishers reported feeling that not only is respect absent from these conversations, but is replaced by disrespect and misunderstanding about the role of fishing in family life and culture.

One common theme throughout this research is the concern over the "graying of the fleet," the colloquialism for describing the aging demographic that composes most of the Cook Inlet drift and setnet fleets. As this group gets older, their inclination to compromise their fishing practices or adopt new techniques may decline as change becomes more difficult and the labor-intensive fishing lifestyle takes a physical toll. Additionally, the aging fleet has a long collective memory and may have deeper feelings of distrust in longstanding institutions like the BoF when it comes to new policy or management plans. Unless a new generation of fishers are able to afford to step up and take the place of this older group, the fishery may slowly decline on its own as permit holders retire.

However, I think it is important to also point out the advantage that an older and especially multi-generational fishery give to managers, communities, and the ecosystem. As our knowledge and understanding of fisheries ecosystems develops, we are able to engage fishers in active conservation efforts when fishers themselves feel like part of the ecosystem heritage. When new fishers enter the fishery, they begin at 'square one' in understanding the complex social and ecological relationships of the Cook Inlet region. When fishers are born and raised in the fishery, as so many are, their very upbringing may provide them with the tools to understand these concepts and act proactively in making conservation oriented choices about their fishing practices.

*Concerning Conflict*

Fishers from all fisheries agree that some groups, particularly advocacy groups, have misrepresented the goals, purpose, and contributions of fishing sectors other than their own. These misrepresentations appear to have influenced some BoF member opinions, and are too often perpetuated in news media and by and local political bodies (i.e., city councils, local legislators). Indeed, our research team was frequently exposed to press releases, blogs, opinion pieces, and other publications from groups expressing emotional and sometimes overtly aggressive perspectives as to the intentions of opposing groups. In a recent case, the illegal eavesdropping on the part of one advocacy group was alleged by another, with this just one example of many that demonstrates just how systemic this animosity and antagonism has become (Appendix 6).

In short, continued antagonistic responses to management by interest groups do essentially nothing to advance any particular agenda, and are likely instead to contribute to the slow degradation of local food systems, equitable fish management, and a buy-in to fishing livelihoods by younger generations. For a successful future in these fisheries, fishers must recognize that they share many points of consensus, and that they are capable of reaching compromises amenable to all parties. However, this will only be possible if they re-evaluate their leadership strategies and determine if the dialogue they are continuously exposed to is helpful in problem solving. Difficult though it will likely be, past slights and grievances must be allowed to die and new relationships with progressive leadership built to find ways to allow all fishers to participate in an industry that is held close to the hearts and pocketbooks of many. Furthermore, all involved should promote the best available science-based solutions that will make all fishers less vulnerable to both

foreseeable and yet unanticipated changes in the environment, management system, and climate.

*Recommendations*

Fishermen from all fishing sectors value predictability and equitable management decisions. The BoF process seems to be the locus of most contention within the fishery due to the highly politicized nature of its actions and members. In the future, oversight and steering at this level must be conducted in such a way that fishers can reasonably plan their fishing activities in advance of harvest opportunities. While it is not explicitly part of the BoF mandate to be concerned with how their decisions create economic or logistic challenges for fishers, doing so is not contrary to their mandate either, an important but rarely recognized point. More predictable styles of management that demonstrate continuity over time will allow fishers to develop appropriately diversified strategies, as well as develop the opportunity for small, localized marketing practices and greater access of local communities to locally caught seafood. At the community level, ADF&G biologists should be respected and acknowledged for the benefits of their expertise and experience, by writing management plans such that local biologists and managers have the flexibility to make independent decisions within the fishing season and to respond to local fishers and other information resources. While biologists already strive to accomplish these tasks, the BoF could assist in their efforts by granting them the freedom, trust, and written management tools they need to succeed.

Fishers also perceive themselves to be experts in their industry who have valuable knowledge to contribute to the management plans affecting their fisheries, especially during the in-season. This being the case, fishers prefer to be included in both the definition and implementation of management strategies, and to have the opportunity to contribute their knowledge in an inclusive and convenient manner. A collaborative management strategy enacted by ADF&G and supported by the BoF would not only allow managers to utilize their skills and in-season observations, but

will also allow them to draw upon the thousands of expert resource users currently under-utilized in the present fisheries management scheme. Additionally, the increased inclusion of user perspectives into management would give fishers a greater buy-in into the fishery's health and management, thus creating a more transparent, public, and supported system. Several easy, inexpensive, and rapidly available solutions to this problem may be possible. As an example, many fishermen supported the idea of developing a free application available for download to mobile devices that will allow for electronic catch recordings on a daily basis. Such a program would be inexpensive to develop and program, and would be easily used by fishers, especially in the in-river ecosystem. This additional information provided on a daily basis to local biologists would allow for greater response to in-river conditions, and could potentially be expanded to include marine conditions as well.

