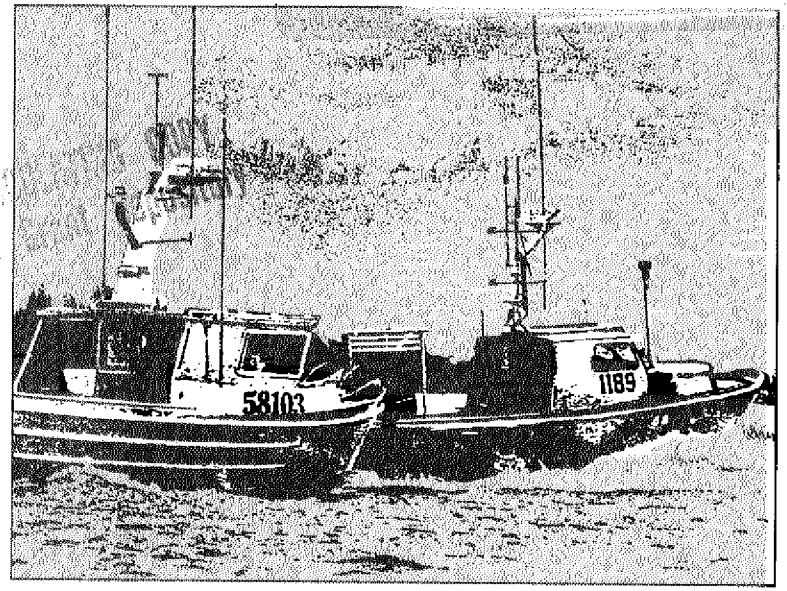

CENTRAL KENAI PENINSULA COMMERCIAL FISHING STUDY

By

D. DOUGLAS COUGHENOWER

ALASKA SEA GRANT COLLEGE PROGRAM
MARINE ADVISORY BULLETIN NO. 39
NOVEMBER 1989

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Alaska Sea Grant Marine Advisory Program
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MAB-39
$5.00

ACKNOWLEDGMENT

Cover art is by Wanda Seamster at the Arctic Environmental Information and Data Center, University of Alaska Anchorage. Editing was also done at AEIDC. This publication is the result of work sponsored by the University of Alaska Sea Grant College Program. Alaska Sea Grant is cooperatively supported by the U.S. Department of Commerce NOAA Office of Sea Grant and Extramural Programs under grant number NA86AA-D-SG041, project numbers A/71-01 and A/75-01; and by the University of Alaska with funds appropriated by the state. This project was also sponsored by a grant from the city of Kenai, Alaska.

Elmer E. Rasmuson Library Cataloging-in-Publication Data

Coughenower, D. Douglas
Central Kenai Peninsula commercial fishing study.

(Marine Advisory Bulletin; no. 39)

1. Fisheries--Alaska--Kenai Peninsula. 2. Fisheries--Economic aspects--Alaska--Kenai Peninsula. I. Alaska Sea Grant College Program. II. Title. III. Series.

SH222.A4C68 1989

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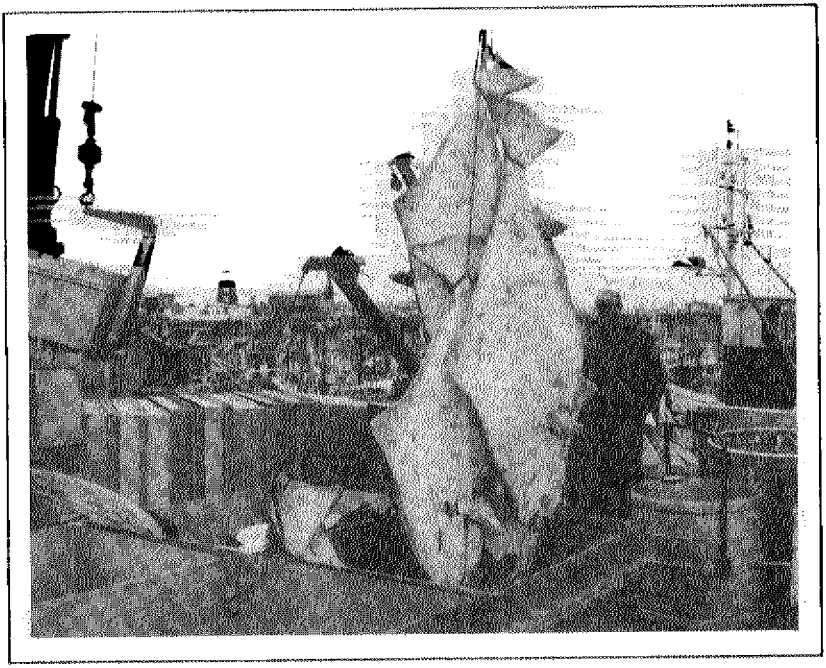


Doug Coughenower

INTRODUCTION

The goal of this study was to examine the economic impact of commercial fishing on the city of Kenai. It was requested and partially funded by the city of Kenai, the Economic Development Commission, and the Port and Harbor Commission.

Commercial salmon fishing has long been an important part of the Kenai economy and has taken on added importance in the past three years for two reasons. First, the downturn in oil production in Alaska has placed a greater emphasis on other sectors of the economy, such as commercial fishing and tourism. Secondly, a combination of management and environmental factors have produced healthy fish stocks, resulting in record catches and record gross values.

Recognizing that commercial fishing is an important part of its economy, the city of Kenai has been searching for ways to assist the continued development of this industry, such as the development of a dock and other support facilities at the port of Kenai. The city realized, however, that there was not adequate documentation of the impact of commercial fishing, and thus the need for this study.

Early in the planning phase it was recognized that it would not be meaningful to examine the impact of commercial fishing on just the city of Kenai. The fisheries and the infrastructure that support them are regional, and looking only at the city of Kenai would be too restrictive. It was determined to make this an area study with a focus and emphasis on the city of Kenai. **This study area takes in the central Kenai Peninsula from Ninilchik north and from Cook Inlet to Sterling.**

COMMERCIAL FISHING IMPACTS

Assessing the impact of any industry on a local economy is never easy. The total economy of a city, region, state, or nation is composed of many sectors which interact in a variety of complex ways. Economic impact can be viewed as the answer to the question, "What is the economic activity generated by the use of the resource?" (Fay and Thomas 1986). Economic impact is usually evaluated in terms of both income and employment. Economic impacts of commercial fishing can be separated into direct effects (income and employment received in commercial fish harvesting), indirect effects (income and employment generated from business purchases by fishermen, value added by seafood processing, and business purchases made by processors), and induced effects (income and employment generated from the spending of income from direct and indirect effects) (Kruse 1988). These induced effects include employment and income generated from building, repairing, and maintaining vessels; selling merchandise to fishermen; air and ground transportation of both employees and products of the fishing industry; seafood advertising; marine fuel sales; and influences on many other sectors of the economy (Kruse 1988).

While evaluation of direct effects is largely an accounting problem, more sophisticated techniques are necessary to evaluate secondary economic impacts (indirect and induced effects). Economic base models and input-output models are two tools commonly used to evaluate these effects. Economic base theory separates the economy into a basic sector (usually direct effects) and non-basic sectors (indirect impacts). Input-output models are more sophisticated techniques for evaluation of secondary impacts than economic base models.

The approach followed in this study follows the lines of a simplified economic base model. There is no intent to make this a definitive study of commercial fishing in the central Kenai Peninsula. In reaching the goals described above, a good deal of data and information (some original) have been brought together. Users of this report are cautioned not to take the results presented here beyond their intended purposes.

