

# Cook Inlet Drift and Set Net Salmon Fisheries

*Prepared for*

**Alaska Salmon Alliance**

**June 2013**

*Prepared by*



**Northern  
Economics**

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## Executive Summary

This document was prepared for the Alaska Salmon Alliance and focuses on the drift and set net salmon fisheries in Cook Inlet, but when comparing the Cook Inlet salmon fisheries to other regions, the document includes the purse seine and hatchery fisheries as well. The following bullets summarize the main conclusions highlighted by the data analysis. Further explanation and illustration of each point may be found in the body of the report. The tables and figures and many of the numbers in the report are estimates that have been developed by Northern Economics, but which are based on data from the Alaska Department of Fish and Game (ADF&G) and the Commercial Fishing Entry Commission (CFEC) and the National Marine Fisheries Service NMFS).<sup>1</sup>

### The Cook Inlet Salmon Fisheries

- In 2011 the ex-vessel value of the Cook Inlet salmon fishery<sup>2</sup> was \$56.4 million, and exceeded the value of all Lower-48 salmon fisheries combined (Table ES-1).

**Table ES-1. Comparison of Cook Inlet Fisheries to other Selected US Fisheries**

Fishery	2005	2006	2007	2008	2009	2010	2011	Five-year Average
	Ex-vessel Revenue (\$, Millions)							
Cook Inlet Salmon Fisheries	31.5	15.3	24.1	22.6	18.6	34.6	54.2	32.1
All Lower 48 Salmon Fisheries	37.3	34.4	34.0	27.0	25.1	49.1	53.5	37.2
West Coast Shore-based Trawl Fishery	44.1	45.9	46.0	51.2	42.1	37.5	48.5	45.0
U.S. Northeast States Atlantic Cod Fishery	20.8	20.5	27.1	30.8	25.2	28.1	32.6	26.4
Hawaii Tuna Fishery	46.1	44.6	51.2	60.9	47.7	59.8	66.6	53.8
Other Alaska Salmon Fisheries	261.2	260.9	323.3	345.4	325.1	470.8	510.6	356.8

Note: Includes landings in the drift and set net fisheries as well as the purse seine fishery.

Source: Estimates developed by Northern Economics based on data from CFEC (2013b), ADF&G (2013, 2012a, 2012b), and NFMS (2013).

- If total fishery landings of all species from Seward, Kenai, Homer and Anchorage are aggregated to form one port, the sum yields the sixth largest port in the nation in terms of landing value. If only the value of Cook Inlet salmon were included from these ports, the sum would form the twenty-ninth largest port in terms of landing value.<sup>3</sup>
- If total fishery landings from Seward, Kenai, Homer and Anchorage are aggregated to form one port, the sum yields the seventeenth largest port in the nation in terms of landing volume. If only the value of Cook Inlet salmon were included from these ports, the sum would form the thirtieth largest port in terms of landing volume.

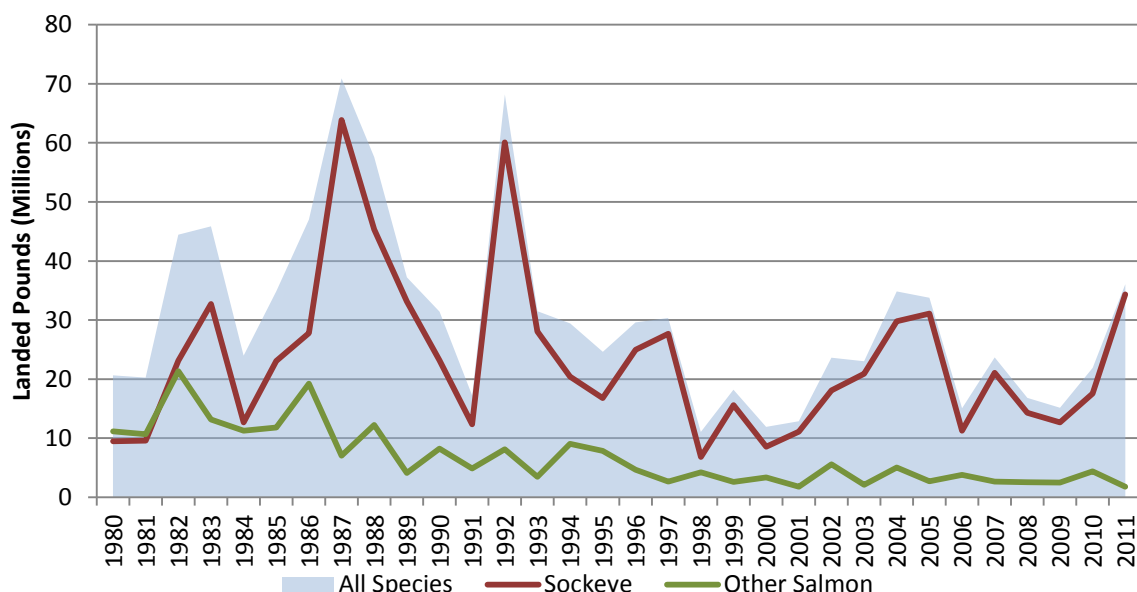
<sup>1</sup>In mid-April 2011, CFEC generated updated landings and revenue data for all Alaska fisheries. Northern Economics had already completed the analysis and submitted the draft report before it was discovered that the updated data were available. The tables in the Executive Summary reflect the updated data as do references to data within the Executive Summary text. In general tables, figures and references to data in the main body of the report do not reflect the CFEC updates.

<sup>2</sup> The \$54.2 million includes the purse seine and hatchery cost recovery fisheries as well as the drift and set net fisheries.

<sup>3</sup> It should be noted that not all ports make the list due to confidentiality issues. For example, Dillingham, AK has significant landings and is not listed.

- Sockeye are the predominant species harvested in the Cook Inlet salmon fisheries, accounting for 78 percent of landings between 1980 and 2011 (Figure ES-1). Over the same period sockeye accounted for 88 percent of the more than \$2 billion total in revenues in 2012 dollars.

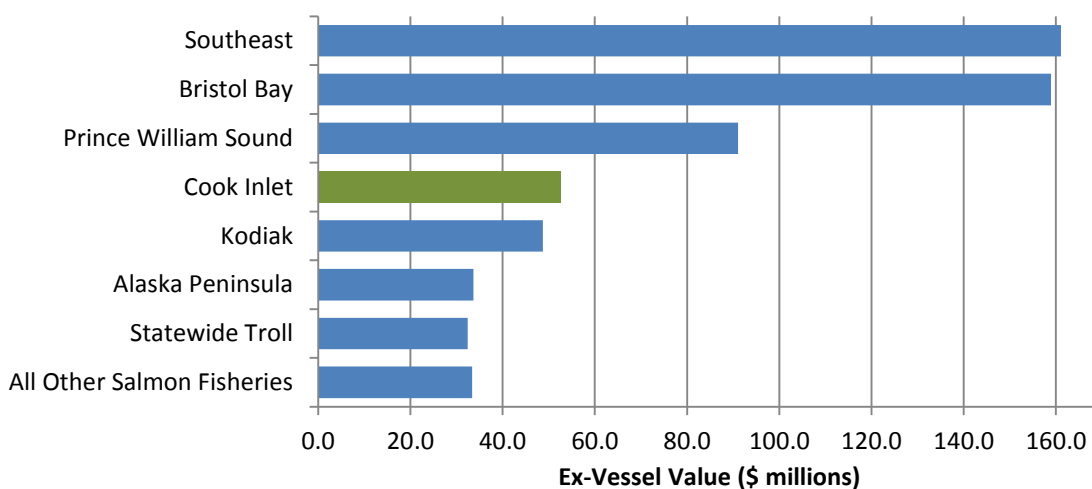
**Figure ES-1. Landings of Sockeye and Other Salmon in Cook Inlet Drift and Set Net Fisheries, 1980–2011**



Source: Figure developed by Northern Economics using data from ADF&G (2013, 2012a, and 2012b).

- Over the past ten years the purse seine, drift and set net salmon fisheries in Cook Inlet have generated approximately 7% of the ex-vessel value in Alaska Salmon Fisheries.
- In 2010 and 2011 ranked fourth among Alaska major salmon fisheries. Figure ES-2 compare ex-vessel values in the Alaska's major salmon fisheries in 2011.

**Figure ES-2. Ex-vessel Values in Alaska's Major Salmon Fisheries in 2011**

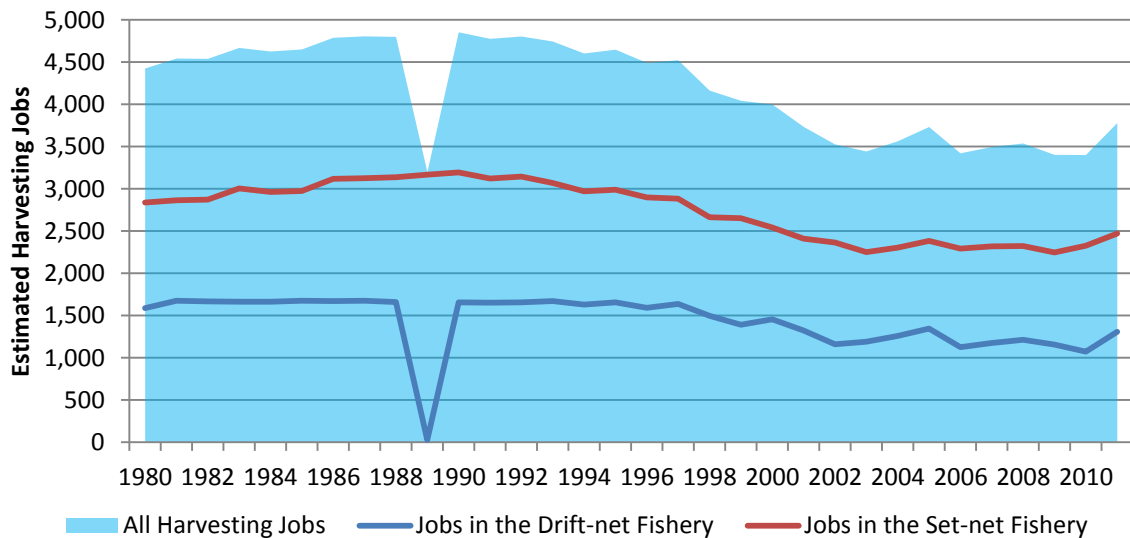


Source: Figure developed by Northern Economics using data from CFEC (2013b)

### Cook Inlet Harvesting

- Residents of the Kenai Peninsula Borough have owned more than half (roughly 54 percent) of the Cook Inlet drift and set net permits since 1980.
- According to the Alaska Department of Labor and Workforce Development (ADOLWD), in the Cook Inlet drift-net fishery 1.82 crew jobs are generated per permit, while in the set-net fishery 3.76 crew jobs are generated per permit. These estimates do not include the permit holder.
- From 2001 to 2011, between 3,000 and 4,000 harvesting jobs were generated by the Cook Inlet drift and set net fisheries each year.

**Figure ES-3. Estimated Harvesting Jobs in the Cook Inlet Drift and Set Net Fisheries, 1980–2011**

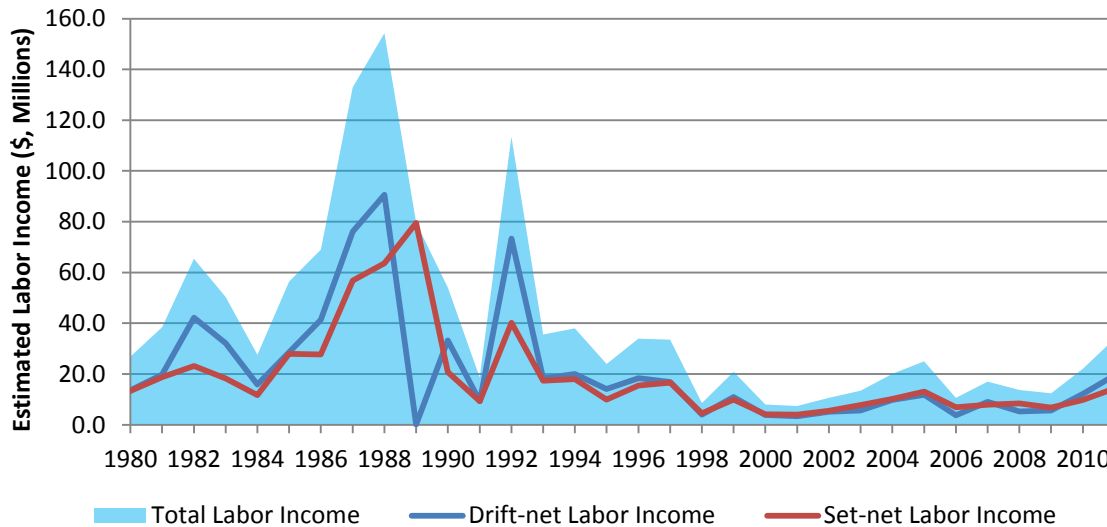


Notes: Estimates include both crew and permit holder and assume the permit holder is the skipper. Also note that the Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from CFEC (2013b) and Warren (2013).

- In 2011 it is estimated that the Cook Inlet drift-net fishery generated \$18.2 million in labor income and the set-net fishery generated \$13.1 million, for a total of \$31.3 million in labor income.<sup>4</sup> For the purpose of this analysis, labor income is defined as the estimated portion of total ex-vessel revenues that accrue to either crew members or permit holders.

**Figure ES-4. Estimated Labor Income in the Cook Inlet Drift and Set Net Fisheries, 1980–2011**



Notes: Estimates include both crew and permit holder and assume the permit holder is the skipper. Also note that the Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from CFEC (2013b) and Warren (2013).

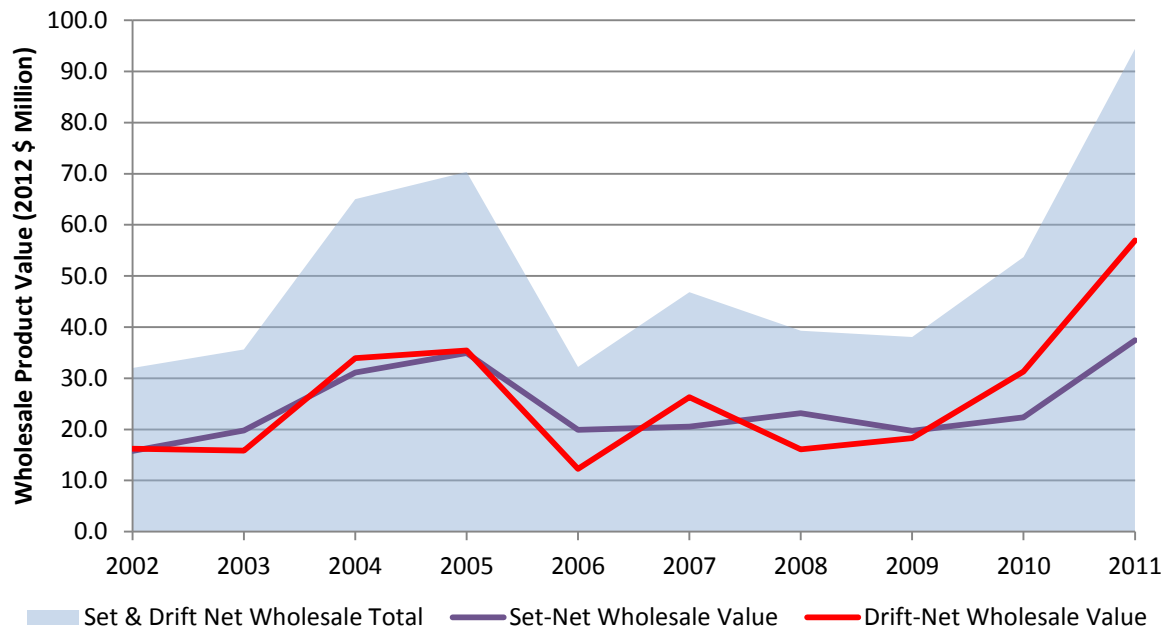
- Cook Inlet set and drift harvesters are also active in other Alaska fisheries. In 2011, 149 of the 976 active Cook Inlet set and drift harvesters participated in other fisheries as permit holders and generated nearly \$30 million in additional ex-vessel revenue.
- Many Cook Inlet drift and set net permit holders also have regular wage and salary employment. In 2011, a total of 297 active Cook Inlet drift and set net permit holders had wage and salary jobs, and earned over \$14 million in wages and salaries with an average of over \$48,000. The top five occupations (education, construction, transportation, administrative, and production) accounted for 55 percent of the employment.