Finally, it is clear from interviews with fishermen from across the spectrum that their love for this fishery runs deep. Salmon and the many benefits they bring to Kenai Peninsula communities truly are an invaluable resource, and all fishers appear to agree that the well-being and ongoing sustainability of these fisheries should be, without question, the most important priority for all. However, endless fighting and conflict over this resource, politicized management strategies, and seemingly-underhanded maneuvering that dehumanizes and diminishes the importance of others' fishing rights does nothing to provide for long term sustainability. Some might argue that this fighting is, in fact, *because* of the need for sustainability, and that the fighting and conflict should be taken as an indication of just how much people care about the outcomes. I agree that this assertion is compelling within the current atmosphere of this fishery, but conflict alone does not contribute to long-term sustainability.

### *A Personal Perspective on This Research*

Up until now, my findings have been based on the themes that emerged from

this research, and have reflected the voices and ideas of fishermen from across the fisheries. As I conclude, I would like to add some additional thoughts from the perspective of a young Alaskan, fisherwoman, and concerned scientist.

As I noted in the preface to Chapter 1, this fishery that I have dedicated these last few years to studying is not only a fascinating research topic, but a piece of my identity that runs in my blood and rests deep in my bones. However, I fear that unless there are some dramatic changes not only in the management of these fisheries and our scientific understanding of fish ecology and habitat, but especially in our own attitudes toward how this fishery ties us together as neighbors, community members, and equals. We engage in industries of chance – this much is certain. However, we can create greater certainty by uniting our forces and eliminating these ugly, dehumanizing factions amongst our fishing factions. We choose to be divided by gear type, when really we could be united by a common interest in the sustainability of this priceless fishery and of our own identities and livelihoods as they are wrapped in the webbing of this lifestyle.

As a young person, and perhaps as a woman, I have been insulted, accused, and criticized for this fervent belief that compromise and consensus among groups in the region are necessary to achieve more sustainable outcomes. My research has been belittled on the merit of my having caught fewer fish over the course of my life than others, and for my views about reasonable paths forward for this fishery. Indeed, I am younger than many fishers I encountered and interacted with throughout this research, yet for this reason I arguably do not yet harbor the longstanding animosities and grievances accumulated by many my fellow fishers who are closer to my parent's age than my own. I would argue that this lack of prejudice grants me an outside perspective that is a valuable contribution to this discussion.

Regardless, I continue to propose that there is nothing to be gained by this incessant arguing, fighting, and vitriolic behavior toward one another. All Alaskans constitutionally share in these resources, and fighting to break off smaller and

smaller pieces will arguably hurt all involved – sport, subsistence, commercial, and persona use fishers alike. We all need enough reliable access to fish to make a living, to fill our freezers, and to participate in this sacrosanct activity that holds such a central place in our culture, livelihoods, and identities. As nearly every participant in this research has said, "There are enough fish for everyone."

If this is the case, then I argue that it is time we put aside this destructive behavior and began to listen, collaborate, and work *together* for a sustainable future. Surely this is the only way we will be able to prepare ourselves to adapt to a future of challenges such as climate change, ecosystem and habitat degradation, and other yet unforeseen challenges that lie ahead and that are outside of our own making or control.

## Epilogue

**February 11th, 2013**

I call Dad, stuck on a question with my thesis. My first major draft is due this week and I am nervous and eager to submit. During the phone call, the conversation turns to next season.

"Hey, have you talked to Craig?" I ask. Early spring is when my uncle usually makes his decision about when he'll come up the next season. I'm worried that after our bust last year, he may have given up on the coming summer.

"He's coming," Dad replies. "He said this is who he is and he isn't quittin' now."

I smile, and turned my mind toward July.