METHODOLOGY

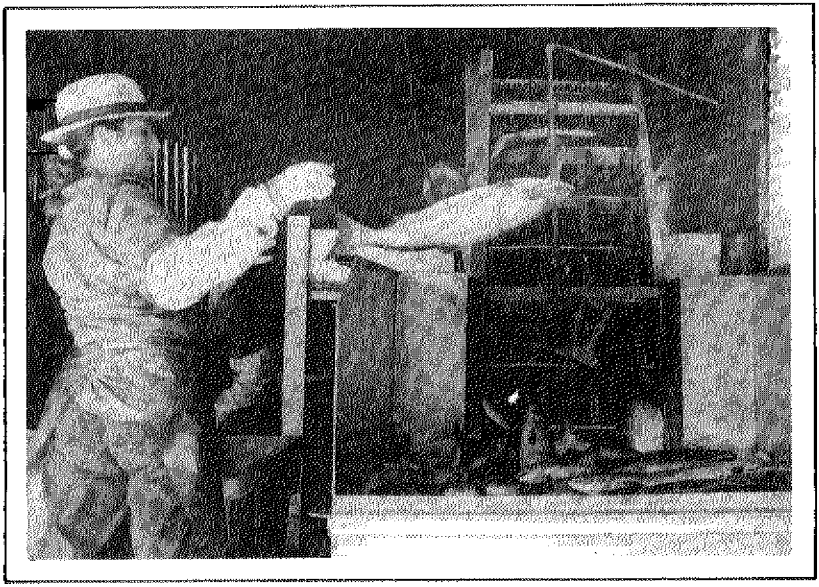
The data gathered in this study are used primarily to examine the direct impacts of the industry, i.e., the income and jobs generated by the harvesting (fishermen) sector. Indirect impacts, especially those resulting from the processing sector and closely allied sectors, such as management, are also addressed. Other induced impacts, for example, those from companies that do business with the fishing industry, are mentioned only briefly because data supporting these impacts are very difficult and costly to obtain.

The principal data sources for the study are the Alaska Commercial Fisheries Entry Commission (CFEC) and two original surveys. CFEC is the official source of data on commercial fish landings and the estimated gross value of these landings for all fisheries in Alaska. The year 1986 was selected for this study because it is the most recent year for which CFEC has complete statistics. It was also selected as a more typical year than the record years of 1987 and 1988, and the very atypical 1989 season.

In addition to CFEC statistics, two new survey tools were developed specifically for (1) the harvesting sector and (2) those businesses which sell to or serve the harvesting sector. Processors were considered part of the second group, but they received special attention because of their essential role in the industry.

While direct income and jobs are the major thrust of this study, a number of questions in both surveys are aimed at the economic development interests of the city of Kenai.

The remainder of this report contains a general description of the central Kenai Peninsula fishing industry, a summary of the data obtained from the two surveys, and some conclusions about the direct and indirect impacts of the commercial fishing industry on the local area economy.



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THE CENTRAL KENAI PENINSULA COMMERCIAL FISHING INDUSTRY, 1986

HARVESTING SECTOR

The dominant fishery of the central Kenai Peninsula is the Upper Cook Inlet (UCI) salmon fishery. In 1986 a total of 1302 permit holders participated in this fishery. Of these, 559 were drift gillnet fishermen and 743 were set gillnet fishermen. Residents of the study area who own permits for this fishery include 223 drift net fishermen and 245 setnet fishermen.

In addition to the UCI salmon fishery residents of the study area also participated in a variety of other permit fisheries, including halibut, herring, blackcod, clams, crab, shrimp, and bottomfish.

Table 1 shows landings and estimated earnings of Alaska fishery permit holders arranged by resident community within the study area for 1986. It also includes the number of out-of-area permit holders who participated in the UCI salmon fishery.

TABLE 1. 1986 Commercial fishing catch and income for study area.

AREA	PERMITS	POUNDS X 1000	GROSS INC X $1000		
CLAM GULCH					
DRIFT NET	8	485	$496		
SETNET	18	1030	$1,223		
OTHER	34	353	$287		
TOTAL	60	1868	$2,006		
KASILOF					
DRIFT NET	30	1659	$1,642		
SETNET	36	1779	$2,129		
OTHER	53	2146	$1,276		
TOTAL	119	5584	$5,047		
KENAI					
DRIFT NET	89	4690	$4,495		
SETNET	83	2236	$2,456		
OTHER	165	3100	$2,505		
TOTAL	337	10026	$9,456		
N. KENAI					
DRIFT NET	12	469	$465		
SETNET	16	214	$212		
OTHER	19	379	$364		
TOTAL	47	1062	$1,041		
NINILCHIK					
DRIFT NET	23	1237	$1,271		
SETNET	28	973	$1,128		
OTHER	59	2144	$1,485		
TOTAL	110	4354	$3,884		
SOLDOTNA					
DRIFT NET	54	2751	$2,658		
SETNET	61	2111	$2,375		
OTHER	139	3297	$2,583		
TOTAL	254	8159	$7,616		
STERLING					
DRIFT NET	7	378	$373		
SETNET	3	NA	NA		
OTHER	13	308	$282		
TOTAL	23	686	$655		
OTHER ALASKA					
DRIFT NET	173	NA	NA		
SETNET	422	NA	NA		
OUT-OF-STATE					
DRIFT NET	163	NA	NA		
SETNET	76	NA	NA		
AREA TOTALS			%TOTAL		%TOTAL
DRIFT NET	223	11669	40%	$11,400	39%
SETNET	245	8343	50%	$9,523	54%
OTHER	482	11727		$8,782	
TOTAL	950	31739		$29,704	
ALL TOTALS					
DRIFT NET	559	29435	64%	$29,290	63%
SETNET	743	16260	36%	$17,571	37%
TOTAL	1302	45695		$46,861	

In 1986 the ex-vessel (earned by fishermen) value of the UCI salmon fishery was $46,861,000. Of this, 63% went to drift gillnet fishermen and 37% to setnet fishermen. Residents of the study area received 45% of this gross value, or $20,923,000. Other Alaska permit holders received $18,460,000 (39%) from this fishery while $7,540,000 (16%) went to out-of-state fishermen. City of Kenai fishermen earned $6,951,000 from the UCI fishery, the highest for any unit within the study area.

The "other" fisheries in which the study area residents participated earned a total gross income of $8,782,000. City of Kenai fishermen's share of this was $2,505,000 (29%).

Because the UCI fishery is so important to area residents, Table 2 examines, in more detail, the distribution of permits and income from this fishery to study area residents.

Residents of Kenai hold 16% of the UCI drift gillnet permits and 11% of the UCI setnet permits. In the "other" fisheries category, 34% of the permit holders reside in Kenai. For the total UCI fishery, 39% of the drift permits and 32% of the setnet permits are held by residents of the study area. It is interesting to note that local setnetters caught over 50% of the total setnet catch in 1986 (Table 1). Other Alaska residents held 31% and 57% of the drift and setnet permits for UCI, while only 29% of the drift permits and 10% of the setnet permits were held by out-of-state residents.

PROCESSING SECTOR

The processing sector has a greater impact on the local economy than the harvesting sector. This sector is neither easily defined, nor are the impacts straightforward. A processor's operation can be as simple as an individual who buys fish from a fisherman and sells it directly to a market in the area, region, state, or thousands of miles away. At the other end of the spectrum are full-scale processors with permanent facilities employing hundreds of people. In this report most of the emphasis is on the latter because they process the majority of the fish and have the most impact on the local economy.