<sup>4</sup> In 2012 dollars.

### Cook Inlet Processing

- It is estimated that total processed product value (wholesale value) of Cook Inlet set and drift net salmon in 2011 exceeded \$94.5 million (Figure ES-5) and \$102 million if the Cook Inlet seine and hatchery cost recovery fisheries are included.
- In addition, processors of Cook Inlet set and drift salmon generated an estimated \$110 in wholesale value from other fisheries, including salmon fisheries in Prince William Sound and the halibut fisheries of South Central Alaska.
- The total wholesale value of all species and products produced by processors of Cook Inlet salmon exceeded \$212 million in 2011. This estimate includes wholesale value from salmon, halibut, sablefish, groundfish and other species.
- The \$212 million of total output from seafood processing in Cook Inlet represents the direct contribution of the seafood industry to the region's economy. Although not estimated in this document, the direct impacts generate millions of dollars of additional indirect and induced spending in the economy.
- Over the last 10 years, the study team estimates that processed product values of Cook Inlet salmon were about double the amount paid to harvesters. This increase represents the value added to the fishery by processors.

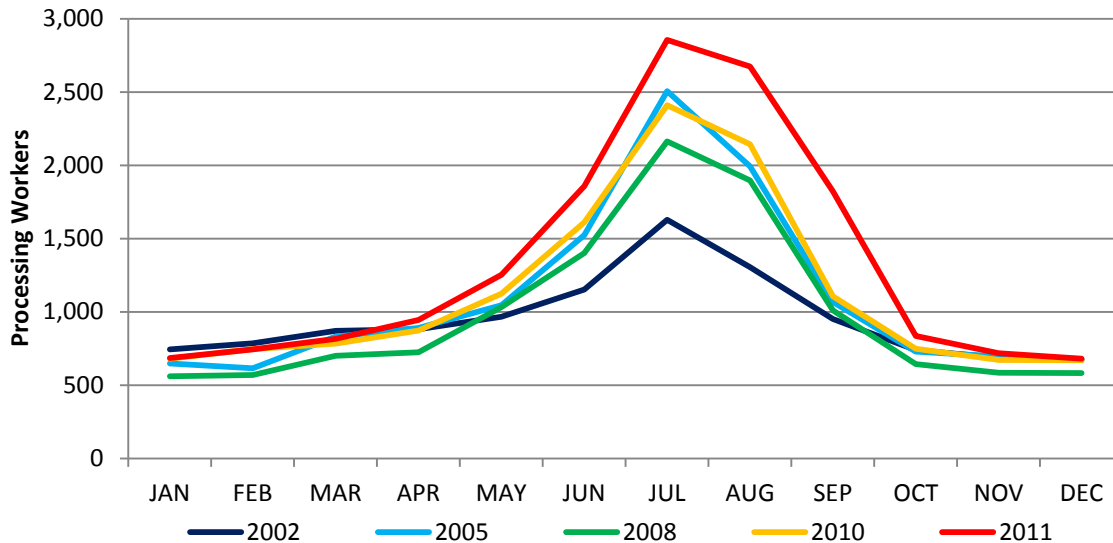
**Figure ES-5. Inflation Adjusted Estimates of Wholesale Value from Cook Inlet Set and Drift Net Fisheries, 2002–2011**



Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b) and CFEC (2013b).

- ADOLWD combines industry sectors for purposes of reporting, and the seafood processing industry is combined with all other food manufacturing businesses.<sup>5</sup> In 2011, wages and Salaries paid to workers in the food manufacturing sector in the Cook Inlet Region were \$33.3 million.
- Between 2002 and 2011, there was a monthly average of 1,077 jobs in the food processing sector. In 2011 the number was at a 10-year high of 1,324.
- In 2011 it is estimated that 1,617 Cook Inlet jobs were attributable to processing salmon.<sup>6</sup>
- Figure ES-6 illustrates the seasonal swings in food manufacturing jobs, which mirror the salmon season harvests.

**Figure ES-6. Seasonal Food Processing Employment in the Cook Inlet Region in Selected Years**



Source: Figure developed by Northern Economics based on data from ADOLWD (2013).

<sup>5</sup> In addition to seafood processing the food manufacturing sector includes dairies, and sausage makers and other food manufacturers. For the state as a whole seafood processing accounts for over 93 percent of food manufacturing jobs, wages and salaries from 2002 - 2011. In 2011 there were an average of 10,130 seafood processing and only 488 jobs in other food manufacturing businesses.

<sup>6</sup> Salmon processing jobs are typically of a 2-3 month duration, and thus over the course of a year these jobs account a smaller portion of average monthly employment.



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## Abbreviations

ADF&G	Alaska Department of Fish and Game
ADOLWD	Alaska Department of Labor and Workforce Development
BLS	U.S. Bureau of Labor Statistics
CFEC	Commercial Fisheries Entry Commission
COAR	Commercial Operator Annual Reports
U.S.	United States

# 1 Introduction

The information contained in this document was prepared for the Alaska Salmon Alliance and focuses on the drift and set-net salmon fisheries in Cook Inlet. The material is intended to be used as the basis for marketing or informational materials and contains information on the following:

- Salmon harvest volume and value estimates
- Comparisons of the Cook Inlet salmon fishery relative to other Alaska fisheries
- Number of salmon permit holders and revenues by gear at the Borough/Census Area level
- Estimated harvester jobs and payments to labor generated by the Cook Inlet Salmon fisheries
- Estimates of revenues from other Alaska fishing activities by Cook Inlet permit holders
- Estimates of wages earned by Cook Inlet permit holders in non-fishing jobs along with estimate of the number of permit holders that held non-fishing jobs
- Community-level summaries and estimates for Cook Inlet drift and set-net permits in the Kenai and Mat-Su Boroughs and the Municipality of Anchorage
- The relative importance of Cook Inlet Fishery ports relative to other United States (U.S.) ports in terms of volume and value of landings
- Estimated processed product value from Cook Inlet salmon by species and gear as well as comparisons to estimated processed product value of salmon from all regions statewide
- Processed product value, processing jobs and payments to labor generated in the Kenai Peninsula and the Municipality of Anchorage

## A note regarding data in this report

Northern Economics came under contract on March 12, 2012 to develop and deliver a draft of this report in early May 2012. In mid-April 2011, CFEC generated updated landings and revenue data for all Alaska fisheries. Northern Economics had already completed the analysis and submitted the draft report in early May before it was discovered that the updated CFEC data were available. The tables in the Executive Summary reflect the updated data, as do references to data within the text of the Executive Summary. In general, tables, figures, and references to data in the main body of the report do not reflect the CFEC updates. Data in the main body of the report that are updated are highlighted with yellow shading.

## 1.1 Relative Importance of Cook Inlet Salmon Fishery Relative to Other U.S. Fisheries

Table 1 compares the value of Cook Inlet salmon fisheries to selected fisheries around the U.S. While the ex-vessel value of Cook Inlet salmon fisheries accounts for generally less than 10 percent of all Alaska salmon fisheries,<sup>7</sup> they are still significant when compared to other U.S. fisheries. In 2011 for example, the ex-vessel value of the Cook Inlet salmon fishery exceeded the value of all Lower-48 salmon fisheries combined. The value of the Cook Inlet salmon fishery also exceeded the value of the entire West Coast shore-based trawl fishery in 2010 and 2011, and has exceeded the Atlantic cod fishery in the Northeast U.S. for five of the seven years shown.

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<sup>7</sup> A more detailed comparison of Cook Inlet salmon fisheries to other Alaska fisheries can be found on page 25.

**Table 1. Comparison of Cook Inlet Fisheries to other Selected US Fisheries**

	2005	2006	2007	2008	2009	2010	2011	Five-year Average
<b>Fishery</b>	<b>Ex-vessel Revenue (\$, Millions)</b>							
<b>Cook Inlet Salmon Fisheries</b>	<b>31.5</b>	<b>15.3</b>	<b>24.1</b>	<b>22.6</b>	<b>18.6</b>	<b>34.6</b>	<b>54.2</b>	<b>32.1</b>
All Lower 48 Salmon Fisheries	37.3	34.4	34.0	27.0	25.1	49.1	53.5	37.2
West Coast Shore-based Trawl Fishery	44.1	45.9	46.0	51.2	42.1	37.5	48.5	45.0
U.S. Northeast States Atlantic Cod Fishery	20.8	20.5	27.1	30.8	25.2	28.1	32.6	26.4
Hawaii Tuna Fishery	46.1	44.6	51.2	60.9	47.7	59.8	66.6	53.8
Other Alaska Salmon Fisheries	261.2	260.9	323.3	345.4	325.1	470.8	510.6	356.8

Source: Estimates developed by Northern Economics based on data from Alaska Department of Fish and Game (ADF&G) (2013, 2012a, 2012b), and NFMS (2013)

Table 2 and Table 3 rank U.S. ports in terms of fishery landing values and volumes, respectively. For the purpose of showing the importance of the Cook Inlet fisheries, the tables combine total landings from Seward, Kenai, Homer and Anchorage landings into one port. The aggregation of these four Cook Inlet area ports yields the sixth largest port in terms of the landings value, and the seventeenth largest port in terms of landings volume (pounds). The table also shows that if only the value of Cook Inlet salmon were included, the four ports together would still rank twenty-ninth among U.S. Ports in terms of landings value, and thirtieth in terms of volume.<sup>8</sup>

<sup>8</sup> It should be noted that not all ports make the list due to confidentiality issues. For example, Dillingham, AK has significant landings and value of salmon and is not listed in these tables.

Table 2. Ranking of U.S. Ports by Value of Landings, Cook Inlet Ports Combined, 2002–2011

Rank	Port	2005	2006	2007	2008	2009	2010	2011	Five-year Average
		Ex-Vessel Revenue (\$, Millions)							
1	Dutch Harbor-Unalaska, AK	282.5	281.2	268.0	241.3	249.2	306.0	369.0	285.3
2	Akutan, AK							168.0	168.0
3	Reedville, VA	95.8	101.4	174.1	195.0	103.8	163.1	114.0	135.3
4	Empire-Venice, LA	35.1	54.4	126.0	98.7	159.7	128.1	207.0	115.6
5	Intracoastal City, LA	166.1	165.2	70.2	73.7	73.4	100.9	99.0	106.9
6	<b>Seward, Kenai, Homer &amp; Anchorage*</b>	<b>77.6</b>	<b>69.5</b>	<b>72.0</b>	<b>50.7</b>	<b>64.3</b>	<b>94.2</b>	<b>108.0</b>	<b>76.6</b>
7	Kodiak, AK	57.2	54.6	73.5	73.3	76.1	84.3	103.0	74.6
8	Cameron, LA			61.8	65.3	67.1	81.0	86.0	72.2
9	Pascagoula-Moss Point, MS	44.7	53.2	64.3	72.3	68.1	56.6	88.0	63.9
10	Astoria, OR	85.1	51.0	58.8	48.2	42.7	56.1	83.0	60.7
11	Los Angeles, CA	54.3	51.4	50.8	54.2	43.1	75.4	85.0	59.2
12	New Bedford, MA	45.0	52.0	57.0	62.9	59.4	69.2	67.0	58.9
13	Gloucester, MA	52.2	51.0	43.7	50.4	50.9	50.0	57.0	50.7
14	Naknek-King Salmon, AK	38.3	46.9	49.9	48.9	50.4	59.4	59.0	50.4
15	Westport, WA	46.0	47.4	47.8	49.3	35.0	52.5	65.0	49.0
16	Port Hueneme-Oxnard-Ventura, CA	37.1	35.4	41.8	36.0	51.3	62.2	79.0	49.0
17	Cordova, AK	54.6	35.7	49.7	43.4	30.9	71.6	56.0	48.8
18	Newport, OR	68.4	46.3	39.0	36.9	32.8	41.3	58.0	46.1
19	Sitka, AK	35.9	40.2	35.5	36.6	41.0	45.1	63.0	42.5
20	Ketchikan, AK	32.3	40.7	40.5	33.0	39.9	47.4	61.0	42.1
21	Moss Landing, CA	39.4	41.1	46.8	38.7	32.4	37.4	40.0	39.4
22	Petersburg, AK	28.4	41.0	40.1	26.8	32.9	38.5	62.0	38.5
23	Cape May-Wildwood, NJ	36.2	42.8	36.7	39.0	33.1	37.8	43.0	38.4
24	Portland, ME	46.5	41.8	28.6	29.8	30.0	36.3	48.0	37.3
25	Point Judith, RI	37.8	38.6	30.8	32.5	30.2	34.2	44.0	35.4
26	Dulac-Chauvin, LA	29.3	32.6	25.2	31.7	30.7	32.2	44.0	32.2
27	Coos Bay-Charleston, OR	34.6	27.8	27.5	26.1	29.3	31.9	42.0	31.3
28	Atlantic City, NJ	24.7	33.0	31.5	30.5		30.6	34.0	30.7
29	<b>Cook Inlet Salmon Combined**</b>	<b>31.5</b>	<b>15.3</b>	<b>24.1</b>	<b>22.6</b>	<b>18.6</b>	<b>34.5</b>	<b>56.5</b>	<b>29.0</b>
30	Bayou La Batre, AL	36.7	27.7	24.2	22.6	25.9		34.0	28.5
31	Brownsville-Port Isabel, TX	26.6	30.2	24.2	22.9	28.7	26.9	36.0	27.9
32	Ilwaco-Chinook, WA	32.3	34.3	23.5	22.1	20.3	30.5	28.0	27.3
33	Beaufort-Morehead City, NC					27.0			27.0
34	Rockland, ME	8.7	33.0	28.6	26.6	25.9	25.8	40.0	26.9
35	Wanchese-Stumpy Point, NC	17.8	27.6	24.1	23.2		31.4	36.0	26.7
36	Crescent City, CA	32.1	20.7						26.4
37	Monterey, CA					14.6	22.1	37.0	24.6
38	Honolulu, HI	6.5	22.8	27.3	24.1	26.5	28.0	36.0	24.5
39	Point Pleasant, NJ	26.7	25.5	25.7	23.3	20.2	24.0	24.0	24.2
40	Lafitte-Barataria, LA	19.2	25.2	23.1	23.5	27.4	17.9	28.0	23.5
41	Galveston, TX	24.2	23.0	21.3	15.4	26.1	17.3	27.0	22.0
42	Ocean City, MD						21.9		21.9
43	Juneau, AK	21.7	22.6	22.3	22.4	19.7	19.9	24.0	21.8

Notes: Ports are sorted by the average of reported value. It is assumed data blanks indicate that data for the port was not disclosed due to confidentiality. Averages are calculated using only the reported years.

\* Listed ports combined as if they were one port and the values shown include landings of all species at the selected ports.

\*\* Includes only the ex-vessel value of Cook Inlet Salmon.