* * *

# Appendices

## 1. Dipnetting permit return data

### Permits Issued and Returned

| YEAR | Permits Issued | Permits Returned | Percent | Did Not Fish |
|---|---|---|---|---|
| 1996 | 14,576 | 13,452 | 92 | 4,408 |
| 1997 | 14,919 | 13,756 | 92 | 6,248 |
| 1998 | 15,535 | 13,190 | 85 | 5,539 |
| 1999 | 17,197 | 14,216 | 83 | 5,643 |
| 2000 | 16,107 | 13,582 | 84 | 5,745 |
| 2001 | 16,915 | 14,398 | 85 | 3,520 |
| 2002 | 17,568 | 14,284 | 81 | 4,858 |
| 2003 | 19,110 | 15,726 | 82 | 5,355 |
| 2004 | 21,910 | 17,748 | 82 | 4,001 |
| 2005 | 21,905 | 19,081 | 88 | 3,840 |
| 2006 | 18,563 | 16,532 | 89 | 4,695 |
| 2007 | 23,046 | 20,312 | 88 | 4,190 |
| 2008 | 23,722 | 20,259 | 85 | 4,561 |
| 2009 | 29,619 | 25,029 | 85 | 4,867 |
| 2010 | 31,590 | 25,222 | 81 | 4,069 |
| 2011 | 34,515 | 27,181 | 80 | 4,440 |

2. **10 national standards of MSA**

**SEC. 301. NATIONAL STANDARDS FOR FISHERY 16 U.S.C. 1851 CONSERVATION AND MANAGEMENT**

**(a) IN GENERAL.**--Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the following national standards for fishery conservation and management:

**98-623**

(1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

(2) Conservation and management measures shall be based upon the best scientific information available.

(3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

(4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

**104-297**

(5) Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

(6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

(7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

**104-297**

(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

**104-297**

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.
**104-297**
(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

3. **Dipnet survey questions**

    1. What is your home zipcode?

    2. Who are you here with?

        a. Do you fish a proxy for anyone?

    3. Do you fish here every year?

        a. For how long have you been fishing here?

    4. What is your biggest/primary reason for participating in this fishery?

        a. Do you participate in any other kind of fishing?

    5. How long do you stay (if from out of town)?

        a. How much do you think you spend on these trips?

    6. Do you consider yourself to be familiar with the regulations of this fishery?

        a. How do you stay up to date on changes in regulations?

    7. Do you think that this salmon fishery is being managed sustainably?

        a. Why/why not?

    8. Do you think certain kinds of fishing should be given priority over other kinds?

## 4. Codebook

**ADF&G**
**Anchorage/MatSu Valley fishers**
**Board of Fish**
**burden of conservation**
**Choice in processor**
**commercial fishery**
**community**
**conflict**
**Cook Inlet**
**crew**
**dipnetting/personal use**
**Direct marketing/access to seafood**
**drifting**
**economics of fishery**
**family**
**fish waste**
**fishing violations**
**future of the fishery**
**Group fishing**
**Home pack fish source**
**identity/lifestyle/local knowledge**
**in-river fishery**
**Kenai Peninsula Fishermen's Association**
**Kenai Professional Guides Association**
**Kenai River Sportfishing Association**
**Kings/Chinooks**
**limitations of fishing**
**locality of fishers**
**management/regulation**
**misconceptions/misperceptions**
**MSY**
**opening day**
**overescapement**
**politics of fishery**
**predictability**
**quality of product**
**Quotes**
**safety**
**setnetting**
**stock concerns**
**sustainability**
**UCIDA**

## 5. UCIDA Sues NMFS Press Release

##SEAFOOD.COM NEWS [Alaska Journal of Commerce] by Molly Dischner - February 8, 2013

United Cook Inlet Drift Association and Cook Inlet Fishermen's Fund filed suit in District of Columbia District Court Jan. 18 over the transfer of salmon management from federal authorities to the state of Alaska.

The drift association, or UCIDA, and fishermen's fund, or CIFF, filed the suit against the National Marine Fisheries Service, or NMFS, on behalf of Cook Inlet fishermen, their families and employees. The lawsuit alleges that moving Cook Inlet salmon fisheries into state management violated the Magnuson Stevens Act, or MSA, the National Environmental Policy Act, and the Administrative Procedure Act. According to the plaintiffs, declining salmon runs in Cook Inlet are the result of State of Alaska management actions, and evidence that the state is not upholding the Magnuson Stevens requirements for fishery management.

In December 2011, the North Pacific Fishery Management Council unanimously voted to officially have Alaska Department of Fish and Game manage Cook Inlet, Prince William Sound and Alaska Peninsula salmon fisheries, and note that in the federal fishery management plan, or FMP.