In 1986, 33 processors were licensed by the Alaska Department of Fish and Game (ADF&G) to buy and process fish in the Upper Cook Inlet. Sixteen of these were small operations. Usually they only brokered the

TABLE 2. Percent distribution
of fishery permits and gross income in study area.

PERMITS

AREA	UCI DRIFT	UCI SET	OTHER
CLAM GULCH	1%	2%	7%
KASILOF	5%	5%	11%
N. KENAI	2%	2%	4%
NINILCHIK	4%	4%	12%
SOLDOTNA	10%	8%	25%
STERLING	1%	0%	2%
OTHER AK	31%	57%	
OUT-OF-STATE	29%	10%	
TOTALS (X $1,000,000)	559	743	482

GROSS INCOME

AREA	UCI DRIFT	UCI SET	OTHER
CLAM GULCH	2%	7%	3%
KASILOF	6%	12%	15%
N. KENAI	2%	1%	4%
NINILCHIK	4%	6%	17%
SOLDOTNA	9%	14%	29%
STERLING	1%	0%	3%
OTHER AK	NA	NA	NA
OUT-OF-STATE	NA	NA	NA
TOTALS (X $1,000,000)	29.3	17.6	8.84

fish or they bought and processed small quantities. There were 10 medium-sized and 7 large processors. Nineteen of these processors were located in the study area (eight small, six medium and five large).

Eighty to ninety percent of the fish processed in the study area were dressed (headed and gutted) and frozen before being sent to markets throughout the world. Approximately 10% of the fish were dressed and shipped out fresh, and the remainder of the catch was canned. A

small but growing percent of the processed fish reached the gourmet food market in the form of smoked fish and other specialty products.

The immediate destinations for most of the processed fish from the study area were Japan, Seattle and Europe, with Japan ranked as the number one destination. Most were transported by sea, with air freight the second most frequent means of transportation. Virtually all of the fresh product left the area by air. Land transportation was frequently used for nearby destinations, such as Anchorage and Canada.

The principal economic impact of processors was as buyers of raw fish and as employers in the processing operation. They also made major contributions to the local economy through goods and services purchased (see Tables 6 and 7, Summary of Gross Economic Impacts).

MANAGEMENT SECTOR

Fisheries management is another aspect of the commercial fishing industry having a significant economic impact. In the central Kenai Peninsula there are three branches of fisheries management.

ADF&G's Commercial Fisheries Division has the largest management role and consequently the largest economic impact. This division has the combined responsibility of stock assessment, and development and application of regulations for all Upper Cook Inlet fisheries. In 1986 the commercial fish division had 6 permanent and 22 seasonal staff members. The combined employment time of the seasonal staff was equivalent to 3.5 full-time employees. This division's total 1986 operating budget was $743,000.

ADF&G's Fisheries Research and Enhancement Division (FRED) also has a role in the Upper Cook Inlet fisheries. Its principal duty is to operate the Crooked Creek hatchery, providing salmon smolt and fry for a number of enhancement projects around Cook Inlet. In 1986 this division had a staff of three full-time and five seasonal employees. The seasonal employees were equivalent to 1.5 full-time employees. About $200,000 of the FRED budget impacted the study area.

The third branch of the management sector is the **Division of Fish and Wildlife Protection (DFWP) of the Alaska Department of Public Safety.** Determining the economic impact of this division in the commercial fishing industry is not straightforward. Not only does this

division enforce commercial fishing regulations, it also enforces all wildlife regulations, including sports fish regulations. Another complicating factor is the geographic coverage of the Soldotna Detachment; it extends from the Kenai Peninsula to Nome and Kotzebue.

The Soldotna Detachment of DFWP consists of approximately 23 employees (15 permanent and 8 seasonal). Ten of these positions are attached to the study area. The total operating and personal services budget for the Soldotna Detachment is about 1.25 million dollars. The Commander reported that in 1986 approximately 80% ($1 million) of their resources went toward commercial fishing, with 44% ($440,000) expended on the commercial fishing industry in the study area.

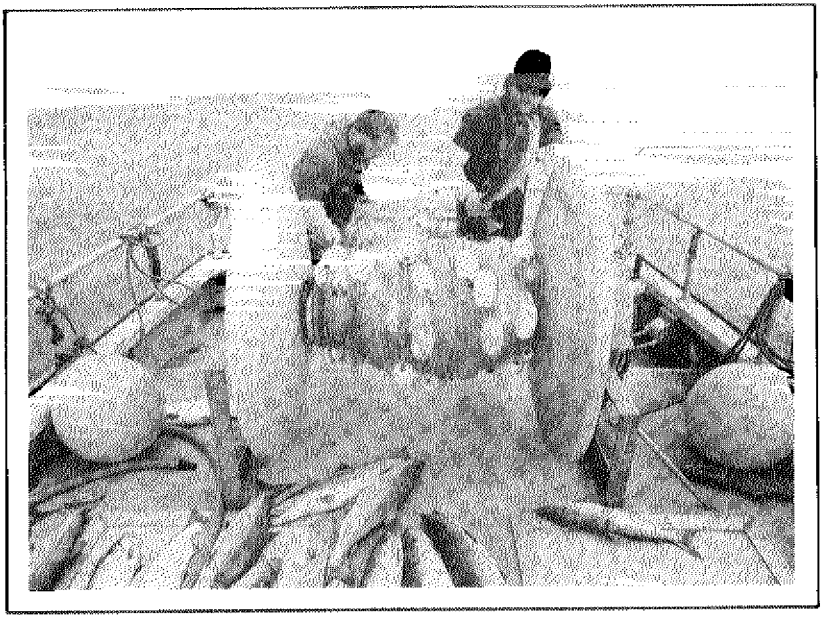
COOK INLET AQUACULTURE ASSOCIATION

Cook Inlet Aquaculture Association, Inc. (CIAA), is an Alaska regional nonprofit corporation established and operated for the enhancement of salmon fisheries. In 1981 Cook Inlet commercial fisherman voted to assess a 2% tax on gross salmon harvest from Cook Inlet. The state of Alaska collects the tax from salmon processors and pays it to CIAA in the form of a grant. The proceeds are used for enhancement and development of the salmon fishery.

In 1986 CIAA had 7 full-time and 26 seasonal employees. The seasonal employees worked about three months each, equivalent to about six full-time jobs.

Total overhead expenditures for CIAA in 1986 were $318,269 and total project expenditures were $237,930. Project monies spent on the Eklutna hatchery were excluded from this latter number. This budget and the above jobs represent indirect income generated principally by Cook Inlet commercial fisheries. Since the CIAA office is located in the study area and many of the employees reside there, these items are treated as part of the total economic impact of commercial fishing on the study area.

The local income generated by CIAA is considered to be indirect income because it comes from the harvesting sector. Like the processing sector, this business would not exist without the commercial fishing industry.



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COMMERCIAL FISHERMEN'S SURVEY

Commercial fishing permit holders were mailed 1,752 survey forms. This mailing included all of the UCI setnet and drift net permit holders, and approximately 427 individuals who resided in the study area and participated in fisheries other than the UCI salmon fishery. One hundred and forty-five surveys were returned with enough data to be included in the study. This represents a return rate of 8%; a low return but adequate to provide reliable data.

