

Executive Summary

Economic Effects of Management Changes for Kenai River Late-Run Sockeye



Institute of Social and Economic Research
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If fishery managers allowed more late-run sockeye salmon into the Kenai River in July, what would be the economic gains for the sport fishery and the losses for the Upper Cook Inlet commercial fishery?

The Institute of Social and Economic Research at the University of Alaska Anchorage examined that question, under a contract with the Alaska Department of Fish and Game (ADF&G). We looked mainly at the effects of increasing the management target for late-run sockeye by 200,000.

Managers could make that change in a number of ways—but for this study, ADF&G provided us with specific assumptions about what they would do. Different assumptions could change our results. To assess the effects of the management changes we studied, it helps to think about three questions:

- (1) What creates the economic effects?
- (2) How do we measure those effects?
- (3) How do different conditions affect the results?

If 200,000 more sockeye were in the Kenai River, resident sport anglers would take more trips to the Kenai, spend more for those trips, and catch more fish. But while fishing more on the Kenai, they would take fewer fishing trips elsewhere (as Figure 1 shows). Better fishing would also encourage visiting anglers to take more trips to the Kenai and spend more in the economy.

Commercial fishermen would lose some of their harvest and their incomes. Fishermen and processors would work fewer hours, and the fishing and processing industries would buy less from other businesses.

We measured the effects of those changes in two ways: changes in net economic value and economic impacts.

Net economic value is a measure of benefits minus costs: we add up all the benefits and costs of a change, then subtract the costs. What's left is the net gain or loss in value.

Economic impacts are changes in payroll, jobs, or sales. Impacts are aggregate rather than net measures of change.

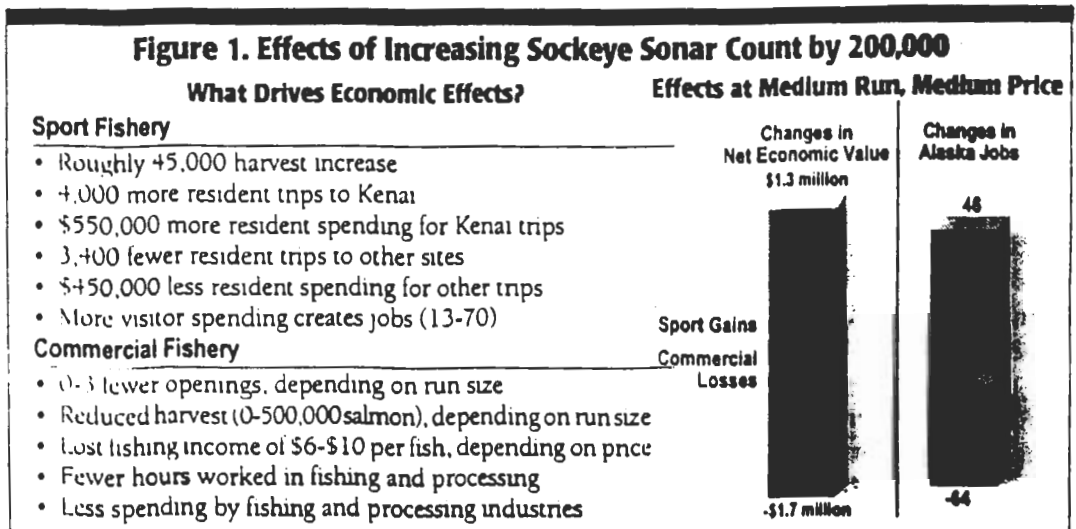
Figure 1 shows our estimates of economic effects, when Kenai River sockeye runs and prices paid fishermen are at medium levels.

• *Estimated commercial losses appear somewhat larger than sport gains*—a gain of \$1.3 million for the sport side and a loss of \$1.7 million for the commercial side. But given the range of uncertainty in our estimates, we can't definitely conclude that actual commercial losses would be larger than sport gains.