The salmon FMP for federal waters offshore from Alaska was then revised to reflect that change in jurisdiction. The FMP is required by the Magnuson-Stevens Act. The final rule implementing that change was published in the federal register in December 2012, effective Jan. 22.

The drift association has been vocal about its issues with the transfer for several years. In the lawsuit, UCIDA says that even if Cook Inlet salmon runs were performing better, the state should only be in charge of day-to-day management, not the overall FMP.
"Some people say (that we want) federal management of the fisheries," said David Martin, UCIDA president. "No, that's not it at all, but we want oversight because the state is not doing their job. Even though they say they're doing their job, they're not. That's why we've been fighting them."

The administrative record is due in March.

NMFS is also a defendant in a lawsuit over the new marine observer program, which went into effect Jan. 1. Producing the administrative record for that suit is expected to take significant staff time, although NMFS did receive permission to file it electronically.

NOAA General Counsel Lisa Lindeman said Wednesday at the North Pacific Fishery Management Council meeting in Portland that both lawsuits are taking up a significant amount of time for NOAA counsel. The same is likely true for NMFS staff. Judge Reggie B. Walton is presiding over the case.

**6. KRSA Eavesdropping Press Release**

Kenai River Sportfishing Association accused of eavesdropping
BOB TKACZ, FOR THE ALASKA JOURNAL OF COMMERCE
February 14th, 2013

JUNEAU — Alaska's "fish wars" may have entered a new phase with the disclosure of allegations that someone at the Soldotna headquarters of the Kenai River Sportfishing Association was eavesdropping on a January teleconference meeting of the United Fishermen of Alaska board of directors.

In a Feb. 12 news release, the UFA announced that it had "begun the process of turning over information to the authorities" with the expectation of a criminal investigation.

UFA, the umbrella trade association for 34 commercial fishing gear groups and support organizations, and KRSA have battled for years at Board of Fisheries meetings over Cook Inlet salmon allocations and other disagreements between the commercial and guided sport fishing sectors.
Assistant District Attorney Nick Polasky said Feb. 12, that he had referred the UFA to the State Troopers after the group brought its complaint to him. Trooper Spokesperson Beth Ipsen declined to confirm, or deny, that an investigation had been opened.

The story broke on the fishing blog Deckboss with the publication of a leaked Jan. 31 "confidential draft" letter from UFA Interim President Bruce Wallace to KRSA board Chairman Eldon Mulder, that "someone" at the KRSA office in Soldotna had "surreptitiously and without authorization" listened to a Jan. 17 UFA teleconference. The session was convened to discuss current and possible applicants for the Board of Fisheries vacancy that Gov. Sean Parnell filled with his Feb. 6 appointment of Reed Morisky, a Fairbanks guide and charter business operator. The letter noted that information about the "substance of our discussions ... was transmitted" to Karl Johnstone, the board chairman.

The letter notes that eavesdropping is a crime in Alaska and says, "Our purpose in writing is to inquire whether KRSA board members are aware of this interception of

our private communications and if not" to investigate the matter and provide an explanation.

It also asks Mulder "for a commitment from KRSA that its offices will never again be used for this purpose" and to make clear to its board and staff members that the behavior would not be tolerated.

Mulder declined to be interviewed directly but in response to emailed questions said, "We will not be responding to UFA."

The UFA letter to KRSA states whoever called in from the Soldotna office listened to approximately 70 minutes of the 90-minute teleconference. Mulder indicated that he was not aware of any of his board or staff calling in to the UFA teleconference on behalf of KRSFA, or telling anyone else.

"Neither I nor the KRSA Board have knowledge of any conversation with Judge Johnstone regarding a UFA teleconference," he wrote.
Wallace, interviewed Feb. 12, said UFA's teleconference vendor had confirmed that KRSA had called in, and Johnstone himself told them he had received information about their meeting.

"He said he was told very precisely what was in the meeting," Wallace said of Johnstone. "We know the originating interception call came from the KRSA office."
Wallace said meeting discussions centered on possible new board members, briefly on whether current members Tom Kluberton and Vince Webster would reapply and, "specifically, the things we'd like to see represented in a good Board of Fish member."

All that got turned into a conspiracy to remove the two incumbents, whose terms end this June, Wallace said.
"They were told by someone that we were coming after them to the point that we felt constrained, once we sent the KRSA letter, to call them both" and explain UFA had no such plans, Wallace explained.

##

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