Even though this study is focused on a particular geographic area (central Kenai Peninsula), it was important to get a cross-section of returns representing all permit holders. Table 3 shows the percent of returns from various areas and indicates a good geographical spread.

This study also examined the spending pattern of commercial fishermen in order to see how and where their income was spent. It also determined the number of jobs generated by the commercial fishing industry. The survey also asked a number of other questions relative to economic impacts, especially on the city of Kenai.

HARVESTING SECTOR JOBS

Jobs are an important indicator of economic impact. In analyzing the number of jobs created by the harvesting sector, care must be taken to avoid equating crew positions with jobs. A fisherman may participate in a number of different fisheries, such as salmon, halibut, or crab so that he may have several different crew positions that are filled by the same individual and in effect create only one job. The data obtained on the fishermen's survey indicate there is a 0.7 correlation between crew positions and jobs. This same correlation factor was found in a previous study done by this author (Coughenower 1987).

Using the above correlation factor and crew data reported on the fishermen's survey it was estimated that approximately 3,306 jobs were created by the UCI fishery and 525 jobs by the "other" fisheries. Verification of these numbers was provided by another question on the fishermen's survey which inquired about jobs created. These data indicated 3,127 jobs in the UCI fishery and 600 jobs from the "other" fisheries category.

TABLE 3. Returns from fishermen's survey.

RESIDENCE	NUMBER RETURNED	PERCENT
KENAI	23	17
SOLDOTNA	18	13
CLAM GULCH	4	3
NINILCHIK	4	3
N. KENAI	3	2
OTHER STUDY AREA	17	12
OTHER K. BOROUGH	22	16
OTHER ALASKA	32	23
OUTSIDE ALASKA	16	12

For this study the two sets of figures have been averaged giving 3,256 jobs for the UCI fishery and 563 jobs for the "other" fisheries. These job totals include the permit holders as well as any employees (crew members).

Because fishing in Alaska is primarily seasonal work, it is difficult to relate jobs in this industry with jobs in other business sectors. Converting seasonal jobs to full-time equivalents is one technique often used to overcome this difficulty. Even though this conversion will be shown, there is an inherent risk in using this interpretation which will be explained later.

The average job as reported in the fishermen's survey lasted just over two months. If the total number of jobs (3,819) is multiplied by two (7,638) and divided by 11.25 (months worked in a typical full-time job), the result is 679. This represents the full-time equivalent jobs created by the UCI and other fisheries.

The average net income reported by fishermen was $23,500 for a permit holder and $6,670 for a crew member (employee).

The risk of using full-time equivalents to compare the fishing industry to other businesses is this: salaries earned in seasonal commercial fishing are often large enough to provide an annual income. The income earned in several months of commercial fishing is in some cases enough to provide for annual living expenses, and the fishing boat crew member or operator does not need or want additional employment. For many fishermen their seasonal job is equivalent to a full-time job. The true job impact of these fisheries lies somewhere between 3,819 seasonal jobs and the 679 full-time equivalent jobs, favoring, I would think, the seasonal number.

Of the crew member jobs created by UCI and "other" fisheries, 24% went to city of Kenai residents, 61% to other Alaska residents, and 15% to out-of-state residents. This is the only job residency breakdown developed from the data.

HARVESTING SECTOR INCOME

The average gross income reported by the respondents in this survey was $158,000, with an average personal income (money used for personal expenses) of $23,500. A weighting factor was used to

distribute the totals for each expense category over all the surveys received.

A wide range of average incomes is represented by this group of fishermen. These numbers can be used, however, in estimating the gross economic impacts of the commercial fishing industry.

The fishermen who responded to this survey earned from 8 to 100% of their total income from commercial fishing. The average was 72%.

Since 1987 and 1988 were record landing and income years for UCI salmon fishery, it might be helpful to see how these years compare to 1986. Fishermen were asked to estimate how their income had changed in these two record years. Ninety-two percent reported their income had increased by an average of 68% in 1987, while 7% said their income went down by 35% in that same year. Two percent reported no change.

For 1988, 81% of the fisherman reported their income increased by an average of 74% over 1986. Sixteen percent said it decreased by 23%. Three percent reported no change.

As mentioned earlier, CFEC reported the ex-vessel income for the 1986 UCI salmon fishery as $46,861,000. Early estimates of the 1987 ex-vessel income have been placed at $102 million, an increase of 118%. Preliminary estimates of the 1988 ex-vessel value of this fishery are $122 million, which represents an increase of 161% over 1986.

HARVESTING SECTOR EXPENSES

Fishermen were asked to report their expenses for 1986 over a wide range of categories. They were then asked to estimate where in six geographic areas these monies were spent.

A useful way to view the results of these expenditures is to look at the expense categories as a percentage of a fisherman's average gross income. It is also helpful to look at the geographic spending patterns as percentages also. Table 4 provides this format.

From Table 4 it is possible to see which areas represent a major expense for a fisherman. These include crew shares at 25%, boat loans at 5.8%, fuel at 2.6%, groceries at 2.7%, and personal income at 18%.

TABLE 4. Fishermen's expenses as a percent of gross income.

EXPENSE CATEGORY	% GROSS	SPENDING DISTRIBUTION BY PERCENT ANCH	KENAI BOROUGH	KENAI	SOLDOTNA	OTHER AK	OUTSIDE
SHOP/BUILD./CONTR.	2.49%	13%	80%	4%	3%	1%	0%
SKIFF/OUTBOARDS/VEHICLES	6.29%	15%	42%	6%	10%	4%	24%
BOAT/EQUIP. RENTAL/LEASE	2.48%	17%	56%	2%	19%	2%	5%
OTHER	1.67%	15%	47%	3%	18%	0%	17%
BOAT LOANS	5.82%	19%	9%	0%	25%	24%	22%
GEAR LOANS	0.47%	0%	54%	0%	0%	2%	44%
PERMIT LOANS	5.85%	26%	25%	7%	7%	21%	15%
OTHER	3.40%	42%	0%	21%	30%	0%	8%
INSURANCE	3.24%	2%	18%	6%	3%	21%	49%
FUEL	2.61%	4%	65%	17%	1%	12%	1%
CREW SHARES	25.19%	12%	59%	12%	5%	3%	9%
ACCOUNT/TAX ADVISOR	0.36%	34%	24%	12%	18%	5%	6%
LAWYERS AND LEGAL FEES	0.57%	29%	22%	0%	47%	0%	2%
LICENSE AND PERMIT FEES	0.44%	6%	20%	3%	2%	67%	1%
DOCTORS AND MEDICAL	1.04%	47%	15%	3%	28%	0%	7%
ASSOCIATION DUES	0.26%	5%	44%	12%	25%	13%	0%
OTHER	0.15%	33%	39%	2%	17%	4%	4%