• *The Alaska economy would probably lose slightly more jobs than would be created.* A rough estimate is that increased spending for sport fishing would create about 46 jobs, but lost commercial harvests would cost the economy 64 jobs. But given the uncertainty about the future level of visitor spending, the actual number of jobs created on the sport side could range from 13 to 70.

Our results would vary in years of different run sizes and prices. During high runs, managers wouldn't need to make any changes to put 200,000 more sockeye in the river—so there would be no gains or losses.

During low runs, managers would eliminate more commercial fishing time, to make sure extra sockeye reached the Kenai River. Then commercial losses would be larger than sport gains—and the higher the price of sockeye, the larger the losses. When prices were low and runs were medium, sport gains would probably exceed commercial losses.



Background

The study originated when the Alaska Legislature appropriated money to ADF&G in 1994 for an economic analysis of management alternatives for Cook Inlet salmon.

ADF&G decided, based on public interest and other factors, to focus the study on the economic effects of increasing the management target for late-run Kenai River sockeye. The current management target for late-run sockeye is 450,000 to 700,000 sockeye (as measured at the sonar counter below the Soldotna bridge). Increasing the target by 200,000 would raise the range to 650,000 to 900,000. Making such a change would require reducing the Upper Cook Inlet commercial salmon harvest, except in years of high runs. The Alaska Board of Fisheries, which regulates the fisheries, establishes the management target and decides if it will be changed.

Both the sport fishery and the commercial fishery in the Central District of Upper Cook Inlet highly value late-run Kenai River sockeye, which generally begin moving into the river in late June and peak toward the end of July. This run alone makes up about half the total commercial salmon harvest in Upper Cook Inlet. And about three-quarters of the statewide harvest of sockeye is taken from the Kenai River and its tributary, the Russian River.

Sport anglers want more sockeye; commercial fishermen want to keep what they have.

What ISER Studied

We mainly studied the effects of increasing the Kenai River management target by 200,000 late-run sockeye. To help define a range of variation, we also looked at the effects of increasing the sonar count by just 100,000, and of decreasing the sonar count by 100,000.

Specifically, we estimated economic effects on the Kenai River sport fishery, including the Russian River (Map 1, page 5); and on the commercial fishery in the Central District of the Upper Cook Inlet management area (Map 2, page 6).

There are other potential effects of such a change—effects we were asked to recognize but not to quantify. Those include:

- Potential increased damage to riverbanks and fish habitat. Any change that attracts more anglers to the Kenai River—which already

sees 100,000 sport anglers in a season—has the potential to increase bank trampling and damage to vegetation and fish habitat.

- Potential overescapement of sockeye. Fishery managers believe that having too many spawning salmon return to a river has the potential to damage future runs, by taxing spawning and rearing areas and food supplies. Biologists haven't established an overescapement estimate for Kenai River late-run sockeye.

- Potential benefits for commercial setnetters in the Northern District of Upper Cook Inlet and Susitna River sport anglers and personal use dipnetters. Managers assume that during low Kenai River runs they would have to eliminate a regular districtwide opening in the Central

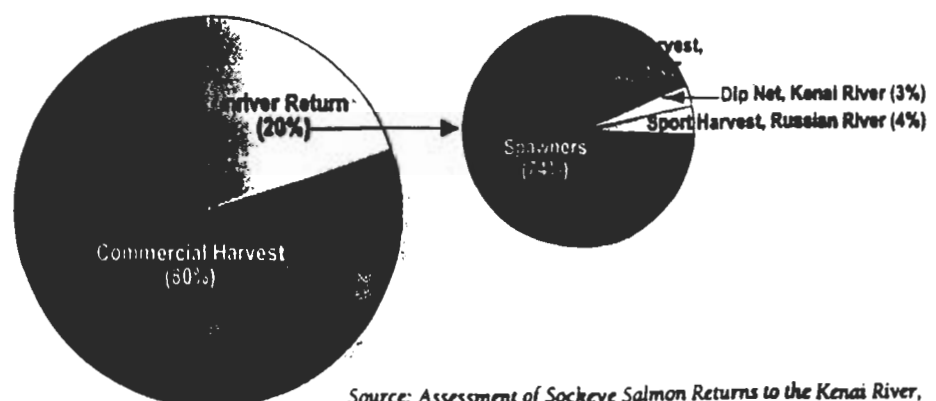
District to make sure 200,000 additional sockeye reached the Kenai River. In those circumstances, more salmon would move past the Central District drift fleet and into the Northern District, where some would be harvested. We don't have estimates of how many.