Sources: Developed by Northern Economics based on data from NMFS (2013) and from ADF&G (2013a, 2013b)

**Table 3. Ranking of U.S. Ports by Pounds Landed, Cook Inlet Ports Combined, 2002–2011**

Rank	Port	2005	2006	2007	2008	2009	2010	2011	Five-year Average
		Landed Pounds (Millions)							
1	Dutch Harbor-Unalaska, AK	887.6	911.3	777.2	612.7	506.3	515.2	706.0	706.0
2	Akutan, AK							431.0	431.0
3	Reedville, VA	373.4	372.5	421.0	354.2	349.4	426.1	414.0	414.0
4	Empire-Venice, LA	170.8	285.7	323.1	353.2	411.8	353.5	532.0	532.0
5	Intracoastal City, LA	464.0	400.7	299.7	254.6	244.7	334.6	327.0	327.0
6	Kodiak, AK	337.2	332.8	320.0	250.9	282.9	325.3	372.0	372.0
7	Cameron, LA			211.1	171.9	178.8	204.7	227.0	227.0
8	Pascagoula-Moss Point, MS	159.1	212.1	216.3	190.2	217.4	105.2	267.0	267.0
9	New Bedford, MA	153.4	169.9	149.5	146.4	170.0	133.4	117.0	117.0
10	Los Angeles, CA	139.7	164.5	141.2	123.6	113.6	186.8	157.0	157.0
11	Astoria, OR	164.7	164.1	161.8	99.7	104.4	100.9	144.0	144.0
12	Gloucester, MA	124.2	148.4	94.4	120.2	122.3	88.8	77.0	77.0
13	Naknek-King Salmon, AK	105.3	105.7	115.6	105.2	119.4	124.1	99.0	99.0
14	Westport, WA	122.8	141.3	98.3	111.1	74.4	100.8	116.0	116.0
15	Port Hueneme-Oxnard-Ventura, CA	62.3	43.7	94.3	46.3	141.3	131.4	128.0	128.0
16	Cordova, AK	111.2	45.8	108.8	95.7	45.5	147.7	68.0	68.0
17	<b>Seward, Kenai, Homer &amp; Anchorage*</b>	<b>94.3</b>	<b>64.1</b>	<b>98.6</b>	<b>51.3</b>	<b>61.7</b>	<b>116.5</b>	<b>93.0</b>	<b>93.0</b>
18	Ketchikan, AK	102.5	50.3	83.5	46.0	75.9	75.7	100.0	100.0
19	Newport, OR	110.0	93.6	71.7	57.8	50.2	57.0	79.0	79.0
20	Petersburg, AK	94.9	58.2	75.4	34.7	55.4	49.9	101.0	101.0
21	Cape May-Wildwood, NJ	74.6	89.2	68.4	82.9	63.9	43.1	40.0	40.0
22	Sitka, AK	38.1	46.9	55.5	52.7	78.4	74.6	113.0	113.0
23	Moss Landing, CA	37.8	59.3	96.3	73.5	46.2	38.4	34.0	34.0
24	Portland, ME	56.8	70.9	34.6	35.1	37.3	38.2	61.0	61.0
25	Point Judith, RI	41.8	45.9	37.6	37.6	39.9	35.6	41.0	41.0
26	Dulac-Chauvin, LA	42.6	30.8	23.5	35.6	42.4	32.8	43.0	43.0
27	Atlantic City, NJ	31.8	36.8	40.7	35.3		24.2	23.0	23.0
28	Rockland, ME	34.6	36.2	33.4	29.6	21.4	22.6	38.0	38.0
29	Coos Bay-Charleston, OR	25.7	29.0	26.8	27.0	30.1	31.0	39.0	39.0
30	<b>Cook Inlet Salmon Combined**</b>	<b>35.7</b>	<b>20.7</b>	<b>25.4</b>	<b>21.4</b>	<b>19.0</b>	<b>23.7</b>	<b>38.3</b>	<b>38.3</b>
31	Beaufort-Morehead City, NC					25.5			
32	Wanchese-Stumpy Point, NC	27.2	26.5	22.4	22.6		25.6	25.0	25.0
33	Ilwaco-Chinook, WA	30.1	40.8	22.2	17.7	18.4	23.6	21.0	21.0
34	Brownsville-Port Isabel, TX	20.1	30.5	23.2	20.4	27.0	22.7	25.0	25.0
35	Honolulu, HI	22.2	20.9	24.2	26.0	22.3	23.5	23.0	23.0
36	Lafitte-Barataria, LA	23.2	25.7	19.8	23.8	25.9	14.9	22.0	22.0
37	Bayou La Batre, AL	17.3	28.0	23.0	19.0	21.0		22.0	22.0
38	Point Pleasant, NJ	24.8	25.8	23.6	23.4	18.4	20.9	15.0	15.0
39	Port Arthur, TX	17.8	25.0	17.4	14.9	16.0	19.6	21.0	21.0
40	Golden Meadow-Leeville, LA	24.2	17.9	13.7	16.8	25.6	14.8	17.0	17.0
41	Monterey, CA					12.9	17.1	25.0	25.0
42	Hampton Roads Area, VA	23.5	13.2	20.0	19.3	18.0	16.1	18.0	18.0
43	Juneau, AK	18.5	19.0	19.5	18.4	16.7	16.0	18.0	18.0

Notes: Ports are sorted by the average of reported pounds. It is assumed data blanks indicate that data for the port was not disclosed due to confidentiality. Averages are calculated using only the reported years.

\* Listed ports combined as if they were one port and the values shown include landings of all species at the selected ports.

\*\* Includes only the ex-vessel value of Cook Inlet Salmon.

Sources: Developed by Northern Economics based on data from NMFS (2013) and from ADF&G (2013a, 2013b)

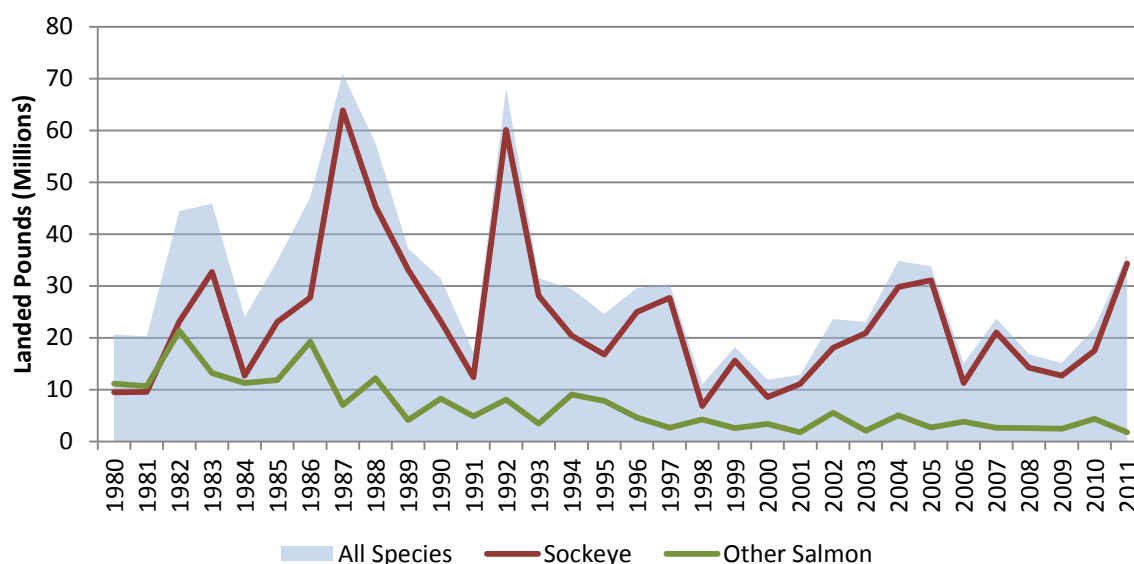


## 2 Cook Inlet Salmon Harvests and Revenues

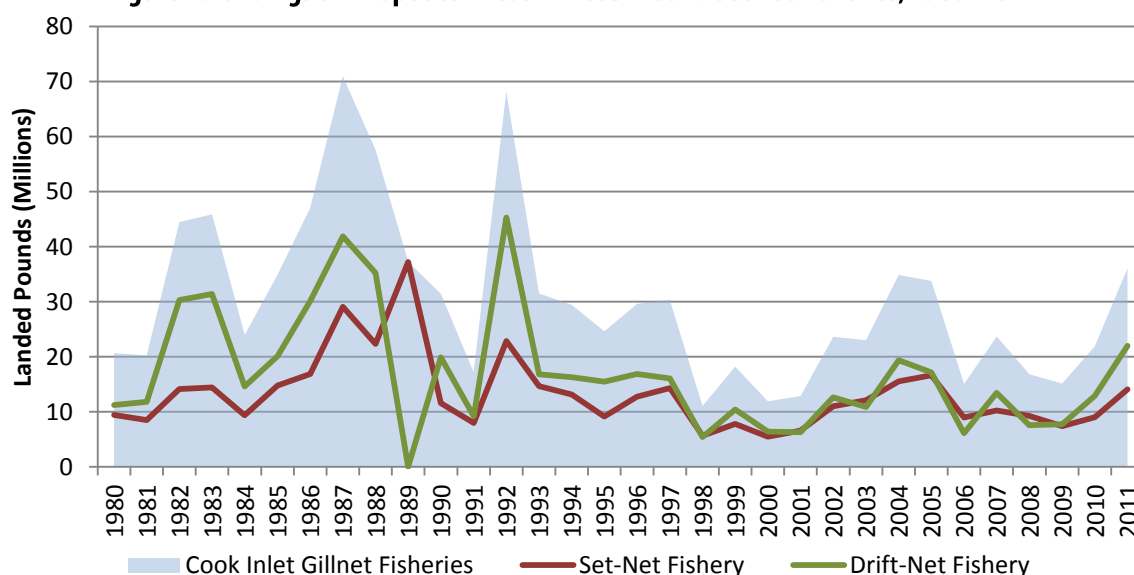
This section summarizes landings and revenues by salmon species in the Cook Inlet drift and set-net fisheries for the years 1980–2011. As shown in Figure 1 and Figure 2, total landings were at their highest in 1987 at just over 70 million pounds. Sockeye are the predominant species harvested in the Cook Inlet salmon fisheries, accounting for 78 percent of landings over the period.

The effect of the 1989 Exxon Valdez oil spill is seen in Figure 2—the drift fishery was closed, while the set-net fishery had its best year on record. In recent years, landings have been split fairly equitably between the drift and set net fisheries.

**Figure 1. Landings of Sockeye and Other Salmon in Cook Inlet Drift and Set Net Fisheries, 1980–2011**



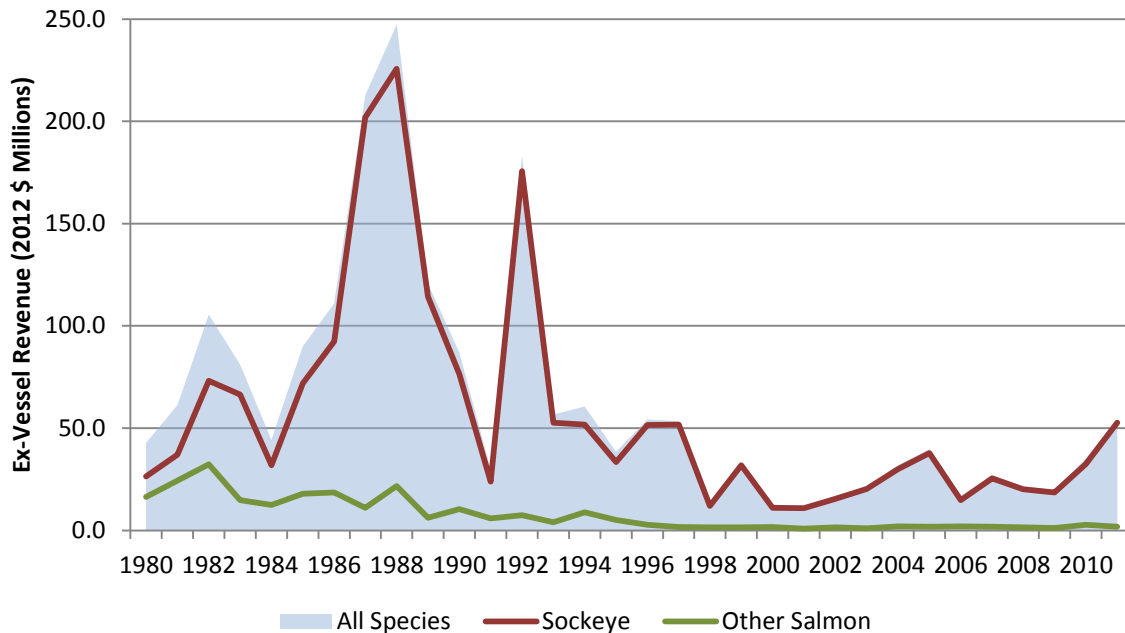
**Figure 2. Landings of All Species in Cook Inlet Drift and Set Net Fisheries, 1980–2011**



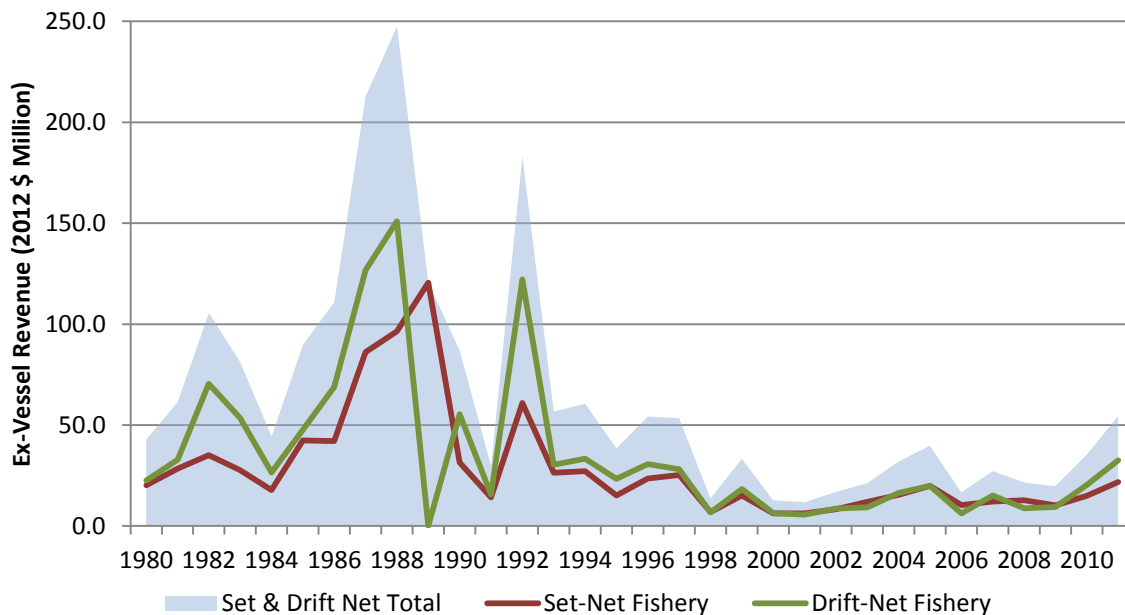
Source: Figures developed by Northern Economics using data from ADF&G (2013, 2012a, and 2012b).

Figure 3 and Figure 4 show that inflation adjusted revenues peaked in 1987 at nearly \$250 million. Over the period shown, revenue from sockeye accounted for 88 percent of the more than \$2 billion in total revenues. As with total landed pounds, since the late 1990s the revenue split between the drift and set-net fishery has been fairly equitable.

**Figure 3. Inflation Adjusted Revenue of Sockeye and other Salmon in Cook Inlet Drift and Set Net Fisheries, 1980–2011**



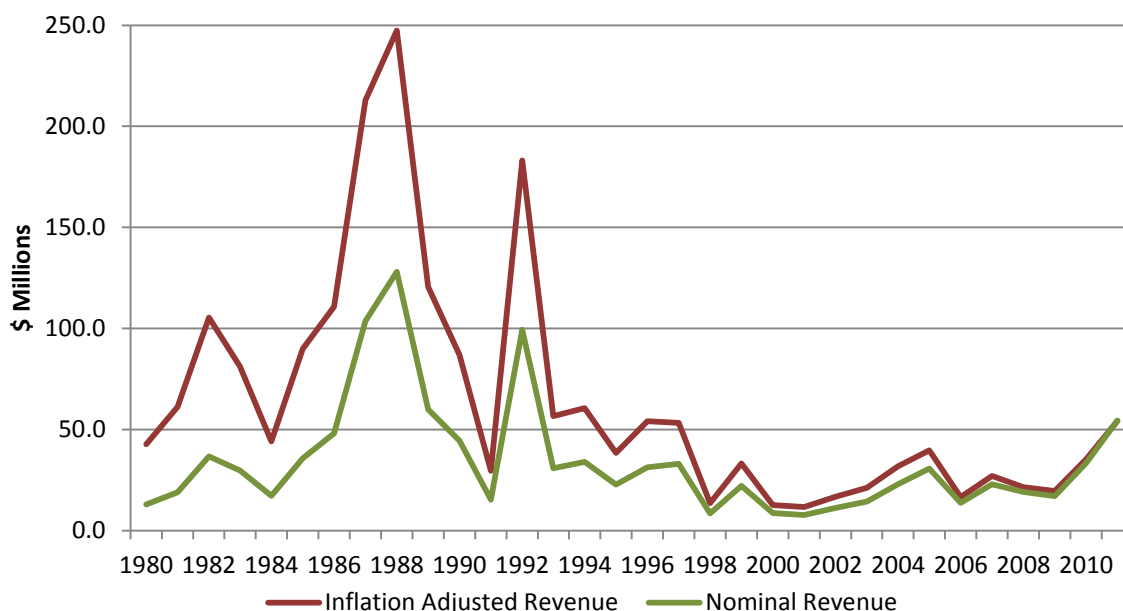
**Figure 4. Inflation Adjusted Revenue in Cook Inlet Drift and Set Net Fisheries by Gear Type, 1980–2011**



Source: Figures developed by Northern Economics based on data from ADF&G (2013, 2012a & 2012b) and the U.S. Bureau of Labor Statistics (BLS) (2013).