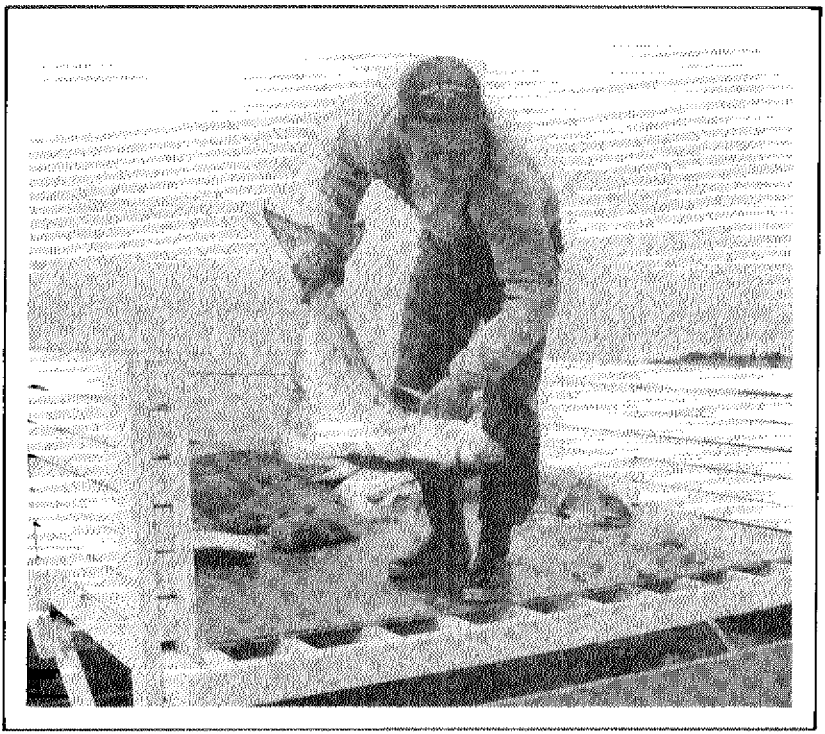
TABLE 4. Fishermen's expenses as a percent of gross income (continued).

EXPENSE CATEGORY	% GROSS	SPENDING DISTRIBUTION BY PERCENT ANCH	KENAI BOROUGH	KENAI	SOLDOTNA	OTHER AK	OUTSIDE
FISHING GEAR	4.70%	3%	58%	4%	4%	6%	25%
ELECTRONICS	0.80%	1%	50%	6%	7%	14%	22%
FOOD AND GROCERIES	2.68%	14%	45%	23%	15%	4%	0%
BAIT/ICE	0.43%	0%	91%	7%	0%	2%	0%
EQUIPMENT (REELS,WINCHES)	0.82%	7%	42%	16%	29%	3%	4%
OTHER	0.83%	23%	39%	15%	7%	5%	10%
R/M* ENGINE	0.94%	2%	52%	3%	0%	27%	15%
R/M* BOAT	1.26%	6%	68%	5%	4%	8%	9%
R/M* EQUIPMENT	0.91%	6%	83%	10%	0%	0%	1%
PARTS	0.49%	13%	45%	20%	17%	3%	3%
SUPPORT VEHICLES	0.80%	11%	33%	14%	42%	0%	0%
OTHER	0.58%	3%	52%	25%	13%	6%	0%
PORT AND HARBOR FEES	0.24%	8%	76%	0%	0%	16%	0%
TAXES-REAL AND PERS. PROP.	1.17%	7%	74%	5%	7%	1%	7%
TAXES-AQUACULTURE	1.47%	3%	78%	2%	5%	11%	1%
PERSONAL INCOME	18.01%	29%	30%	13%	9%	2%	18%
OTHER	0.91%	7%	37%	24%	4%	6%	21%
AVERAGE OVER ALL CATEGORIES		14%	46%	9%	12%	9%	10%

*Repair and maintenance

The spending patterns are also interesting. For any expense item, Table 4 shows the percentage of spending that occurred for that item in six geographic areas. For instance under "Food and Groceries," fishermen bought 14% in Anchorage, 23% in Kenai, 15% in Soldotna, 45% from other Kenai Borough suppliers, 4% from other Alaska sources and none from outside Alaska. Expenses for lawyers and legal fees were concentrated in Soldotna (47%), Anchorage (29%), and Kenai (22%). This information can be useful in determining where fishing industry money is going and what might be done to change this distribution pattern.

The bottom row in Table 4 illustrates the average spending pattern over all categories. Fishermen who participated in this survey spent about 14% of their income in Anchorage, 9% in Kenai, 12% in Soldotna, 46% in other Kenai Borough locations, 9% in other Alaska locations, and 10% out of state.



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FISHERMEN'S SURVEY – OTHER COMMENTS

Some of the most useful information on a survey comes from giving respondents the opportunity to comment. Succinct, candid, and representative comments resulted from this study. The number in parenthesis indicates how many respondents made a similar comment.

Fishermen may expand into these areas:

- PWS salmon seine
- Sea urchin harvesting
- More gear
- Building shop to work on equipment/gear
- Leasing a setnet site
- Upgrade/modernize equipment
- Chartering
- Octopus fishing

Needed government services/facilities:

- Fish hatcheries (3)
- State marketing institute for seafood (ASMI improvement) (3)
- Better oil spill cleanup time/equipment
- Less government
- Rescue and emergency aid units
- ADF&G: more funding to manage species efficiently (10)
- State loans (easier to obtain) (7)
- ADF&G and fish and wildlife protection
- Better enforcement of boundaries regulations; protection of fisherman's rights (13)
- More coast guard facilities/services (5)
- Enforcement against high seas interception to keep foreign fleets out of salmon stocks (5)
- Apprentice programs for young people (fishing industry related)
- FRED division enhancement (6)
- Biomass management offshore
- Lake Clark National Park allowing to keep camp site under permit
- DEC, EPA water quality standards to keep rivers clean
- Quicker updates on weather forecasts
- Capital Construction Fund (3)

Needed local products/services:

- Spare props or shafts
- Boat builders/shipwrights
- Motor, boat, and trailer repairs
- Marine parts (7)
- Better facilities at Nikiski and Kasilof
- Fiberglass work
- Net storage and work area
- Cold storage (3)
- Boat storage/yard (2)
- Ice (2)
- Competition in marine diesel mechanics
- Expansion of Ninilchik small boat harbor (5)
- Public crane service
- More processors for competitive buying
- Easier way to get from cannery to airport
- More electronics competition (4)
- Economical fuel

Suggestions for Port of Kenai services/facilities:

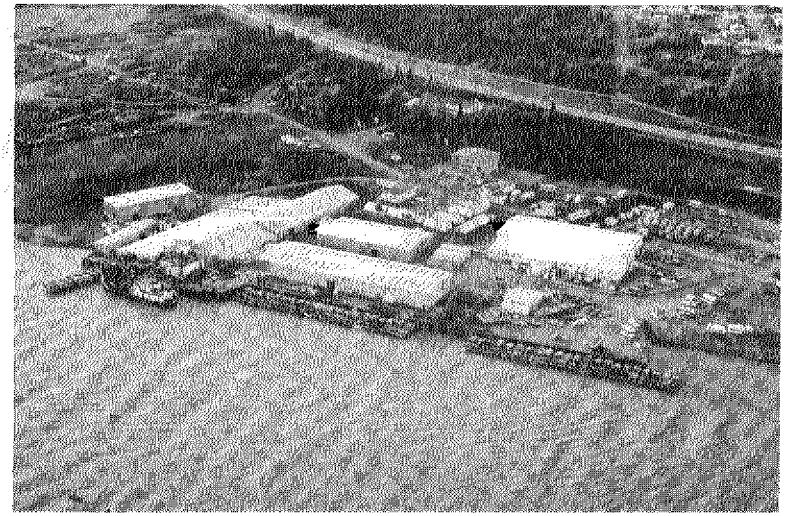
- Harbor with docks so you can walk to your boat
- Clean drinking water (3)
- Cold storage (3)
- More fueling facilities
- More canneries
- Improved launching facilities
- Grid for underwater work (2)
- Better city management of existing facilities
- Any development would help; more buyers--more competition--better fish prices
- Additional ramps (2)
- Improved loading/unloading facilities (2)
- Floats and slips for boat
- Vacuum pumps (2)
- Travel boat lift; more cranes (5)
- Full services; gas, oil, water, lift-outs (6)
- Separate ramp and parking for tourist and commercial fishers
- Trailer park
- Good (!!) fuel dock
- Net warehouse, gear shed for mending and storage (2)
- Emphasis on facilities for tender and freight vessels
- Boat storage for larger boats to winter (9)
- Ice (9)
- Dock and access to Kasilof River
- Phones
- Place to tie up skiffs when coming to shore
- Commercial boat dock
- Better boat grid
- Docks for easy access to shore
- More parking area (2)