Current Allocation

Figure 2 shows how the late run of Kenai River sockeye has been divided in the 1990s. Commercial drift and setnetters in the Central District of Upper Cook Inlet harvested about 80 percent. Of the sockeye that returned to the river, about 74 percent spawned. Sport anglers on the Kenai River mainstem took about 19 percent and anglers on the Russian River took 4 percent. Dipnetters (who harvested fish under both personal use and subsistence regulations during that period) took about 3 percent.

Since 1990, annual commercial harvests of Kenai River sockeye have varied from just over 1 million to nearly 7 million. Annual sockeye sport harvests on the Kenai and Russian rivers varied between about 120,000 and 270,000.

Figure 2. Allocation of Kenai River Late-Run Sockeye, 1990-1994



Source: *Assessment of Sockeye Salmon Returns to the Kenai River*, Doug McBride and Steve Hammarstrom, ADF&G, 1995

Measuring Economic Effects

On the front page we defined net economic value as benefits minus costs: the gain or loss after all benefits are added and all costs are subtracted. Changes in net economic value are difficult to calculate, because this measure takes into account not only monetary costs and benefits (like the market price of fish or costs of fishing tackle) but also assigns a dollar value to intangibles (like the pleasure of fishing). On page 8 we describe how we assigned a dollar value to improved Kenai River fishing. Here we just want to point out that net economic value takes into account the substantial non-monetary value in the sport fishery.

General Findings

To assess how changes in run sizes, prices, sport bag limits, and other conditions would affect our results, we developed 10 study scenarios. Assumptions that went into those scenarios, and our findings by scenario, are described on pages 8-12. Here we present general findings not tied to specific scenarios. We found if the Kenai River management target for late-run sockeye were increased by 200,000:

- *The net increase in resident trips to all Alaska sites would be about 650, and the net increase in resident spending for fishing trips would be about \$108,000.* Southcentral resident households with sport anglers would make 4,000 additional trips to Kenai River sites and spend \$550,000 more in late July. But our analysis showed that in order to make more trips to the Kenai, resident anglers would make fewer trips and spend less elsewhere in Alaska—about 3,400 fewer trips and \$450,000 less spending.

- *Most of the increase in the net economic value of the sport fishery for residents is non-monetary:* the value of improved sport fishing. Some is savings—because residents substitute less expensive trips to the Kenai River for more expensive fishing trips to other Alaska sites.

- *Most of the loss in net economic value for the commercial fishery is monetary:* reduced harvest revenue. Some is reduced job satisfaction.

- *As measured by economic impacts, reducing the commercial harvest would probably cost the economy more jobs and payroll than would be created by the improved sport fishery.* One reason is that the commercial fishery creates jobs and payroll in two ways—from the market value of the harvest itself, and from fishery-related spending in other industries. The sport fishery creates jobs only through fishery-related spending. Unlike commercial fishermen, sport anglers don't earn money while they're fishing—although they enjoy a great deal of non-monetary value.

- *How many jobs and how much payroll an improved sport fishery would create statewide would depend mostly on how much more non-resident anglers spent.* As we said earlier, Alaskans would certainly take more trips and spend more for Kenai River fishing, if the fishing were improved—but they would also take fewer trips to other Alaska sites. So most of the additional resident spending would simply be shifted from one place to another within the state. But if better fishing induced non-residents to stay longer and spend more than they otherwise would have, that spending would represent additional money in the economy.