Figure 5 shows the impact of inflation over the 30-year period;<sup>9</sup> inflation rates before 1998 were significantly higher than in later years. In 1988—the year of peak revenues—nominal revenues were \$128 million, but after adjusting for inflation to 2012 dollars, real revenue nearly doubles to an estimated \$247 million.

**Figure 5. Inflation Adjusted Revenue in Cook Inlet Drift and Set Net Fisheries by Gear Type, 1980–2011**



Source: Figures developed by Northern Economics based on data from ADF&G (2013, 2012a & 2012b) and BLS (2013).

The following pages provide tables showing landings and revenues, in both real (inflation adjusted) and nominal dollars, for the drift and set net fisheries by species for the years 1980–2011.

- Table 4. Cook Inlet Drift Net Salmon Landings by Species, 1980–2011
- Table 5. Cook Inlet Set Net Salmon Landing by Species, 1980–2011
- Table 6. Nominal Value of Cook Inlet Drift Net Salmon Harvests, 1980–2011
- Table 7. Real Value of Cook Inlet Drift Net Salmon Harvests, 1980–2011
- Table 8. Nominal Value of Cook Inlet Set Net Salmon Harvests, 1980–2011
- Table 9. Real Value of Cook Inlet Set Net Salmon Harvests, 1980–2011

<sup>9</sup> The ratio of real dollars to nominal dollars in from 1980 is 3.27 to 1.

**Table 4. Cook Inlet Drift Net Salmon Landings by Species, 1980–2011**

Year	Chinook	Coho	Chum	Sockeye	Pink	All Species
	Landed Pounds					
1980	19,081	523,178	2,493,419	4,838,567	3,356,497	11,230,742
1981	33,411	1,508,291	5,806,125	4,236,204	196,524	11,780,555
1982	32,011	2,957,719	11,131,540	15,168,208	1,024,015	30,313,493
1983	26,208	2,237,535	8,103,868	20,962,116	90,926	31,420,653
1984	16,538	1,511,686	4,348,152	7,632,821	1,098,195	14,607,392
1985	48,846	2,550,486	5,362,718	12,024,411	117,834	20,104,295
1986	41,849	3,192,610	7,564,956	17,069,048	2,253,468	30,121,931
1987	143,647	1,299,073	1,511,333	38,766,469	141,631	41,862,153
1988	75,670	1,919,266	4,549,923	27,905,650	779,590	35,230,099
1989	0	4,904	518	0	3	5,425
1990	9,798	1,593,754	2,103,462	15,045,401	1,112,523	19,864,938
1991	4,121	1,093,005	1,443,338	6,656,331	18,743	9,215,538
1992	9,726	1,724,445	1,597,307	40,390,848	1,590,880	45,313,206
1993	16,217	722,745	529,732	15,402,037	143,229	16,813,960
1994	10,615	2,146,059	1,746,957	11,417,632	941,194	16,262,457
1995	8,338	1,536,401	3,350,141	10,371,294	221,334	15,487,508
1996	6,968	1,048,087	1,073,662	14,323,958	425,297	16,877,972
1997	11,506	493,910	674,671	14,743,133	104,053	16,027,273
1998	4,446	540,341	639,079	3,474,813	743,185	5,401,864
1999	8,751	382,370	1,331,911	8,660,198	12,507	10,395,737
2000	3,129	861,034	906,976	4,325,097	317,927	6,414,163
2001	6,567	252,359	516,641	5,378,168	108,012	6,261,747
2002	5,447	815,878	1,747,071	9,279,398	787,497	12,635,291
2003	13,985	343,808	737,463	9,697,465	108,605	10,901,326
2004	15,487	1,333,977	1,019,454	16,115,558	855,073	19,339,549
2005	28,916	923,975	474,300	15,613,864	104,695	17,145,750
2006	46,822	629,556	453,670	4,101,176	892,949	6,124,173
2007	11,417	710,942	548,389	11,889,601	248,679	13,409,028
2008	13,578	652,611	347,003	6,176,288	385,095	7,574,575
2009	7,481	556,743	539,257	6,176,662	477,762	7,757,905
2010	6,604	724,249	1,467,619	10,056,549	642,452	12,897,473
2011	6,452	246,362	748,520	20,929,469	51,651	21,982,454
<b>All Years</b>	<b>693,632</b>	<b>37,037,359</b>	<b>74,869,175</b>	<b>408,828,433</b>	<b>19,352,025</b>	<b>540,780,624</b>

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b).

Table 5. Cook Inlet Set Net Salmon Landing by Species, 1980–2011

Year	Chinook	Coho	Chum	Sockeye	Pink	All Species
	Landed Pounds					
1980	349,373	1,105,160	354,074	4,640,330	2,954,753	9,403,690
1981	261,200	1,712,554	628,564	5,340,397	527,787	8,470,502
1982	589,233	2,746,378	728,254	7,960,165	2,114,623	14,138,653
1983	601,638	1,334,129	563,953	11,725,413	217,400	14,442,533
1984	291,257	1,700,933	845,428	5,055,969	1,464,129	9,357,716
1985	645,178	2,286,043	545,707	11,019,818	261,534	14,758,280
1986	991,352	1,685,036	872,512	10,707,958	2,636,559	16,893,417
1987	1,016,012	1,671,439	984,086	25,113,906	277,687	29,063,130
1988	806,346	2,061,176	930,478	17,455,789	1,097,848	22,351,637
1989	662,529	2,262,760	897,207	33,137,271	266,934	37,226,701
1990	373,064	1,650,212	402,839	8,144,043	980,642	11,550,800
1991	300,072	1,535,714	405,411	5,704,124	40,840	7,986,161
1992	430,592	1,296,935	264,265	19,716,605	1,171,595	22,879,992
1993	515,431	1,098,409	201,050	12,649,787	206,351	14,671,028
1994	636,065	2,009,046	372,969	8,975,861	1,169,244	13,163,185
1995	504,612	1,371,873	471,509	6,403,256	379,984	9,131,234
1996	414,582	996,625	136,585	10,647,277	521,654	12,716,723
1997	370,068	506,203	110,096	12,945,416	384,793	14,316,576
1998	189,809	572,579	83,086	3,359,597	1,439,143	5,644,214
1999	352,070	356,800	95,735	6,943,153	55,796	7,803,554
2000	176,757	703,277	115,176	4,212,809	283,522	5,491,541
2001	171,705	452,038	80,265	5,702,321	192,085	6,598,413
2002	298,101	838,420	135,116	8,781,977	932,509	10,986,123
2003	371,878	317,945	126,172	11,216,288	86,897	12,119,180
2004	664,562	679,034	63,378	13,692,924	403,782	15,503,681
2005	639,078	439,665	32,049	15,462,011	54,384	16,627,187
2006	307,175	518,221	46,792	7,161,051	900,004	8,933,241
2007	355,702	437,240	26,487	9,157,129	281,605	10,258,163
2008	296,194	547,409	40,744	8,086,836	266,382	9,237,564
2009	142,174	442,656	53,623	6,501,007	243,833	7,383,293
2010	196,168	632,387	86,020	7,473,669	612,494	9,000,738
2011	218,830	289,131	119,236	13,395,618	66,500	14,089,315
<b>All Years</b>	<b>14,138,806</b>	<b>36,257,427</b>	<b>10,818,866</b>	<b>338,489,776</b>	<b>22,493,292</b>	<b>422,198,167</b>

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b).

**Table 6. Nominal Value of Cook Inlet Drift Net Salmon Harvests, 1980–2011**

Year	Chinook	Coho	Chum	Sockeye	Pink	All Species
	Ex-Vessel Value (\$)					
1980	21,940	298,173	1,321,341	4,112,250	1,141,061	6,894,765
1981	48,754	1,251,220	3,771,988	5,080,759	74,640	10,227,361
1982	40,688	2,131,353	5,459,054	16,699,098	184,478	24,514,672
1983	25,593	1,013,681	2,937,066	15,616,573	16,477	19,609,390
1984	17,585	952,525	1,669,568	7,514,843	227,056	10,381,577
1985	59,446	1,810,656	2,447,442	14,633,900	23,901	18,975,346
1986	38,813	1,973,984	2,962,351	24,625,429	348,329	29,948,905
1987	206,739	1,068,368	699,150	59,778,500	32,032	61,784,789
1988	102,373	2,396,810	3,598,611	71,730,906	300,182	78,128,882
1989	0	31,280	2,072	0	11	33,363
1990	12,803	1,301,571	1,374,268	25,393,399	302,855	28,384,895
1991	5,000	850,946	510,770	6,730,142	2,274	8,099,133
1992	14,491	1,284,646	634,631	64,191,262	237,029	66,362,059
1993	19,975	445,125	244,689	15,809,701	17,642	16,537,133
1994	10,432	1,687,300	686,757	16,270,647	111,000	18,766,136
1995	8,556	709,447	928,175	12,238,652	27,254	13,912,083
1996	7,217	434,227	211,291	17,061,614	22,025	17,736,374
1997	11,590	223,882	129,123	17,078,358	5,241	17,448,194
1998	4,317	236,100	117,903	3,880,112	64,946	4,303,378
1999	9,081	178,558	262,610	11,683,002	1,557	12,134,809
2000	3,616	361,814	181,032	3,862,072	30,059	4,438,593
2001	6,569	100,975	98,192	3,496,889	8,644	3,711,269
2002	5,950	154,996	199,140	5,288,561	37,401	5,686,049
2003	14,028	72,601	93,437	6,143,363	5,733	6,329,162
2004	16,734	288,272	132,182	11,318,356	46,195	11,801,740
2005	28,760	459,500	94,349	14,753,318	8,330	15,344,259
2006	81,709	376,674	113,099	4,498,634	89,044	5,159,160
2007	19,472	415,717	133,611	12,166,599	24,235	12,759,634
2008	25,866	284,160	75,546	7,395,517	41,920	7,823,008
2009	14,944	254,198	123,107	7,755,398	54,534	8,202,181
2010	11,643	583,728	813,221	17,730,448	161,813	19,300,854
2011	18,294	187,104	606,374	31,790,455	13,076	32,615,302
<b>All Years</b>	<b>912,977</b>	<b>23,819,594</b>	<b>32,632,149</b>	<b>536,328,759</b>	<b>3,660,976</b>	<b>597,354,455</b>

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b).

**Table 7. Real Value of Cook Inlet Drift Net Salmon Harvests, 1980–2011**

	Chinook	Coho	Chum	Sockeye	Pink	All Species
Year	Ex-Vessel Value (\$ in 2012)					
1980	71,793	975,684	4,323,705	13,456,142	3,733,792	22,561,116
1981	156,679	4,020,979	12,121,835	16,327,765	239,866	32,867,123
1982	116,897	6,123,378	15,683,862	47,976,509	530,006	70,430,653
1983	69,762	2,763,098	8,005,874	42,567,754	44,913	53,451,402
1984	44,828	2,428,220	4,256,139	19,157,181	578,822	26,465,191
1985	149,031	4,539,280	6,135,691	36,686,906	59,919	47,570,828
1986	89,279	4,540,637	6,814,118	56,644,402	801,239	68,889,675
1987	424,258	2,192,445	1,434,755	122,674,023	65,733	126,791,213
1988	197,792	4,630,824	6,952,796	138,589,706	579,976	150,951,095
1989	0	62,888	4,166	0	22	67,076
1990	24,988	2,540,363	2,682,249	49,561,980	591,102	55,400,682
1991	9,609	1,635,297	981,567	12,933,578	4,370	15,564,421
1992	26,671	2,364,375	1,168,030	118,143,174	436,249	122,138,498
1993	36,671	817,153	449,196	29,023,177	32,388	30,358,583
1994	18,570	3,003,478	1,222,461	28,962,558	197,585	33,404,652
1995	14,392	1,193,349	1,561,268	20,586,444	45,844	23,401,297
1996	12,498	751,979	365,906	29,546,725	38,143	30,715,252
1997	18,696	361,152	208,294	27,549,761	8,454	28,146,357
1998	6,770	370,259	184,898	6,084,914	101,851	6,748,693
1999	13,667	268,726	395,223	17,582,642	2,344	18,262,601
2000	5,244	524,731	262,546	5,601,076	43,594	6,437,192
2001	9,891	152,044	147,854	5,265,494	13,015	5,588,300
2002	8,941	232,900	299,231	7,946,672	56,200	8,543,943
2003	20,636	106,801	137,452	9,037,318	8,434	9,310,641
2004	23,304	401,457	184,081	15,762,306	64,333	16,435,482
2005	37,120	593,057	121,773	19,041,457	10,752	19,804,158
2006	98,883	455,848	136,872	5,444,219	107,761	6,243,583
2007	23,040	491,909	158,099	14,396,474	28,677	15,098,200
2008	29,096	319,652	84,982	8,319,233	47,155	8,800,118
2009	17,112	291,077	140,967	8,880,533	62,446	9,392,135
2010	12,280	615,657	857,704	18,700,286	170,664	20,356,591
2011	18,275	186,909	605,741	31,757,294	13,062	32,581,280
<b>All Year</b>	<b>1,806,672</b>	<b>49,955,609</b>	<b>78,089,336</b>	<b>984,207,705</b>	<b>8,718,710</b>	<b>1,122,778,031</b>

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b) and BLS (2013).

**Table 8. Nominal Value of Cook Inlet Set Net Salmon Harvests, 1980–2011**

Year	Chinook	Coho	Chum	Sockeye	Pink	All Species
	Ex-Vessel Value (\$)					
1980	402,271	630,712	187,889	3,949,107	1,005,845	6,175,824
1981	381,991	1,423,803	409,252	6,419,220	200,895	8,835,161
1982	747,336	1,974,778	356,373	8,744,604	380,129	12,203,219
1983	586,996	603,863	204,208	8,727,460	39,360	10,161,888
1984	308,630	1,068,083	323,504	4,960,692	301,673	6,962,581
1985	821,690	1,698,359	260,627	14,034,690	55,514	16,870,880
1986	924,459	1,047,557	343,536	15,532,877	409,775	18,258,204
1987	1,457,580	1,370,207	453,786	38,602,112	62,601	41,946,286
1988	1,096,239	2,586,646	739,538	45,089,670	424,800	49,936,893
1989	835,915	1,712,960	425,636	56,860,812	107,773	59,943,096
1990	488,042	1,349,254	263,497	13,761,462	267,266	16,129,521
1991	358,533	1,177,397	141,282	5,679,510	4,880	7,361,601
1992	639,213	962,650	104,614	31,220,568	173,923	33,100,968
1993	630,608	671,929	92,241	12,897,069	25,246	14,317,093
1994	624,810	1,578,797	146,548	12,784,697	137,826	15,272,678
1995	520,836	637,192	131,401	7,600,502	47,064	8,936,995
1996	429,157	412,665	26,863	12,674,823	27,000	13,570,507
1997	372,754	229,444	21,070	14,995,266	19,379	15,637,913
1998	185,350	251,608	15,416	3,772,782	126,480	4,351,636
1999	367,903	167,781	19,008	9,432,016	6,997	9,993,704
2000	204,655	296,101	23,034	3,769,152	26,859	4,319,800
2001	171,360	180,452	15,220	3,699,062	15,336	4,081,429
2002	325,511	159,219	15,395	5,003,199	44,272	5,547,596
2003	398,663	71,757	17,085	7,594,199	4,903	8,086,607
2004	759,650	155,239	8,694	10,173,901	23,078	11,120,561
2005	632,887	217,703	6,348	14,546,621	4,309	15,407,868
2006	523,179	302,617	11,385	7,666,483	87,593	8,591,257
2007	601,590	253,541	6,400	9,292,339	27,216	10,181,085
2008	609,535	257,488	9,582	10,460,583	31,325	11,368,513
2009	292,966	208,490	12,628	8,420,370	28,711	8,963,165
2010	344,058	507,037	47,416	13,108,057	153,465	14,160,033
2011	635,742	224,995	98,972	20,848,269	17,250	21,825,227
<b>All Years</b>	<b>17,680,109</b>	<b>24,390,318</b>	<b>4,938,445</b>	<b>442,322,174</b>	<b>4,288,743</b>	<b>493,619,789</b>

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b) and BLS (2013).