Purpose for using Kenai dock:

- Launch/lift-out (12)
- Using ramps
- Unloading fish (9)
- Loading/unloading gear/supplies (11)
- Water (3)
- Fuel (13)
- Selling fish to cash buyers (4)
- Sport fishing (3)
- No use of the port and no future use planned
- Tie up skiff (3)

General comments added by surveyed fishermen:

- We need Coast Guard facilities.
- Let biologist manage fisheries.
- Products are available up here, but even with shipping costs it's cheaper to buy down South.
- Existing port facilities are a mess. Most of the time you can't even get fuel. I am fed up and moving my operation to Homer.
- Government agencies should manage resources on biological basis and give commercial fisheries priority over other user groups.
- I would like the use of state or borough uplands on setnet sites.
- Homer has most supplies needed, but they are too expensive.
- As the city improves facilities and access, fishermen will become more independent, which will motivate them to branch out and spend/buy elsewhere.
- Service/facilities in Kenai are sufficient at present.
- Commercial fishing season was low because CI was closed July 17 to 24 to all king salmon escapement to Kenai River. This was the peak of the red salmon run.
- Services have improved greatly over past five years.
- "I am glad someone is making this study."
- We pay for a berth, but cannot use public launch dock to put our crab pots on. I cannot afford a public crane.
- Rigarama '88 exposed more local resources/services.
- Expenses are becoming costlier every year.
- Halibut openings should be adjusted to allow each permit holder his three days, but no specific days.
- I would like to see road from Pile Bay on Lake Iliamna to CI improved so I can bring my boat across to Kenai for storage and work. (The run around False Pass is too long.) Many Bristol Bay fishermen would benefit.
- I do not use Kenai Harbor; it adds too much running time for drift fishermen. I would rather see Ninilchik Harbor expanded.
- Kenai has low tides in the Kenai River and too many boats to contend with. I would rather use Ninilchik Harbor.
- The city of Kenai should not be in business to compete with private enterprise.
- Kenai renters should be more "user friendly" to out-of-town fishermen.
- I had all my maintenance done in Washington as dry docking costs here are too prohibitive.



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BUSINESS SURVEY

A business survey was developed as a tool to examine some of the indirect economic impacts of the commercial fishing industry on the study area. Businesses that provide goods and services to the industry were surveyed, to estimate the indirect income and jobs created by this activity.

Indirect impacts are difficult to measure because many businesses do not know when their customer is a commercial fisherman. With this kind of survey one is often measuring the perception of an impact rather than an actual impact.

From a list of all the business licenses within the study area, 495 were selected to receive the survey. Input was received from the fishermen themselves as to with whom they did business. This was not an attempt to randomly sample all businesses, but to selectively survey those businesses that had a high probability of serving the commercial fishing industry.

Of the 495 surveys mailed, 109 were returned with usable information. This represents approximately a 22% return rate. The results in this

section of this report are for businesses other than processing. (The same survey, with an additional page of questions, was sent to the processing sector and is discussed by the author later.)

More than 25 different kinds of businesses responded to the survey, with 10 or more surveys coming from each of these business types: marine repair or fabricators, building contractors, metal products fabricators, electrical and electronics firms, and business service companies.

Forty-nine percent of the businesses responding to the survey did more of their business (45%) in the summer months. Thirty-seven percent did about the same amount of business year-round and 9% did less business in the summer. Four percent were summer-only businesses.

The businesses responding to the survey were predominantly based in the Kenai Peninsula. Twenty-nine percent were in the city of Kenai, 28% in Soldotna, and 39% in other Kenai Borough locations. Only 6% had headquarters in Anchorage and 1% were outside of Alaska.

The employees of these businesses had a similar distribution. Thirty percent were residents of the city of Kenai, 29% lived in Soldotna, and 39% resided in other Kenai Borough locations. One percent lived in Anchorage and 1% lived outside of Alaska.

Business owners were asked if they planned to expand in the next five years. Thirty percent said yes, 24% said no, and 45% said maybe. In most cases (51%), planned expansion was in the form of more employees. Seventeen percent were considering building larger facilities, 9% were thinking about moving to a larger facility, and 17% were considering adding additional facilities. Only 18% of the business responding positively to the expansion question said their decision related directly to the commercial fishing industry.

Forty-two percent of the responding businesses said that the city of Kenai's plans to expand the port of Kenai facilities would help their business. However, 56% said it would have no effect and 2% said it would hurt their business.

On the subject of how commercial fishing affects their business, those responding to the survey said that an average of 23% of their income is from this industry. In terms of jobs, approximately 13% of the jobs reported on returned surveys existed because of the commercial fishing

industry. An average of six jobs per business was reported by respondents and an average salary of $15,690.

When asked how their income had changed over the past two years, 39% said it had increased by an average of 27% and 31% said it had decreased by an average of 24% from 1986 to 1987. Twenty-eight percent reported no change. Only 7% of businesses reporting a change felt all of the change was due to the commercial fishing industry. Thirty-seven percent thought that some of the increase was due to the fishing industry and 57% of the responding businesses felt none of the change was due to commercial fishing.

No effort was made in this study to extrapolate these results over the entire business community in the study area. Such an effort would likely produce unreliable and unverifiable data. Most of the businesses responding to this survey did so based on a perception of their interaction with the commercial fishing industry. The results of the business survey are, however, indicative of the induced impacts of commercial fishing on the local economy.

BUSINESS SURVEY--OTHER COMMENTS

Respondents to the business survey were also given an opportunity to give written comments in various parts of the survey. Following is a summary of those comments. The number in parenthesis indicates how many respondents made a similar comment.

Needed government services/facilities:

- Less local, state, and federal government
- Any facility to increase economy and employment (4)
- Roads, harbor, dock, and airport improvements
- Fewer papers to process
- Increased court staffing, additional superior court judge (3)
- Postal delivery to physical business location
- Additional ADF&G management and enhancement programs (4)
- Concise, user friendly DEC and EPA rules and personnel
- Lease land in port area for private industry
- Addition of hatcheries (state-run)
- University of Alaska Marine Advisory, Alaska Seafood Marketing Institute
- New dock, harbor facilities provided by DOT (3)
- Local inspection to increase quality of packing

Products and services not locally available:

- Marine equipment (3)
- Boat repair facilities
- Fisheries gear repair
- Net hanging
- Parts outlet for electronics repair (3)
- Engineering supplies
- Law office supplies and books
- Aviation electronics
- Engine and marine parts (6)
- Docking facilities with crane
- Loans for expansion
- Ammonium phosphate, potassium chloride
- Electrical products
- KPB wholesalers
- Quality paralegals
- Heavy marine hardware
- Coast Guard information