- *Non-residents visiting Alaska might extend their visits to fish more on the Kenai—and spend more in the economy.* That additional spending could be anywhere from \$630,000 to \$3.3 million more in a season, generating between 13 and 70 jobs. These are rough, order-of-magnitude estimates based on survey responses of the small percentage of non-resident anglers who said they would have stayed longer in Alaska if the fishing were better. We do think this change would probably be much larger than the change in resident spending for sport fishing.

- *A reduction in Cook Inlet sockeye harvests is unlikely to affect Alaska consumers much—because most Cook Inlet sockeye is sold outside the state.*

- *By reducing the supply of sockeye, the proposed reduction in Cook Inlet commercial sockeye harvests could increase prices paid fishermen for Cook Inlet sockeye by as much as 1 cent per pound.* But we think that even such a small price increase is unlikely—because Cook Inlet sockeye make up a relatively small share of all Alaska sockeye, and because the growing supply of farmed salmon worldwide would offset the effects of a smaller Cook Inlet harvest.

Assumptions

Size of Kenai River late sockeye run

Low run: Fewer than 2 million

Medium run: 2-5 million

High run: More than 5 million

Ex-Vessel Price (price paid fishermen)

Cook Inlet sockeye

Low price: \$1.00/lb.

Medium price: \$1.43/lb.

High price: \$1.75/lb.

Definitions

Southcentral Alaska: the Municipality of Anchorage, the Kenai Peninsula Borough, and the Sitka and Susitna Borough

Kenai River system (study sites): all fishing on Kenai River mainstem from the mouth at Cook Inlet to Kenai Lake and including the Russian River

The rest of the fish story

UCIDAL: KRSA economic analysis contains fatal flaws

Several economic facts were selectively picked, altered or omitted concerning the commercial fishing industry as reported by Kenai River Sportfishing Association (KRSA). Following are the 2005 commercial landings and ex-vessel payments in the Kenai Peninsula Borough: salmon — 34,615,000 pounds generated over \$33 million; halibut — 16,439,721 pounds generated over \$49 million; black cod — 8,459,797 pounds generated over \$34 million; and gray cod — 2,560,000 pounds generated over \$1.5 million.

These four fisheries collectively landed 62,074,518 pounds of fish generating ex-vessel payments in excess of \$113 million in 2005. These \$113 million are spent directly into the Kenai/Alaska economic community for crew wages, fish taxes, vessel purchases, vessel repairs, gasoline, diesel, auto and truck fuels, homes, property taxes, repairs, supplies, clothing, food and transportation services.

As we spend our fishing incomes, these dollars circulate in and through our economic community about five times, growing to over \$500 million of economic activity. However, when KRSA made its economic analysis, the comparison was between all forms of sportfishing to just the ex-vessel payments of salmon (they conveniently chose to omit these other species and commercial economic activity as these ex-vessel payments circulate in an economy).

Additionally, KRSA conveniently omitted the economic activity due to over 100 vessel owners and crews that make the peninsula home, but commercially fish in Prince William Sound, Kodiak, Bristol Bay and the Aleutian Chain. These fishermen bring their cash back home to spend on the Kenai Peninsula, which brings additional tens of millions of dollars into our economic community.

The four fisheries mentioned above do not include additional fisheries such as herring, pollock, bottom fish, scallops or octopus commercial landing, which add millions to the ex-vessel payments. Most commercial fishermen are multispecies, multi-area fishermen.

VOICES OF THE PENINSULA

ROLAND MAW

The KRSA's so called "economic report" does not cover the entire scope or breadth of commercial fishing. Rather, they selected one fishery, salmon, to compare against the entire economic scope and breadth of sportfishing.