**Table 9. Real Value of Cook Inlet Set Net Salmon Harvests, 1980–2011**

Year	Chinook	Coho	Chum	Sockeye	Pink	All Species
	Ex-Vessel Value (\$ in 2012)					
1980	1,316,314	2,063,822	614,812	12,922,306	3,291,337	20,208,590
1981	1,227,585	4,575,599	1,315,190	20,629,104	645,606	28,393,085
1982	2,147,098	5,673,536	1,023,859	25,123,246	1,092,110	35,059,848
1983	1,600,037	1,646,013	556,632	23,789,368	107,289	27,699,340
1984	786,773	2,722,806	824,690	12,646,022	769,039	17,749,330
1985	2,059,961	4,257,754	653,387	35,184,697	139,173	42,294,972
1986	2,126,477	2,409,633	790,215	35,729,347	942,582	41,998,255
1987	2,991,162	2,811,860	931,234	79,217,048	128,467	86,079,771
1988	2,118,020	4,997,601	1,428,845	87,116,760	820,747	96,481,973
1989	1,680,605	3,443,900	855,739	114,318,484	216,678	120,515,406
1990	952,544	2,633,429	514,284	26,859,157	521,640	31,481,056
1991	689,006	2,262,650	271,506	10,914,537	9,377	14,147,077
1992	1,176,464	1,771,744	192,540	57,461,046	320,103	60,921,897
1993	1,157,660	1,233,515	169,335	23,676,217	46,346	26,283,072
1994	1,112,192	2,810,336	260,862	22,757,395	245,338	27,186,124
1995	876,090	1,071,810	221,027	12,784,686	79,166	15,032,779
1996	743,199	714,639	46,521	21,949,828	46,757	23,500,944
1997	601,303	370,126	33,989	24,189,443	31,261	25,226,122
1998	290,672	394,580	24,175	5,916,595	198,350	6,824,372
1999	553,686	252,506	28,606	14,194,962	10,530	15,040,289
2000	296,806	429,428	33,406	5,466,317	38,952	6,264,909
2001	258,028	271,718	22,917	5,569,918	23,092	6,145,674
2002	489,118	239,245	23,133	7,517,882	66,523	8,335,901
2003	586,461	105,559	25,134	11,171,599	7,213	11,895,966
2004	1,057,913	216,190	12,107	14,168,501	32,139	15,486,850
2005	816,840	280,980	8,193	18,774,682	5,561	19,886,256
2006	633,147	366,225	13,778	9,277,930	106,005	10,397,086
2007	711,848	300,009	7,572	10,995,425	32,204	12,047,058
2008	685,667	289,648	10,779	11,767,132	35,237	12,788,464
2009	335,469	238,737	14,460	9,641,978	32,876	10,263,521
2010	362,878	534,771	50,010	13,825,054	161,859	14,934,572
2011	635,079	224,760	98,869	20,826,522	17,232	21,802,461
<b>All Years</b>	<b>33,076,103</b>	<b>51,615,129</b>	<b>11,077,806</b>	<b>806,383,190</b>	<b>10,220,792</b>	<b>912,373,020</b>

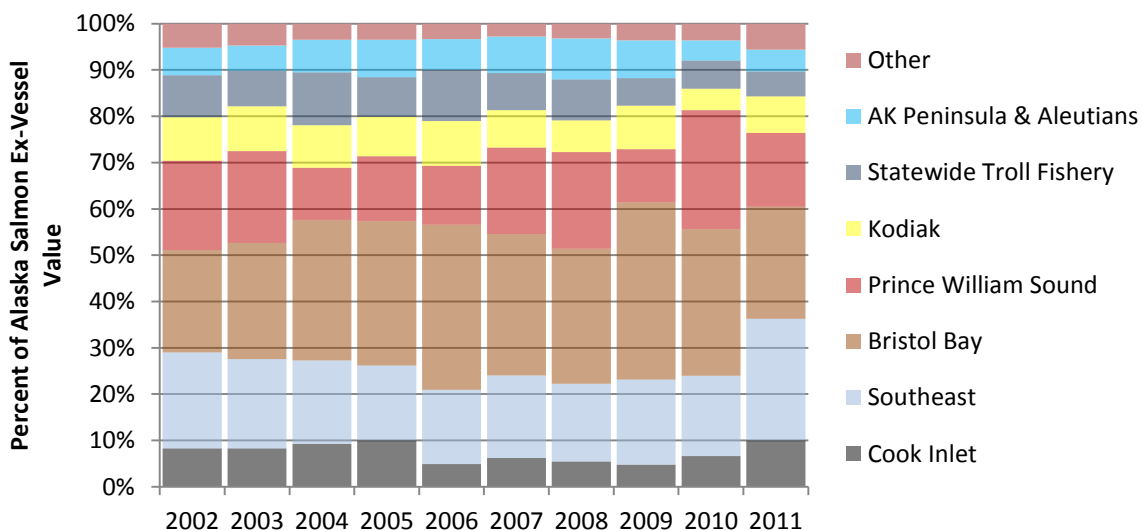
Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Table developed by Northern Economics using data taken from ADF&G (2013, 2012a, and 2012b) and BLS (2013).

### 3 Cook Inlet Salmon Fisheries Relative to Other Alaska Salmon Fisheries

This section compares the Cook Inlet salmon fisheries (drift-net, set-net and purse seine) to other Alaska salmon fisheries. We have included the Cook Inlet purse seine and hatchery cost recovery fisheries in this section in order to make an apples to apples comparison across regions. As seen in Figure 6 and Table 10, Cook Inlet fisheries can account for as much as 10 percent of all Alaska ex-vessel salmon values across regions. Table 11, on the following page, shows the volume of Cook Inlet salmon fisheries relative to other regions.

**Figure 6. Alaska Salmon Fisheries by Region 2002–2011**



Source: Figure developed by Northern Economics based on data from Commercial Fisheries Entry Commission (CFEC), 2013.

**Table 10. Ex-Vessel Value of the Cook Inlet Salmon Fishery Relative to other Alaska Salmon Fisheries**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Fishery Region	Ex-Vessel Value (\$, Millions)									
Southeast	29.98	37.25	45.88	50.54	50.43	68.98	69.53	71.39	90.41	148.55
Bristol Bay	32.03	48.42	77.33	97.96	112.04	118.01	121.10	148.51	165.16	136.46
Prince William Sound	27.92	38.29	28.81	44.00	39.76	72.22	86.59	44.55	134.06	90.31
Kodiak	13.61	18.73	23.45	26.71	30.55	31.29	28.31	36.65	23.95	44.31
<b>Cook Inlet</b>	<b>16.4</b>	<b>18.4</b>	<b>25.8</b>	<b>33.6</b>	<b>19.9</b>	<b>24.9</b>	<b>24.3</b>	<b>22.1</b>	<b>34.9</b>	<b>54.2</b>
Statewide Troll Fishery	13.16	14.81	29.04	26.81	34.65	31.01	36.59	23.00	31.94	30.50
AK Peninsula & Aleutians	8.58	10.53	17.93	25.50	20.77	30.40	36.69	31.68	22.41	26.62
Chignik	5.35	6.09	4.19	6.63	4.76	5.80	8.70	9.93	12.51	23.81
Yukon, Kuksokwim & NW	2.24	3.00	4.74	4.21	5.78	4.94	4.72	4.09	6.54	7.87
<b>All Alaska Regions</b>	<b>144.93</b>	<b>193.09</b>	<b>255.01</b>	<b>313.9</b>	<b>314.06</b>	<b>386.72</b>	<b>414.87</b>	<b>388.39</b>	<b>521.45</b>	<b>564.95</b>

Note: Includes all Cook Inlet salmon fisheries—drift-net, set-net, and purse seine and hatchery cost recovery. Other regions do not include values from cost recovery fisheries.

Source: Table developed by Northern Economics based on data from CFEC, 2013.

**Table 11. Cook Inlet Salmon Fishery Volume Relative to Other Alaska Salmon Fisheries**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Fishery Region</b>	<b>Landed Pounds (Millions)</b>									
Southeast	203.11	242.37	240.81	256.86	142.38	223.53	120.01	177.97	157.64	276.17
Bristol Bay	68.07	99.64	155.22	165.61	180.91	185.82	169.24	192.14	181.23	139.91
Prince William Sound	80.27	119.59	70.41	191.55	73.89	213.71	166.05	68.37	276.54	117.35
Kodiak	86.89	76.73	104.96	117.14	129.86	102.95	45.86	103.58	43.15	68.41
AK Peninsula & Aleutians	29.60	37.58	55.89	70.22	54.15	71.58	79.36	70.83	31.86	45.34
<b>Cook Inlet</b>	<b>28.42</b>	<b>26.54</b>	<b>37.19</b>	<b>35.72</b>	<b>20.69</b>	<b>25.41</b>	<b>21.41</b>	<b>19.04</b>	<b>23.72</b>	<b>38.26</b>
Statewide Troll Fishery	17.33	17.74	21.88	20.28	16.35	15.46	14.01	16.41	17.59	19.16
Chignik	8.16	10.42	4.48	7.92	7.88	14.37	15.92	15.43	16.24	23.17
Yukon, Kuksokwim & NW	2.08	5.22	7.06	7.31	8.43	8.46	8.56	7.66	8.85	10.48
All Alaska Regions	<b>523.93</b>	<b>635.83</b>	<b>697.9</b>	<b>872.61</b>	<b>634.54</b>	<b>861.29</b>	<b>640.42</b>	<b>671.43</b>	<b>756.82</b>	<b>738.25</b>

Note: Includes all Cook Inlet commercial salmon fisheries—drift-net, set-net, and purse seine. Hatchery cost recovery landings are not included.

Source: Table developed by Northern Economics based on data from CFEC, 2013.

## 4 Cook Inlet Salmon Permit Holders and Crew

### 4.1 Description of Permit Holders

Figure 7 shows the number of Cook Inlet permit holders by fishery. The total number of permit holders has been stable at roughly 1,350 with only a very slight downward trend. The reduction is due to decreases in both drift and set net permits; the number of drift-net permit holders dropped from 597 to 566 between 1980 and 2010. Over this same period, the number of set-net permit holders dropped from 747 to 732. In 2011, a regulatory change was enacted that allowed the use of two permits by a single permit holder (i.e. permit stacking). As a result of the change, the number of set-net permit holders further declined to 693.

**Figure 7. Cook Inlet Drift and Set Net Permit Holders by Fishery, 1980–2011**

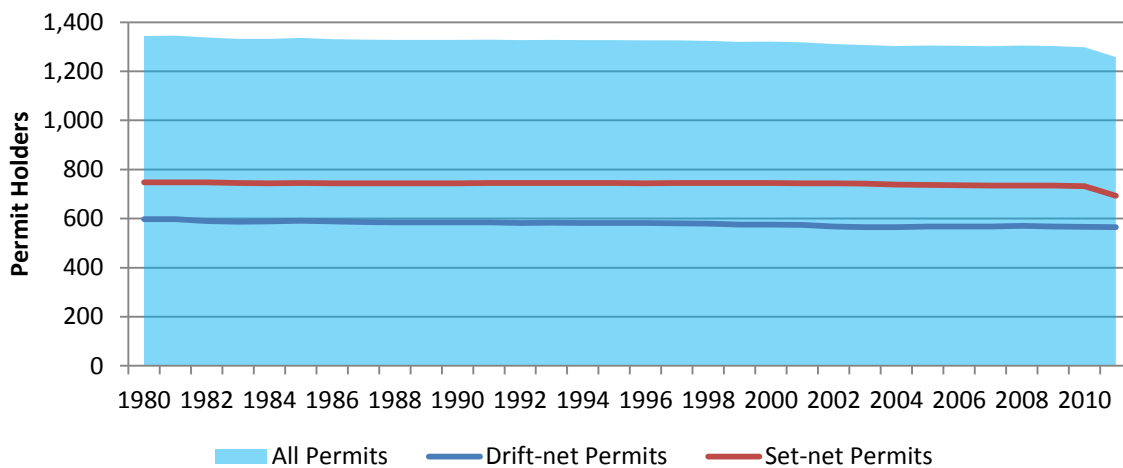
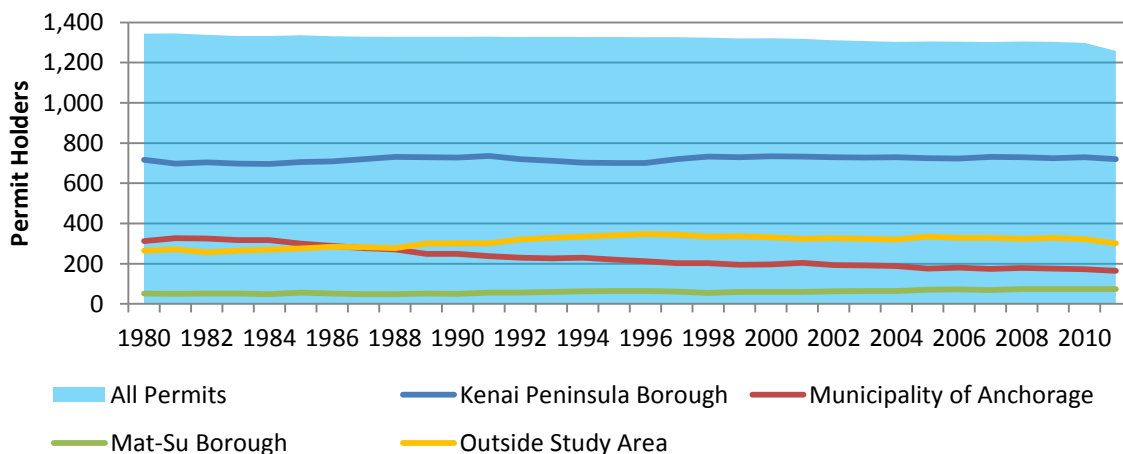


Figure 8 summarizes the residency of permit holders over both types of gear. Residents of the Kenai Peninsula Borough have owned more than half (roughly 54 percent) of the permits over the 32-year period shown. The number of Anchorage permit holders has declined from 23 percent in 1980 to just 13 percent in 2011.