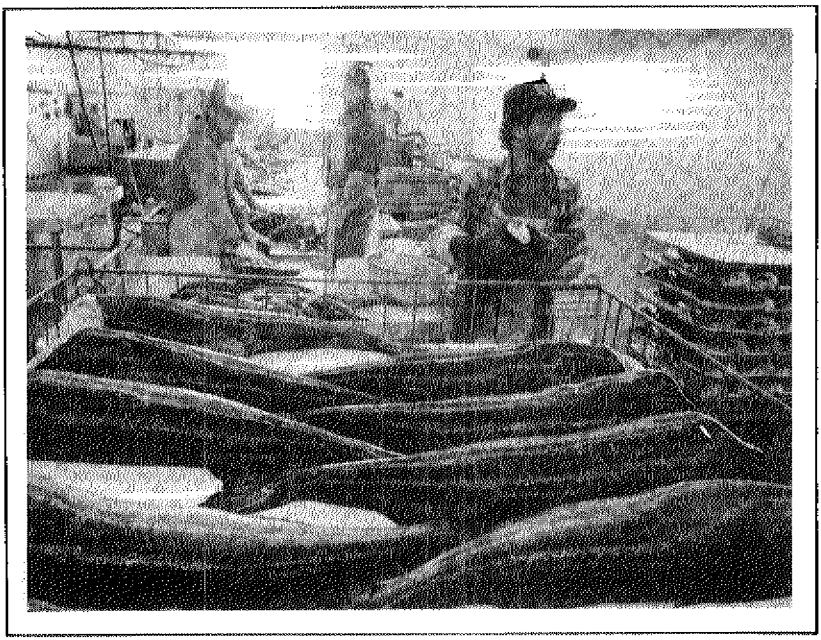
Facilities or services you would like to see developed at the port of Kenai:

- Ferry and cruise capability (3)
- Freight barge capability (3)
- Private/sportfishing boat facilities (8)
- Small boat harbor (7)
- More parking (6)
- Dock expansion (3)
- Dry docking (7)
- Ship lift (3)
- Commercial vessel launching capabilities (3)
- Ship/boat repair facility (4)
- None (cannot stand any new taxes!)
- Better markers to get into Kenai River
- More city anchors to tie to
- River dredging for larger ships (3)
- Private industry to operate dock facilities (4)
- Ice (5)
- Segregated public facilities from commercial fishing areas

General Comments:

- Bidding requirements on city, state, and borough jobs are too stringent.
- There is about 10% increase in summer but not sure if it's due to commercial fishing or tourism.
- Economic losses are due to a lot of people leaving Alaska.
- Commercial fishermen income has been "bread and butter" for this business. (4)
- If city develops tourism it would improve.
- Commercial fishermen need more/better press.
- Commercial fishing is critical to all local businesses.
- I would like to see fishing-related short courses, like those at AVTEC, taught at local community college.
- I would see more income if dock and harbor facilities were expanded/developed.
- There is too much cost competition with Lower 48 companies who deal in commercial fishing supplies.
- I do not like to see dollars cut back on fish hatcheries.
- When fishermen make money I make money. (8)
- Tourism has more impact; commercial fishermen buy mostly from outside suppliers. (3)
- Expand Ninilchik harbor. (4)

- Parts used are brought from outside.
- Sales have dropped steady since 1985. However, the past two years of good commercial fishing have kept business afloat.
- We need both commercial fishing and sports fishing/tourism to support local businesses. (3)
- I began a program in 1984-1985, offering a discount to those who acknowledged they were in commercial fishing. Through this I discovered over half of my business came from commercial fishing in one way or another.
- Private industry should operate facilities (i.e., ice). (4)
- Sportfishing guide/charter outfits lose business due to commercial fishing. This could be sportfishing capital of the world if not for commercial fishing.
- The Cook Inlet resource supply is heavily single-species (sockeye) and short fishing time frame does not justify investments in assets.
- A high rate of business is needed to produce a marginal profit; a lot of out of state permit holders purchase equipment outside.
- Why are you using 1986 data? I do not feel it is representative of today's economy.



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SUMMARY OF GROSS ECONOMIC IMPACTS

The processing sector has been described in general, but no specific economic data was presented. Surveys were sent to the 19 processors who participated in the 1986 season. Eight surveys (42%) were returned. Data from these surveys, along with information from ADF&G, provided the following analysis.

Table 5 summarizes processing data for the study area. These data are only for Upper Cook Inlet salmon processed in the study area. Processing of "other" species is not included because no reliable data are readily available.

The estimated wholesale value for the Upper Cook Inlet fishery in 1986 was $107.5 million. Of this amount, approximately 80%, or $86.5 million, was handled by processors in the study area. How much of this value accrued to the local economy was difficult to measure. Estimates from several sources are that 50% to 75% of a processor's income is spent locally. Arbitrarily using 60%, about $51.9 million of the processing sector income enters the local economy.

TABLE 5. Upper Cook Inlet salmon harvest and processing data, 1986.

COMMERCIAL SALMON CATCH (# FISH)	CHINOOK	SOCKEYE	COHO	PINK	CHUM	ALL
DRIFT GILLNET	1852	2771750	498927	613439	977687	4883655
SET GILLNET	38157	1967974	245519	688474	119072	3059196
TOTAL	40009	4739724	744446	1301913	1096759	7942851
APPROX. EX-VESSEL VALUE X $1000	$972	$37,159	$2,903	$684	$3,183	$44,901
AVERAGE PRICE ($$/LB)	$0.90	$1.40	$0.60	$0.15	$0.38	$0.97
AVERAGE WEIGHT/FISH (LBS)	25.84	5.78	6.4	3.71	7.41	5.81
PROCESSED IN STUDY AREA (# FISH)	30603	3858399	584375	1038090	848768	6360235
% PROCESSED IN STUDY AREA	76%	81%	78%	80%	77%	80%
TOTAL PROCESSED (POUNDS X 1000)	1034	27396	4764	4830	8127	46151
ESTIMATED WHOLESALE VALUE PER POUND	$2.53	$2.88	$1.79	$1.30	$1.37	
TOTAL ESTIMATED WHOLESALE VALUE (X 1000)	$2,616	$78,899	$8,528	$6,279	$11,134	$107,456
STUDY AREA ESTIMATED WHOLESALE VALUE (X 1000)	$2,001	$64,228	$6,695	$5,007	$8,616	$86,547

Jobs generated by the processing sector are also difficult to gauge. From data obtained in the surveys returned by processors and from personal communications with processors, it is estimated that in 1986 there were approximately 2,800 jobs in the processing sector (in the study area) in 1986. About 1% of these jobs were full time, 34% were half time, and 64% lasted for about two months. The full-time equivalency for all of these jobs totaled about 803.

The Alaska Department of Labor (DOL) keeps statistics on employment throughout Alaska. For 1986 it reported the peak (July, August, and September) processing employment for the Kenai area (Kenai, Soldotna and Ninilchik) at 1,280 jobs. The annual employment averaged over 12 months was 485 jobs and the annual earnings by processing employees in this area was $6,878,352.

The significant difference between the survey results and DOL statistics could result from the difficulty of knowing how many workers and jobs existed at any one time. Processing employment is very dynamic, especially during the peak, summer months. Even the employers have a difficult time knowing how many workers they have at a particular time.

Statewide statistics from DOL indicate that resident processing workers make up 54% of the work force and take home 55% of the earnings in the processing industry. The data obtained in these surveys put the local workers at 67%. This 13% discrepancy may indicate there is larger resident work force available on the Kenai Peninsula than in other areas of the state. The residency of processing employees from within the study area was city of Kenai (21%), Soldotna (11%), and other borough areas (14%). The average processing worker earned $3,000.