Each year it takes over 1,200 semi trucks to carry the millions of pounds of seafood produced on the Kenai to markets. It costs about \$12,000 for a semi truck to leave the Lower 48 to come to the Kenai and return south. If the freight being hauled north (such as bananas, lettuce, carrots or fruits) has to pay the entire \$12,000 trucking costs, the freight cost per pound is 33 to 34 cents. However, if the same semi can pick up a load of fish destined for the Lower 48, the freight is cut by about half to 16 to 17 cents per pound.

The Lower 48 destined fish will cover half the \$12,000 round trip costs, or about \$6,000. Everybody wins with semis loaded both ways. These 1,200 semis each provide a \$6,000 freight subsidy (totals to over a \$7,200,000 annually) on the goods we all consume. The KRSA study conveniently omitted this and similar commercial fishing economic benefits.

The commercial gillnet fishing industry consume over 100,000 gallons of gas/diesel fuels during every opening. At \$2.50 per gallon, that equates to \$250,000 for fuels for each opening. The commercial gillnet fishermen utilize far in excess of 1 million gallons of fuels per year, and that's just on salmon. Additionally, many of these commercial fisheries provide fish eggs and egg products that are worth millions of dollars per year. The KRSA economic analysis also conveniently omitted to consider these products. By now the rest of the fish story starts to come into focus.

Over the years, KRSA has demanded the commercial fishing industry disappear in order for them to achieve their self-interests. It should be readily apparent that KRSA doesn't want to share any fish with anyone and wants to steal the fishery resources "fish by fish." No compensation to the commercial fishing industry; just take the fishery "fish by fish."

What kind of community neighbor is KRSA anyway? The only justification KRSA has ever offered for the "fish by fish policy" is that these fish are valuable to KRSA. What an economic policy for our neighborhood, "If something is more important to me than you — I'm going to go ahead and take it!"

With this take "fish by fish" practice, KRSA has created a culture of conflict supported by conveniently misleading economic analysis and intentionally distorting the facts. The so-called economic analysis has no author identified; this leaves the public to assume that Ron Rainey and/or Ricky Gease are the authors.

KRSA, would you please identify the author of your recent economic analysis report so we can publicly debate this unnamed individual?

In building a strong and diversified economic community we need an economy that includes the medical, oil and gas, professional services, transportation, commercial fishing, education, governmental, retail and tourism sectors. KRSA is the only sector that actively promotes the demise of an economic neighbor. The commercial fishing industry and a great number of your economic neighbors want, deserve and expect better treatment.

KRSA, you have sorely tempted the commercial fishing industry, but we resisted the urge to go after you because of your poor neighbor skills. KRSA, if you want to become a full economic neighbor, then you must tell the truth, show respect and be a supporter of all the community economic sectors.

Dr. Roland R. Maw is the executive director of the United Cook Inlet Drift Association (UCIDA).

Commercial fishers pan sport fishing economic report

By Margaret Bauman
Alaska Journal of Commerce

An economic impact report extolling money pumped into Kenai Peninsula coffers from sport fishing is raising hackles from commercial fishermen who say their industry contributes more.

"We are an important industry that brings new money into the Alaskan and Kenai (Peninsula) economy," said Roland Maw, executive director of the United Cook Inlet Drift Association.

Salmon, halibut, black cod and gray cod commercial fisheries in 2005 collectively landed more than 62 million pounds of fish, generating payments to fishermen in excess of \$113 million, Maw said.

That \$113 million is spent directly into the Kenai and Alaska economy, for everything from crew wages and fish taxes, to homes, property taxes, clothing, food and miscellaneous costs of operating commercial fishing vessels, he said.

In addition to those four fisheries, there are others, including herring, pollock, bottom fish, scallops and octopus, also bringing millions of dollars in payments to fishermen, he said.