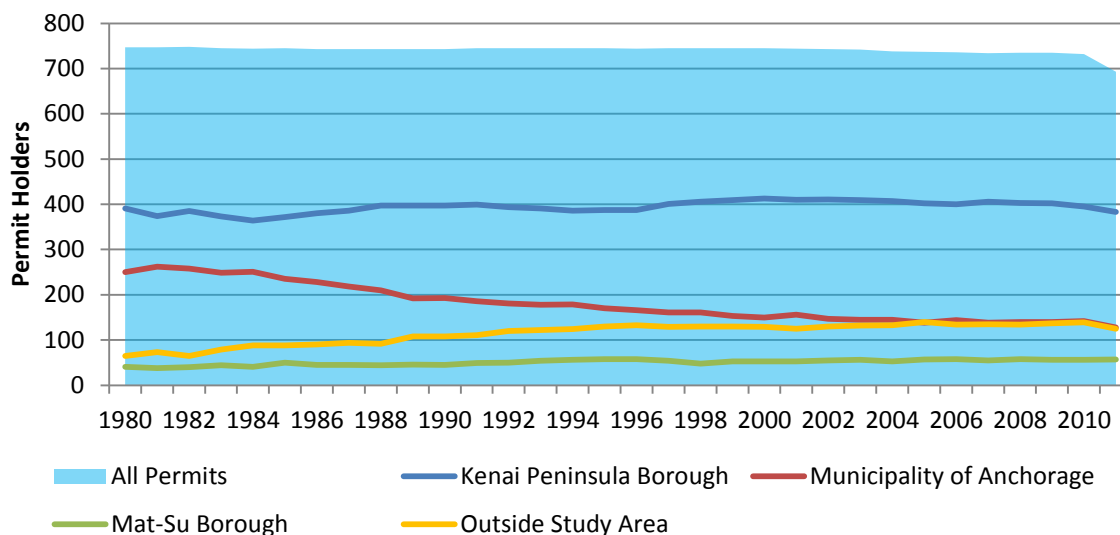
**Figure 8. Cook Inlet Drift and Set Net Permit Holders by Place of Residence, 1980–2011**



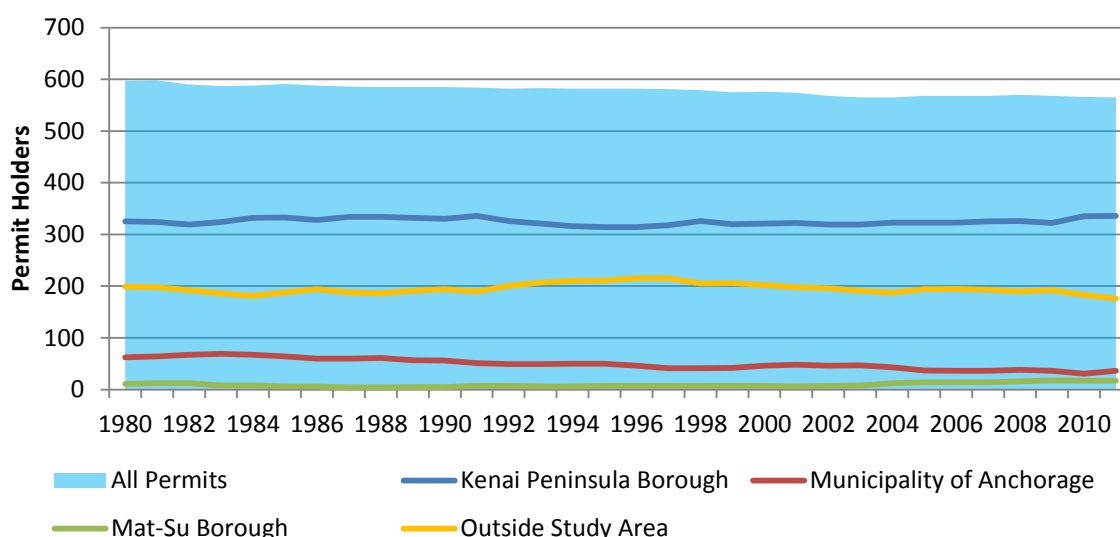
Source: Figures developed by Northern Economics based on data from CFEC (2013).

As shown in Figure 9, the decline in the number of Anchorage permit holders is seen primarily in the set-net fishery—Anchorage set-net permit ownership peaked in 1981 at 262, but by 2011 the number of Anchorage permit owners fell to 125, a 50 percent decline. The number of Anchorage drift-net permit owners also fell by roughly 50 percent from 69 in 1983 to a low of 31 in 2010 (see Figure 10). Permit ownership in both fisheries by residents of the Kenai Peninsula Borough has been fairly stable, while ownership in the Mat-Su Borough as seen some increases, particularly in the set-net fishery. The biggest gainers in the set-net fishery have been residents from outside the study area—growing from 65 in 1980 to 139 in 2010.

**Figure 9. Cook Inlet Set-Net Permit Holders by Place of Residence, 1980–2011**



**Figure 10. Cook Inlet Drift-Net Permit Holders by Place of Residence, 1980–2011**

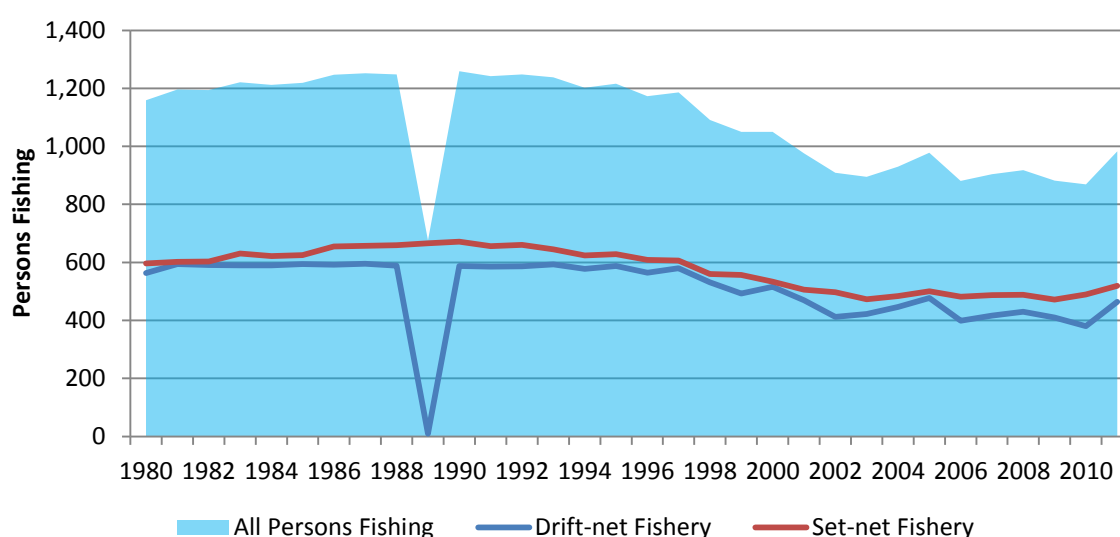


Source: Figures developed by Northern Economics based on data from CFEC (2013).

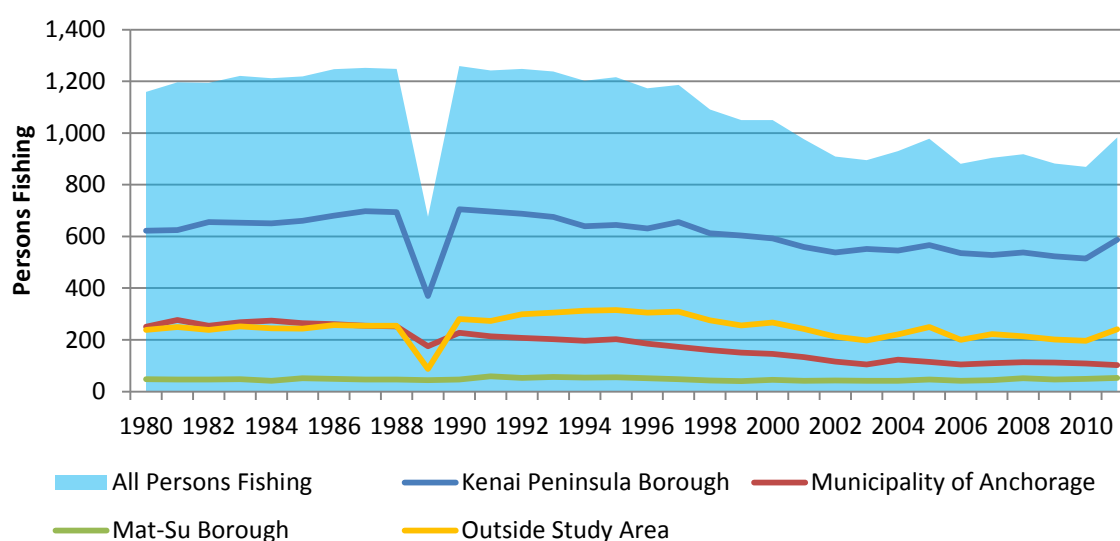
Figure 11 shows the number of persons fishing their permits (i.e. active permit holders) in the set and drift net fisheries in Cook Inlet from 1980–2011. The closure of the drift-net fishery in 1989 due to the Exxon Valdez oil spill is clearly seen in the figure. Note that the set-net fishery was not shut down that year. The number of active permits peaked in 1990 with 1,259 persons fishing their permits or 95 percent of the number of permit holders. Since then there has been a steady decline in the persons fishing with a low for the set-net fishery at 472 in 2009 and a low in the drift-net fishery in 2010 at 380.

Figure 12 shows the number of persons fishing their permits by place of residence. The general trend (a peak around 1990 followed with a steady decline in activity) is seen in all of the ownership regions with the exception of the Mat-Su Borough, where the number of residents active in the fisheries has actually increased in recent years.

**Figure 11. Number of Persons Fishing Cook Inlet Drift and Set Net Permits by Fishery, 1980–2011**



**Figure 12. Persons Fishing Cook Inlet Drift and Set Net Permits by Place of Residence, 1980–2011**

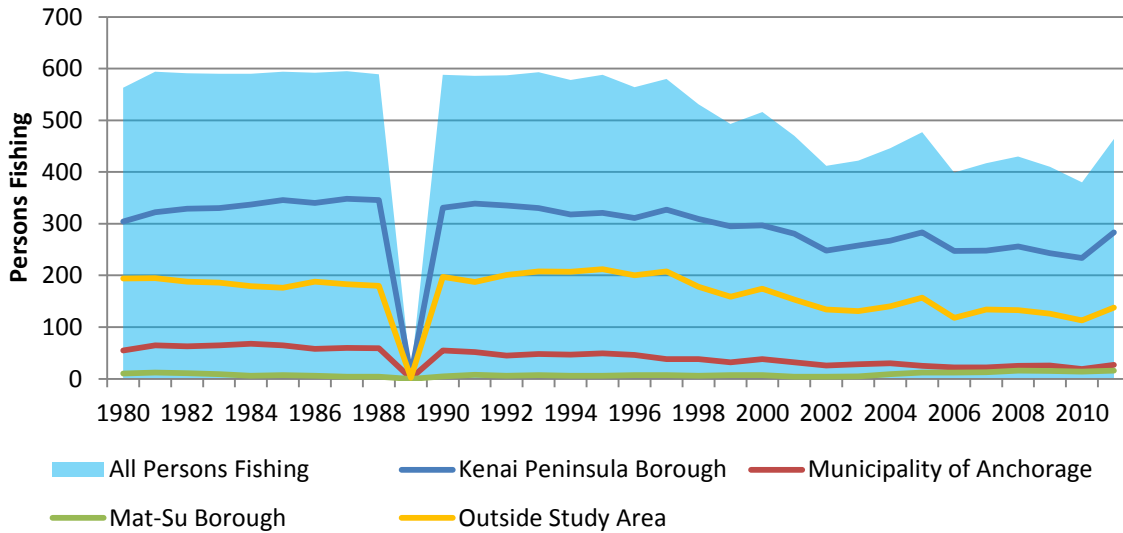


Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

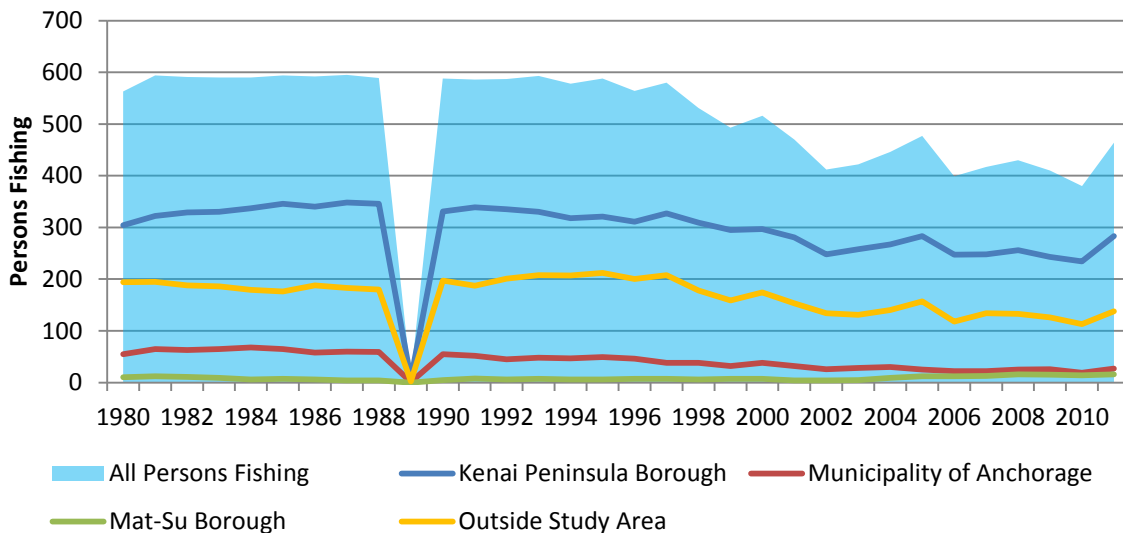
Source: Figures developed by Northern Economics based on data from CFEC (2013).

Figure 13 and Figure 14 show the number of persons fishing by place of residence in the Cook Inlet drift and set net fisheries. In general, the activity patterns are very similar to permit ownership patterns.

**Figure 13. Persons Fishing Cook Inlet Set-Net Permits by Place of Residence, 1980–2011**



**Figure 14. Persons Fishing Cook Inlet Drift-Net Permits by Place of Residence, 1980–2011**



Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.  
Source: Figures developed by Northern Economics based on data from CFEC (2013).

Table 12 through Table 15 provide the numbers of permit holders and persons fishing by borough of residence in the drift and set net fisheries in Cook Inlet.

**Table 12. Drift-Net Permit Holders by Place of Residence**

<b>Year</b>	<b>Kenai Peninsula Borough</b>	<b>Municipality of Anchorage</b>	<b>Mat-Su Borough</b>	<b>Outside Study Area</b>	<b>All Permits</b>
1980	325	62	11	199	597
1981	324	64	12	198	598
1982	319	67	12	192	590
1983	324	69	8	186	587
1984	332	67	8	181	588
1985	333	64	6	188	591
1986	328	60	6	194	588
1987	334	60	4	188	586
1988	334	61	4	186	585
1989	332	57	5	191	585
1990	330	56	5	194	585
1991	336	51	7	190	584
1992	326	49	7	200	582
1993	321	49	6	207	583
1994	316	50	6	210	582
1995	314	50	7	211	582
1996	314	46	7	215	582
1997	318	41	7	215	581
1998	326	41	7	205	579
1999	320	42	7	206	575
2000	321	46	7	202	576
2001	322	48	6	198	574
2002	319	46	7	196	568
2003	319	47	8	191	565
2004	323	43	12	187	565
2005	323	37	14	194	568
2006	323	36	14	195	568
2007	325	36	14	193	568
2008	326	38	16	190	570
2009	322	36	18	192	568
2010	335	31	17	183	566
2011	336	36	17	176	565

Source: Tables developed by Northern Economics using data from CFEC (2013).



**Table 13. Set-Net Permit Holders by Place of Residence**

<b>Year</b>	<b>Kenai Peninsula Borough</b>	<b>Municipality of Anchorage</b>	<b>Mat-Su Borough</b>	<b>Outside Study Area</b>	<b>All Permits</b>
1980	391	250	41	65	747
1981	374	262	38	73	747
1982	385	258	40	65	748
1983	373	249	44	79	745
1984	364	251	41	88	744
1985	372	235	50	88	745
1986	380	228	45	90	743
1987	386	218	45	94	743
1988	397	210	44	92	743
1989	397	192	46	108	743
1990	397	193	45	108	743
1991	399	186	49	111	745
1992	394	181	50	120	745
1993	391	178	54	122	745
1994	386	179	56	124	745
1995	387	170	58	130	745
1996	387	166	58	133	744
1997	401	161	54	129	745
1998	406	161	48	130	745
1999	409	153	53	130	745
2000	413	150	53	129	745
2001	410	156	53	125	744
2002	411	147	55	130	743
2003	409	145	56	132	742
2004	407	145	53	133	738
2005	402	138	57	140	737
2006	400	144	58	134	736
2007	406	138	55	135	734
2008	403	140	58	134	735
2009	402	140	56	137	735
2010	395	142	56	139	732
2011	383	128	57	125	693

Source: Tables developed by Northern Economics using data from CFEC (2013).

Table 14. Cook Inlet Drift-Net Persons Fishing by Place of Residence

Year	Kenai Peninsula Borough	Municipality of Anchorage	Mat-Su Borough	Outside Study Area	All Permits
1980	304	55	10	194	563
1981	322	65	12	195	594
1982	329	63	11	188	591
1983	330	65	9	186	590
1984	337	68	6	179	590
1985	346	65	7	176	594
1986	340	58	6	188	592
1987	348	60	4	183	595
1988	346	59	4	180	589
1989	7	1	0	2	10
1990	331	55	5	197	588
1991	339	52	8	187	586
1992	335	45	6	201	587
1993	330	48	7	208	593
1994	318	47	6	207	578
1995	321	49	6	212	588
1996	311	46	7	200	564
1997	327	38	7	208	580
1998	309	38	6	178	531
1999	295	32	7	159	493
2000	297	38	7	174	516
2001	281	32	4	153	470
2002	248	26	4	134	412
2003	258	28	5	131	422
2004	267	30	9	140	446
2005	283	25	12	157	477
2006	247	22	12	118	399
2007	248	22	13	134	417
2008	256	25	16	133	430
2009	243	26	15	126	410
2010	234	19	14	113	380
2011	283	27	16	138	464

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from CFEC (2013).