Tables 6 and 7 pull together all of the data learned in this study about the economic impacts of commercial fishing on the study area. Table 6 summarizes the income data and Table 7 summarizes the jobs data.

The commercial fishing industry brought into the study area economy about $21.3 million in direct income from the harvesting and management sectors, and about $52.8 million in indirect income from CIAA and the processing sectors. Induced income from commercial fishing was equal to approximately 23% of the gross income from those businesses which served the fishing industry.

TABLE 6. Summary of gross economic impacts -- income (X $1000).

SECTORS	DIRECT TOTAL	DIRECT STUDY AREA
Harvesting	$46,861[1]	$29,705
Processing		
Management		
ADFG-COMMFISH		$ 743
ADFG-FRED		$ 200
FISH&WILDLIFE		$ 440
Cook Inlet Aquaculture		
TOTALS	$46,861	$21,285[2]

SECTORS	INDIRECT TOTAL	INDIRECT STUDY AREA
Harvesting		
Processing	$107,500	$86,500
Management		
ADFG-COMMFISH		
ADFG-FRED		
FISH&WILDLIFE		$ 909
Cook Inlet Aquaculture		
TOTALS	$107,500	$52,809[3]

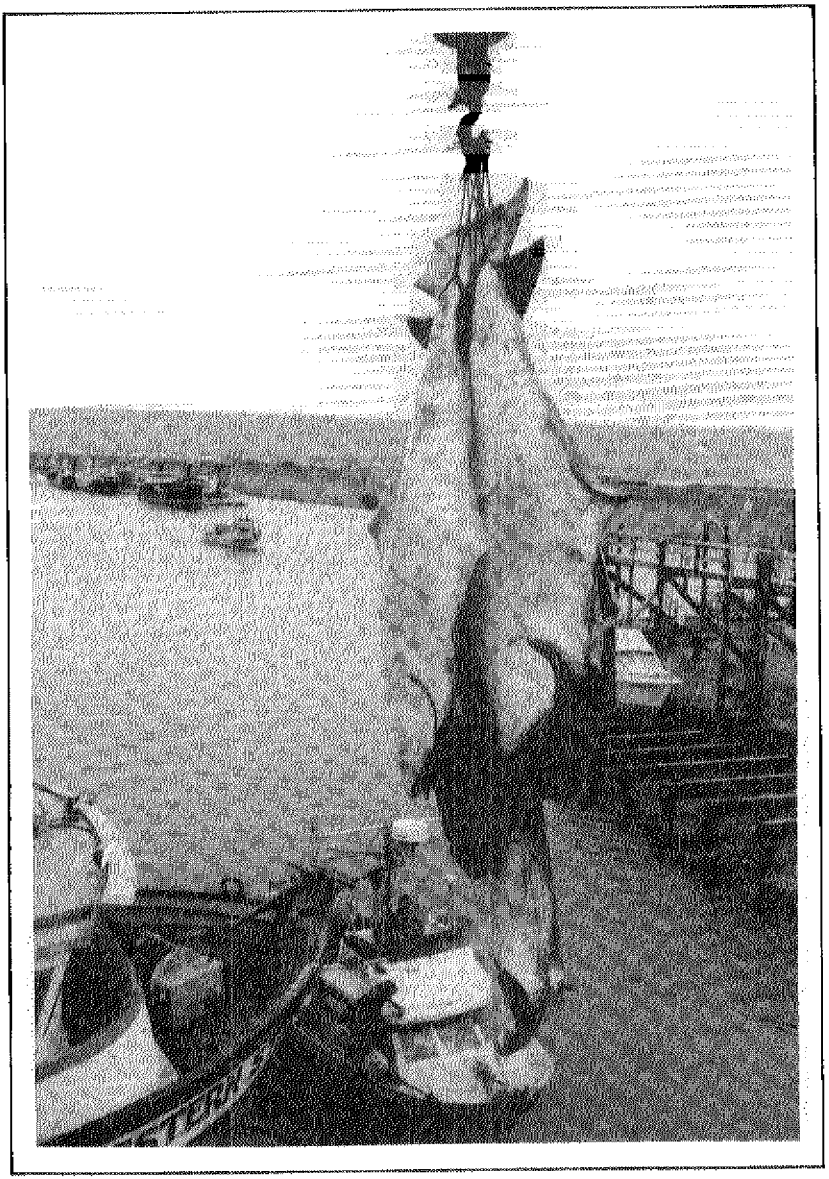
(1) UCI salmon fishery only
(2) 67% of harvesting income spent in study area
(3) 60% of processing income spent locally

Approximately 51 full-time jobs and 6,672 seasonal jobs were created in the study area because of the commercial fishing industry. The seasonal jobs were equivalent to about 1,500 full-time jobs. Nearly 13% of the jobs in the business sector which served the fishing industry existed because of commercial fishing.

TABLE 7. Summary of gross economic impacts – jobs.

SECTORS	FULL-TIME	SEASONAL	FULL-TIME EQUIVALENTS
Harvesting		3819(1)	679
Processing	28	2800(2)	803
Management			
ADFG-COMMFISH	6	22	9
ADFG-FRED	2	5	3.5
FISH&WILDLIFE	10		
Cook Inlet Aquaculture	7	26	6
Misc. Businesses			13%
TOTALS	53	6672	1500

(1) 85% Alaskan Residents
(2) 67% Alaskan Residents



Doug Coughenower

SOME PERSONAL COMMENTS ON ECONOMIC IMPACT

Economic impact is but one way to examine how an industry or business or social activity affects a community. Certainly there are a variety of considerations when trying to establish what role a particular activity plays in the life of a community. Social factors and traditional use are two other things that must be taken into account.

In the view of the author, a single factor, such as economic impact or cost-benefits, cannot be used to determine if one activity is more important than another. The total economy of any community is more than the sum of its many parts. Take away any single part and the nature of a community may be altered unpredictably.

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REFERENCES

Cook Inlet Aquaculture Association. 1986 Annual Report. Soldotna.

Coughenower, D.D. 1987. *Commercial fishing industry study, Homer, Alaska.* Alaska Sea Grant College Program, Marine Advisory Bulletin No. 33, Fairbanks.

Fay, G., and M. Thomas. 1986. *Deer hunter economic expenditure and use survey, Southeast Alaska.* Alaska Department of Fish and Game, Division of Habitat, Habitat Technical Report 86-10, Juneau.

Fried, N. 1989. Personal communications. Alaska Department of Labor, Research Division, Anchorage.

Kruse, G.H. 1988. *An overview of Alaska's fisheries: catch and economic importance of the resources, participants in the fisheries, revenues generated and expenditures on management.* Alaska Department of Fish and Game, Division of Commercial Fisheries, Fisheries Research Bulletin 88-01, Juneau.

Kyle, G. 1989. Personal communications. Alaska Department of Fish and Game, Fisheries Research and Enhancement Division, Soldotna.

Ruddell, T. 1989. Personal communications. Alaska Department of Public Safety, Division of Fish and Wildlife Protection, Soldotna.

Ruesch, P.H. 1987. *Annual management report Upper Cook Inlet 1986.* Alaska Department of Fish and Game, Division of Commercial Fisheries, Soldotna.

Tarbox, K. 1989. Personal communications. Alaska Department of Fish and Game, Division of Commercial Fisheries, Soldotna.