Maw's criticism April 28 was directed at a recent report produced by the Kenai River Sportfishing Association, which estimated that recreational fishing in upper Cook Inlet generates \$290 million (in 2003 dollars) in total

for fishermen.

Without relief from the court, the drift gillnet fleet stands to suffer losses of \$4.9 million to \$8.3 million, according to the lawsuit.

A major concern, said Mykland, who co-chairs the gillnet division of CDFU, is that the state Department of Fish and Game no longer has flexibility to manage the return

Commercial fishermen who harvest the world-renowned Copper River king and sockeye salmon have filed suit in Alaska Superior Court in hopes of retaining critical early run harvest rights.

"We do not take this lightly."

annual sales and supports 3,400 annual jobs on average that generate \$95 million in income. According to the sport fishing association report, that accounts for about 55 percent of the sales, jobs and income related to sport fishing in Southcentral Alaska.

By comparison, according to the sport fishing report, commercial fishing in upper Cook Inlet during the mid-1990s — when ex-vessel prices were higher — supported about 500 jobs a year, providing \$15 million in income.

The sport fishing association report is the extrapolation of data from a number of previous studies conducted by the Alaska Department of Fish and Game, the Alaska Department of Labor and Workforce Development, and the University of Alaska Anchorage's Institute of Social and Economic Research, among others. None of the data contained in it is new.

What is new, said Maw, is the dramatic increase in the percentage of salmon leaving Cook Inlet processing facilities as a fresh, rather than frozen, product. "In the mid 1990s, the percentage of salmon that left the inlet as fresh was about 5 to 6 percent. This year, it is about 65 percent," he said.

"We are now into a different market with these fish," he said. "We are no longer competing with all the frozen and farmed fish going to Japan. We are now into a U.S. market, into a higher quality market. It is much better for the fishermen, the processors and the community in general."

Maw said more than 100 vessel owners and their crew members also live on the Kenai Peninsula. While their fish

commercially in Prince William Sound, Kodiak, Bristol Bay and the Aleutian Chain, they bring the money they earn back home to spend on the Kenai Peninsula, pouring tens of millions of dollars into their communities, he said.

Maw calculated that it takes more than 1,200 semi-trucks annually to bring millions of pounds of seafood produced on the Kenai Peninsula to market, much of it backhauled on trucks that bring fresh produce north to Alaska. Having that fish to backhaul helps cut the cost of shipping other products to Alaska, he said.

In addition, Maw said, the commercial gillnet fishing industry consumes more than 100,000 gallons of gasoline and diesel fuels during every fishery's opening. At \$2.50 a gallon, that equates to \$250,000 spent on fuels for each opening, he said.

Maw said his own annual personal expenses for commercial fishing include about \$14,600 for diesel fuel.

The whole argument boils down to whether fish are better in the commercial fishing industry or sport industry, he said.

"We are very much supportive of mom and dad and the kids having fish on their table, whether you buy that as a commercial product or take the kids and do it as a sports activity," he said. "But there is a point where that activity starts to eat away at the foundation of our industry, and that is where we have to have a talk."

Margaret Bauman can be reached at margie.bauman@alaskajournal.com.

Copper River commercial harvesters fight for early-run rights

By Margaret Bauman
Alaska Journal of Commerce

Commercial fishermen who harvest the world-renowned Copper River king and sockeye salmon have filed suit in Alaska Superior Court in hopes of retaining critical early run harvest rights.

"We do not take this lightly."

of the season, he said.

"We believe that the board considered all the issues, that the regulations are valid and they will withstand challenge," he said.

According to Daugherty, much of the demand for change came from subsistence users upriver.

"There was extensive testimony before the board that unrivier sub-

Tuyn and Lee Goodman.

"As an initial matter, drift gillnet fishermen stand to lose a significant portion of their yearly catch and, thus, yearly income," the lawsuit argues. "Further, the highly successful Copper River salmon branding and marketing effort could be harmed in the long run with even a one-year