Table 15. Set-Net Persons Fishing by Place of Residence

Year	Kenai Peninsula Borough	Municipality of Anchorage	Mat-Su Borough	Outside Study Area	All Permits
1980	318	196	38	44	596
1981	302	212	34	54	602
1982	326	192	35	50	603
1983	323	203	39	66	631
1984	314	206	36	66	622
1985	315	199	44	67	625
1986	340	203	43	69	655
1987	349	194	43	71	657
1988	348	193	43	75	659
1989	362	174	44	86	666
1990	374	172	42	83	671
1991	357	162	51	86	656
1992	353	163	47	98	661
1993	345	154	49	97	645
1994	321	149	48	106	624
1995	323	153	49	103	628
1996	320	139	45	105	609
1997	329	135	41	101	606
1998	303	123	37	97	560
1999	309	118	33	97	557
2000	296	107	38	93	534
2001	278	101	38	89	506
2002	290	90	39	78	497
2003	293	77	37	66	473
2004	278	93	32	81	484
2005	284	90	34	93	501
2006	288	83	29	82	482
2007	280	88	31	88	487
2008	282	89	36	81	488
2009	280	86	31	75	472
2010	281	90	35	83	489
2011	304	75	37	103	519

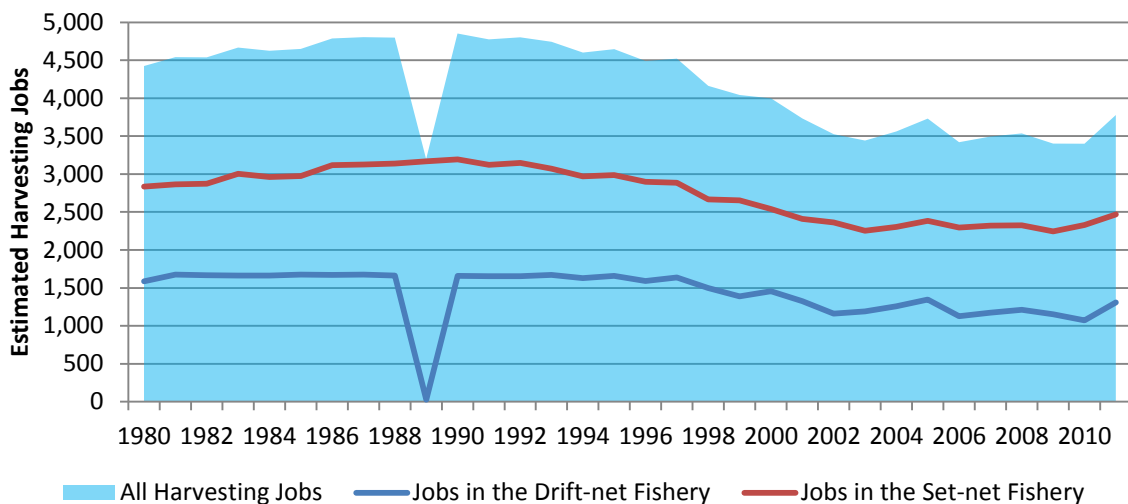
Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from CFEC (2013).

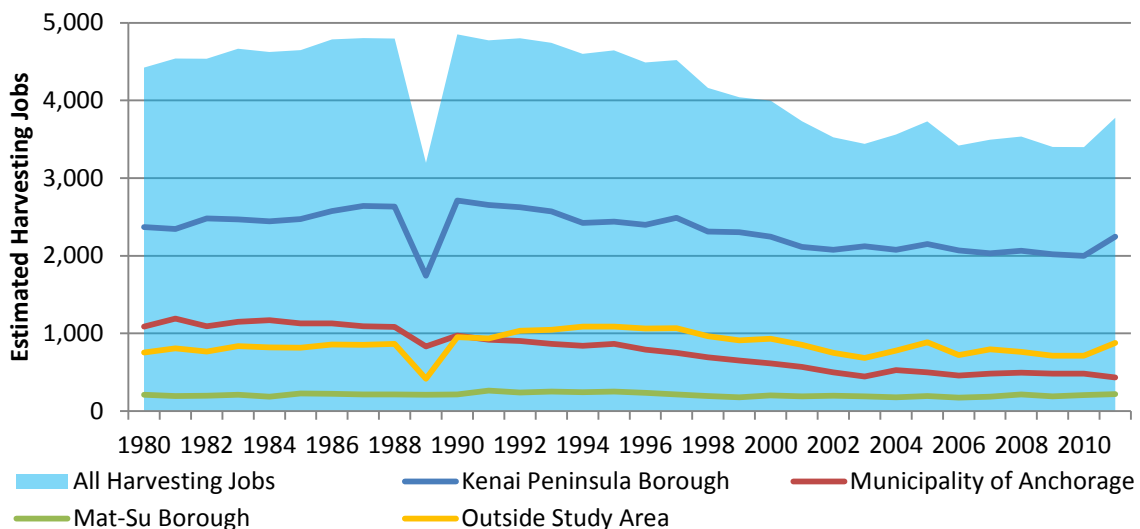
## 4.2 Estimated Harvesting Jobs

Estimates of the number of harvesting jobs were developed based on crew factors from 2012 provided by the Alaska Department of Labor and Workforce Development (ADOLWD) (Warren, 2013). ADOLWD develops these crew factors based on a survey of permit holders they conduct on a regular basis. In the Cook Inlet drift-net fishery, the crew factor is 1.82 crew jobs per permit, while in the set-net fishery the factor is 3.76 crew jobs per permit. It should be noted that the crew factors do not include the permit holder. The estimates of total harvester jobs in each fishery were calculated by multiplying these crew factors by the number of persons fishing each year, and then adding the estimated crew count to the number of persons fishing. It is also assumed that crew members are hired by the permit holder and that crew members come from the permit holder's community. Figure 15 shows the contributions to jobs by gear, while Figure 16 shows the number of jobs by residence.

**Figure 15. Estimated Harvesting Jobs in the Cook Inlet Drift and Set Net Fisheries, 1980–2011**



**Figure 16. Estimated Harvesting Jobs in the Cook Inlet Drift and Set Net Fisheries by Place of Residence**



Notes: Estimates include both crew and permit holder and assume the permit holder is the skipper. Also note that the Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.  
Source: Tables developed by Northern Economics using data from CFEC (2013) and Warren (2013).

**Table 16. Estimated Harvesting Jobs in the Cook Inlet Drift-Net Fishery by Place of Residence, 1980–2011**

Year	Kenai Peninsula Borough	Municipality of Anchorage	Mat-Su Borough	Outside Study Area	Total Harvesting Jobs
1980	857	155	28	547	1,587
1981	908	183	34	550	1,675
1982	928	178	31	530	1,667
1983	931	183	25	525	1,664
1984	950	192	17	505	1,664
1985	976	183	20	496	1,675
1986	959	164	17	530	1,670
1987	981	169	11	516	1,677
1988	976	166	11	508	1,661
1989	20	3	0	6	29
1990	933	155	14	556	1,658
1991	956	147	23	527	1,653
1992	945	127	17	567	1,656
1993	931	135	20	587	1,673
1994	897	133	17	584	1,631
1995	905	138	17	598	1,658
1996	877	130	20	564	1,591
1997	922	107	20	587	1,636
1998	871	107	17	502	1,497
1999	832	90	20	448	1,390
2000	838	107	20	491	1,456
2001	792	90	11	431	1,324
2002	699	73	11	378	1,161
2003	728	79	14	369	1,190
2004	753	85	25	395	1,258
2005	798	71	34	443	1,346
2006	697	62	34	333	1,126
2007	699	62	37	378	1,176
2008	722	71	45	375	1,213
2009	685	73	42	355	1,155
2010	660	54	39	319	1,072
2011	798	76	45	389	1,308

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from CFEC (2013) and Warren (2013).

**Table 17. Estimated Harvesting Jobs in the Cook Inlet Set-net Fishery by Place of Residence, 1980–2011**

<b>Year</b>	<b>Kenai Peninsula Borough</b>	<b>Municipality of Anchorage</b>	<b>Mat-Su Borough</b>	<b>Outside Study Area</b>	<b>Total Harvesting Jobs</b>
1980	1,514	933	181	209	2,837
1981	1,438	1,009	162	257	2,866
1982	1,552	914	167	238	2,871
1983	1,537	966	186	314	3,003
1984	1,495	981	171	314	2,961
1985	1,499	947	209	319	2,974
1986	1,618	966	205	328	3,117
1987	1,661	923	205	338	3,127
1988	1,656	919	205	357	3,137
1989	1,723	828	209	409	3,169
1990	1,780	819	200	395	3,194
1991	1,699	771	243	409	3,122
1992	1,680	776	224	466	3,146
1993	1,642	733	233	462	3,070
1994	1,528	709	228	505	2,970
1995	1,537	728	233	490	2,988
1996	1,523	662	214	500	2,899
1997	1,566	643	195	481	2,885
1998	1,442	585	176	462	2,665
1999	1,471	562	157	462	2,652
2000	1,409	509	181	443	2,542
2001	1,323	481	181	424	2,409
2002	1,380	428	186	371	2,365
2003	1,395	367	176	314	2,252
2004	1,323	443	152	386	2,304
2005	1,352	428	162	443	2,385
2006	1,371	395	138	390	2,294
2007	1,333	419	148	419	2,319
2008	1,342	424	171	386	2,323
2009	1,333	409	148	357	2,247
2010	1,338	428	167	395	2,328
2011	1,447	357	176	490	2,470

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

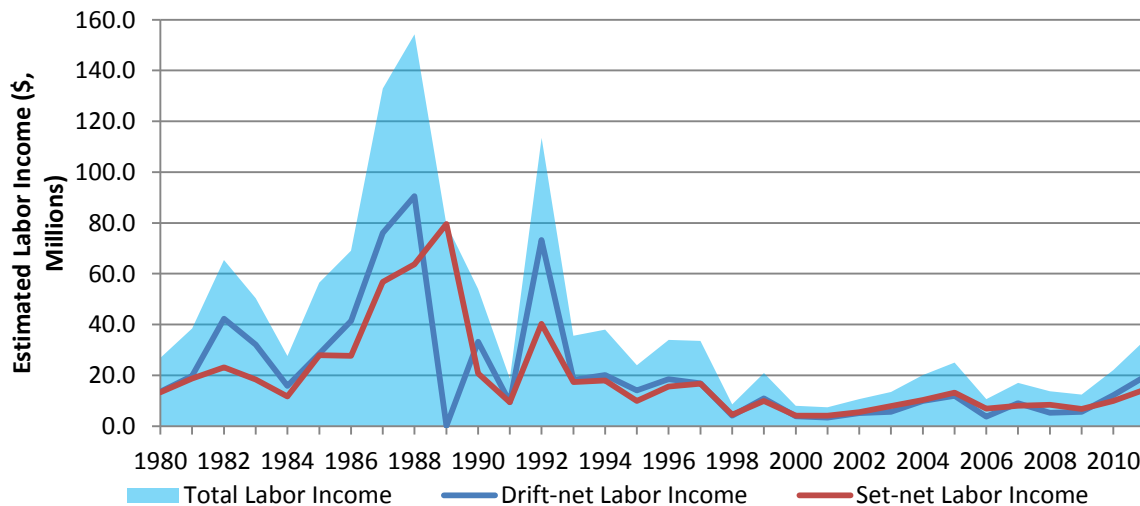
Source: Tables developed by Northern Economics using data from CFEC (2013) and Warren (2013).

### 4.3 Estimated Labor Income to Crew and Permit Holders

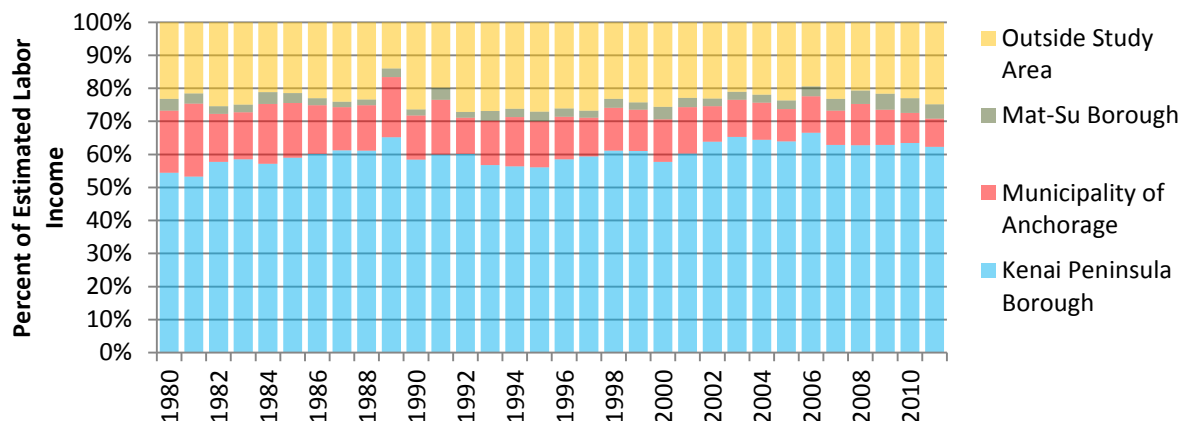
In this section we develop estimates of the labor income that is generated in the Cook Inlet set and drift net fisheries. We define labor income as the estimated portion of total ex-vessel revenues that accrue to either crew members or to permit holders. Based on interviews of key informants in the Cook Inlet fisheries we assume that labor income in the drift-net fishery is 60 percent of total ex-vessel revenue, with the remaining 40 percent going to expenses such as food, fuel maintenance, etc. In the set-net fishery we assume that labor income is 66 percent of total revenue.

Figure 17 shows estimated of labor income (adjusted for inflation) generated in the Cook Inlet drift and set net fisheries from 1981–2010. The income estimates have been adjusted for inflation. Note that the basic shape of the area and line mirrors those seen in Figure 4 on page 6 (which shows estimated ex-vessel values). Total inflation-adjusted labor income peaked in 1988 at \$154 million. In 2011, labor income is estimated at \$34 million. Figure 18 shows the estimated distribution of labor income by place of residence. The distribution has been fairly stable with roughly 60 percent accruing to residents of the Kenai Peninsula Borough and 16 percent to Anchorage and Mat-Su residents.

**Figure 17. Estimated Labor Income in the Cook Inlet Drift and Set-Net Fisheries, 1980–2011**



**Figure 18 Distribution of Labor Income in the Cook Inlet Set and Drift Net Fisheries by Place of Residence**



Notes: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics using data from key informants and CFEC (2013).

**Table 18. Estimated Real Labor Income from the Cook Inlet Drift-Net Fishery by Place of Residence**

Year	Kenai Peninsula Borough	Municipality of Anchorage	Mat-Su Borough	Outside Study Area	Total Labor Income
	Estimated Real Labor Income in 2012 \$				
1980	6,978,569	1,150,846	229,231	5,178,023	13,536,666
1981	10,797,984	1,874,957	352,450	6,694,884	19,720,275
1982	23,544,706	3,902,749	656,417	14,154,518	42,258,391
1983	18,223,033	3,009,680	471,742	10,366,386	32,070,841
1984	9,610,970	1,518,611	169,025	4,580,508	15,879,114
1985	17,001,918	2,811,677	276,776	8,452,128	28,542,498
1986	24,479,453	3,751,641	381,794	12,720,917	41,333,805
1987	44,774,365	6,703,955	419,160	24,177,245	76,074,727
1988	53,760,374	8,380,218	616,070	27,813,994	90,570,657
1989	28,171	4,025	0	8,050	40,246
1990	19,135,535	2,768,988	241,826	11,094,060	33,240,407
1991	5,837,163	724,303	106,418	2,670,768	9,338,653
1992	42,977,616	5,312,659	703,924	24,288,902	73,283,098
1993	10,336,637	1,382,214	179,918	6,316,380	18,215,149
1994	11,491,747	1,711,674	183,975	6,655,394	20,042,790
1995	8,052,196	1,102,993	115,689	4,769,902	14,040,778
1996	10,539,272	1,314,637	182,577	6,392,666	18,429,150
1997	9,755,429	1,008,325	159,439	5,964,621	16,887,813
1998	2,487,289	266,464	39,057	1,256,406	4,049,216
1999	6,829,780	722,214	121,738	3,283,828	10,957,560
2000	2,261,499	279,843	39,117	1,281,855	3,862,314
2001	1,952,598	248,963	21,361	1,130,060	3,352,981
2002	3,209,027	296,484	46,324	1,574,530	5,126,365
2003	3,518,354	321,496	67,106	1,679,428	5,586,384
2004	6,266,129	588,191	192,866	2,814,106	9,861,289
2005	7,401,344	541,249	316,493	3,623,407	11,882,494
2006	2,598,601	147,596	103,430	896,521	3,746,149
2007	5,477,217	509,175	305,104	2,767,422	9,058,919
2008	3,308,008	309,980	199,319	1,462,764	5,280,071
2009	3,561,479	303,722	213,121	1,556,959	5,635,281
2010	7,733,764	613,217	452,898	3,414,074	12,213,954
2011	11,870,256	1,044,769	693,702	5,940,041	19,548,769

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

Source: Tables developed by Northern Economics based on key informant interviews and CFEC (2013) data.



**Table 19. Estimated Real Labor Income from the Cook Inlet Set-Net Fishery by Place of Residence**

Year	Kenai Peninsula Borough	Municipality of Anchorage	Mat-Su Borough	Outside Study Area	Total Payments to Labor
	Estimated Real Labor Income in 2012 \$				
1980	7,647,010	3,901,200	731,836	1,057,624	13,337,670
1981	9,696,446	6,610,908	843,913	1,588,174	18,739,438
1982	14,237,051	5,562,392	855,933	2,484,125	23,139,501
1983	11,254,522	4,126,132	707,573	2,193,337	18,281,564
1984	6,168,917	3,474,148	817,852	1,253,645	11,714,557
1985	16,310,893	6,560,468	1,415,825	3,627,496	27,914,682
1986	17,091,990	6,369,837	1,121,146	3,135,876	27,718,849
1987	36,648,013	10,616,412	1,724,654	7,823,569	56,812,647
1988	40,489,123	12,881,226	2,107,518	8,200,236	63,678,103
1989	51,890,083	14,493,314	2,029,807	11,126,964	79,540,167
1990	12,406,969	4,453,033	784,991	3,132,503	20,777,495
1991	5,360,023	2,373,204	578,634	1,025,211	9,337,071
1992	25,317,169	7,046,661	1,335,621	6,509,000	40,208,452
1993	9,857,678	3,396,609	847,377	3,245,161	17,346,827
1994	9,917,386	3,964,327	766,356	3,294,772	17,942,841
1995	5,383,307	2,244,826	575,678	1,717,822	9,921,635
1996	9,328,508	3,060,853	655,614	2,465,651	15,510,624
1997	10,156,895	2,929,457	555,831	3,007,057	16,649,240
1998	2,740,564	843,331	192,802	727,390	4,504,086
1999	5,912,607	1,894,630	340,155	1,779,198	9,926,591
2000	2,354,195	753,045	260,845	766,755	4,134,839
2001	2,513,480	792,042	185,959	564,663	4,056,144
2002	3,572,254	847,559	208,682	873,200	5,501,694
2003	5,256,637	1,191,765	253,223	1,149,713	7,851,338
2004	6,681,106	1,653,592	294,071	1,592,553	10,221,322
2005	8,589,120	1,912,978	325,782	2,297,049	13,124,929
2006	4,462,551	1,019,098	215,728	1,164,700	6,862,077
2007	5,222,963	1,245,300	314,624	1,168,172	7,951,058
2008	5,305,748	1,400,719	363,479	1,370,441	8,440,387
2009	4,243,724	1,016,472	384,911	1,128,815	6,773,924
2010	6,274,856	1,404,104	515,835	1,662,023	9,856,818
2011	9,286,753	1,849,647	765,422	2,487,803	14,389,624

Note: The Exxon Valdez oil spill closed the drift-net fishery in 1989. The set-net fishery was not closed.

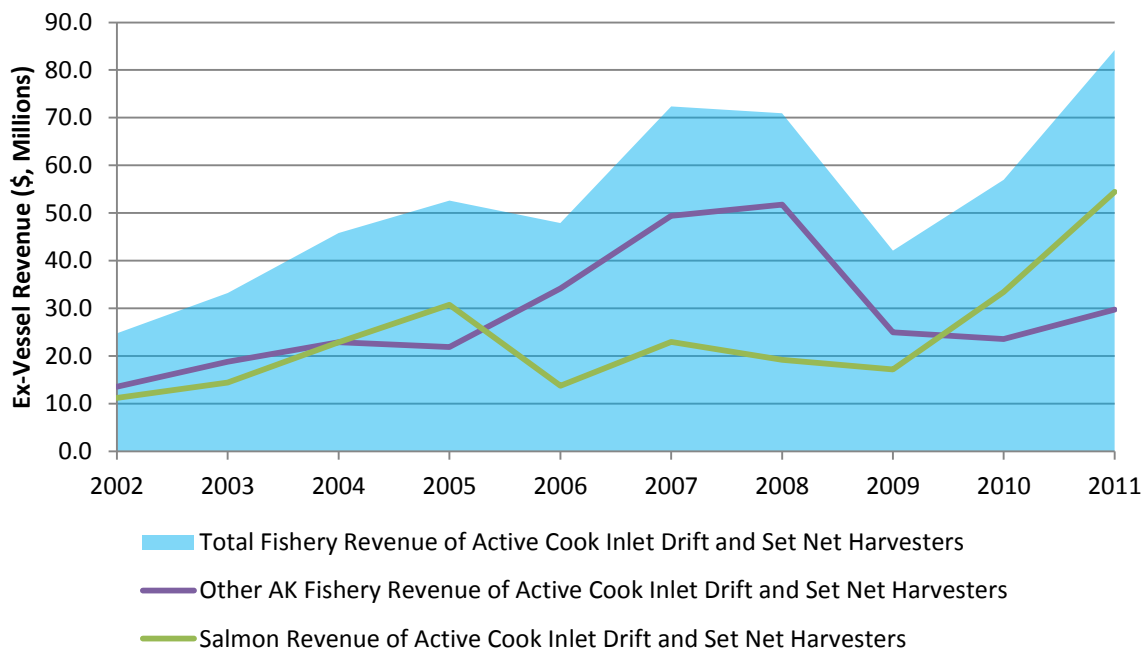
Source: Tables developed by Northern Economics based on key informant interviews and CFEC (2013) data.

#### 4.4 Other Employment and Income Sources for Cook Inlet Permit Holders

In this section we provide estimates of the amount of other income earned by permit holders in the Cook Inlet drift and set net fisheries. Two sources of employment and income are highlighted—fishery income from other fisheries, and wage and salary income from other paid jobs.

Data on other fishery income of active Cook Inlet set and drift net permit holders was provided by Marcus Gho of the CFEC in response to a special data request. As shown in Figure 19 and Table 20, Cook Inlet set and drift harvesters are also active in other Alaska fisheries. In 2011, 149 of the 976 active Cook Inlet set and drift net harvesters participated in other fisheries as permit holders and generated nearly \$30 million in additional ex-vessel revenue. Table 21 on the following page shows other fishery revenues for the three Cook Inlet boroughs and for residents outside the study area.

**Figure 19. Salmon and Other Alaska Fishery Revenue of Active Cook Inlet Set and Drift Harvesters**



**Table 20. Salmon and Other Alaska Fishery Revenue of Active Cook Inlet Set and Drift Harvesters**

Cook Inlet Set and Drift Net Fisheries				Set and Drift Net Permit Holders in Other AK Fisheries			Total Revenue in All AK Fisheries
Year	Active Permit Holder	Total Revenue (\$)	Average Revenue (\$)	Active Permit Holder	Total Revenue (\$)	Average Revenue (\$)	
2002	909	11,233,644	12,358	157	13,443,251	86,175	24,676,895
2003	895	14,415,770	16,107	157	17,730,300	119,799	32,146,070
2004	930	22,922,302	24,648	158	21,873,419	144,857	44,795,721
2005	978	30,752,126	31,444	171	21,858,394	127,827	52,610,520
2006	881	13,750,417	15,608	148	34,154,102	230,771	47,904,519
2007	904	22,940,719	25,377	159	49,429,577	310,878	72,370,296
2008	918	19,191,521	20,906	146	51,746,989	354,431	70,938,510
2009	883	17,165,346	19,440	142	24,953,618	175,730	42,118,964
2010	869	33,460,886	38,505	133	23,529,449	176,913	56,990,335
2011	976	54,440,529	55,779	149	29,744,495	199,627	84,185,025

Source: Table and figure developed by Northern Economics based on data from Gho (2013) and CFEC (2013).

**Table 21. Revenue of Active Cook Inlet Set and Drift Harvesters in the Salmon Fishery and in Other Alaska Fisheries, by Place of Residence**

Area	Year	Cook Inlet Set and Drift Net Fisheries			Set and Drift Net Permit Holders in Other AK Fisheries		
		Active Permit Holder	Total Revenue (\$)	Average Revenue (\$)	Active Permit Holder	Total Revenue (\$)	Average Revenue (\$)
Municipality of Anchorage	2002	116	1,183,484	10,202	7	375,949	53,707
	2003	105	1,591,721	15,159	8	Confidential	Confidential
	2004	123	2,503,001	20,350	4	Confidential	Confidential
	2005	115	2,944,654	25,606	6	319,638	53,273
	2006	105	1,479,171	14,087	4	497,480	124,370
	2007	110	2,311,750	21,016	7	1,171,191	167,313
	2008	114	2,345,924	20,578	6	1,135,524	189,254
	2009	112	1,787,051	15,956	5	397,655	79,531
	2010	109	2,986,121	27,396	5	307,500	61,500
	2011	102	4,548,521	44,593	8	586,720	73,340
Kenai Peninsula Borough	2002	538	7,161,437	13,311	114	8,933,382	78,363
	2003	551	9,400,316	17,060	116	13,143,612	113,307
	2004	545	14,768,033	27,097	115	15,658,055	136,157
	2005	567	19,640,704	34,640	116	14,000,736	120,696
	2006	535	9,165,838	17,132	106	24,861,770	234,545
	2007	528	14,402,592	27,278	112	36,170,288	322,949
	2008	538	12,047,588	22,393	107	38,463,932	359,476
	2009	523	10,798,992	20,648	104	18,429,320	177,205
	2010	515	21,235,409	41,234	99	20,617,938	208,262
	2011	587	33,889,949	57,734	107	24,287,395	226,985
Matanuska Susitna Borough	2002	43	261,805	6,088	1	Confidential	Confidential
	2003	42	336,840	8,020	1	Confidential	Confidential
	2004	41	550,758	13,433	3	Confidential	Confidential
	2005	46	791,147	17,199	5	259,320	51,864
	2006	41	412,533	10,062	6	331,524	55,254
	2007	44	832,610	18,923	6	414,402	69,067
	2008	52	784,891	15,094	8	870,008	108,751
	2009	46	819,507	17,815	5	531,095	106,219
	2010	49	1,456,719	29,729	5	454,715	90,943
	2011	53	2,318,318	43,742	8	427,240	53,405
Outside the Study Area	2002	212	2,626,918	12,391	35	4,133,920	118,112
	2003	197	3,086,893	15,670	32	4,586,688	143,334
	2004	221	5,100,510	23,079	36	6,215,364	172,649
	2005	250	7,375,621	29,502	44	7,278,700	165,425
	2006	200	2,692,875	13,464	32	8,463,328	264,479
	2007	222	5,393,767	24,296	34	11,673,696	343,344
	2008	214	4,013,118	18,753	25	11,277,525	451,101
	2009	202	3,759,796	18,613	28	5,595,548	199,841
	2010	196	7,782,637	39,707	24	2,149,296	89,554
	2011	234	13,683,742	58,478	26	4,443,140	170,890

Source: Table developed by Northern Economics based on data from Gho (2013) and CFEC (2013).

Many Cook Inlet drift and set net permit holders also have regular wage and salary employment as shown in Table 22. In 2011, a total of 297 active Cook Inlet set and drift net permit holders had wage and salary jobs, and earned over \$14 million in wages and salaries with an average of over \$48,000. Table 23 lists the occupations of the 278 active permit holders from the Anchorage, Kenai Peninsula Borough and Mat-Su Borough with other employment. The top five occupations (education, construction, transportation, administrative, and production) accounted for 59 percent of the total.

**Table 22. Wage and Salary Employment of Active Cook Inlet Set and Drift Net Permit Holders in 2011**

Place of Residence	Permit Type	Wage and Salary Employed	Wages and Salaries (\$)
Anchorage Municipality	Drift	13	545,031
Kenai Peninsula Borough	Drift	84	3,789,596
Matanuska-Su Borough	Drift	9	608,433
Anchorage Municipality	Set	32	2,585,929
Kenai Peninsula Borough	Set	125	5,215,093
Matanuska-Su Borough	Set	15	855,390
Outside Study Area	Both	19	785,327
<b>All Areas</b>	<b>Both</b>	<b>297</b>	<b>14,384,799</b>

Source: Developed by Northern Economics based on data provided by ADOLWD (Warren, 2013).

**Table 23. Occupations of Active Study Area Permit Holders with Wage and Salary Employment in 2011**

Occupation	Study Area Permit Holders with Wage & Salary Jobs			Ex-Vessel Revenue in All AK Fisheries	
	Count	Earnings (\$)	Average (\$)	Total (\$)	Average (\$)
Education, Training, and Library Occupations	48	2,153,786	44,871	2,486,624	51,805
Construction and Extraction Occupations	42	1,683,231	40,077	2,383,379	56,747
Transportation and Material Moving Occupations	26	1,287,288	49,511	1,190,511	45,789
Office and Administrative Support Occupations	25	885,017	35,401	796,483	31,859
Production Occupations	24	1,750,943	72,956	1,096,603	45,692
Installation, Maintenance, and Repair Occupations	17	917,216	53,954	798,351	46,962
Management Occupations	15	860,773	57,385	953,238	63,549
Personal Care and Service Occupations	10	118,155	11,816	341,996	34,200
Healthcare Practitioners and Technical Occupations	9	1,691,421	187,936	435,229	48,359
Sales and Related Occupations	9	271,458	30,162	263,015	29,224
Architecture and Engineering Occupations	8	586,053	73,257	587,812	73,477
Arts, Design, Entertainment, Sports, and Media Occupations	8	85,692	10,712	439,136	54,892
Food Preparation and Serving Related Occupations	8	80,974	10,122	348,731	43,591
Healthcare Support Occupations	8	179,516	22,440	454,335	56,792
Protective Service Occupations	8	409,515	51,189	388,348	48,544
Building and Grounds Cleaning and Maintenance Occupations	6	175,189	29,198	148,340	24,723
Business and Financial Operations Occupations	4	Confidential	Confidential	Confidential	Confidential
Life, Physical, and Social Science Occupations	2	Confidential	Confidential	Confidential	Confidential
Legal Occupations	1	Confidential	Confidential	Confidential	Confidential
<b>Study Area Permits Holders with Wage and Salary Jobs</b>	<b>278</b>	<b>13,475,539</b>	<b>48,473</b>	<b>13,450,821</b>	<b>48,384</b>

Note: Includes only active permit holders from the Anchorage, Kenai Peninsula Borough and Mat-Su Borough.

Estimates of total earnings applies the averages of the disclosed data to the non-disclosed permit holders.

Source: Developed by Northern Economics based on data provided by ADOLWD (Warren, 2013).

## 5 Wholesale Value from Cook Inlet Salmon and Salmon Processors

In this section we examine Cook Inlet salmon processors and develop estimates of the wholesale value of Cook Inlet salmon.<sup>10</sup> Figure 20 shows the estimated wholesale value (also known as processed product value) generated from landings of Cook Inlet drift and set net permits. Generally, the trend in total wholesale value follows the trend in ex-vessel values. During the 10-year period shown, total wholesale values were relatively high in 2004 and 2005, then were roughly cut in half from 2006–2009. Total product value increased in 2011 to over \$94 million.

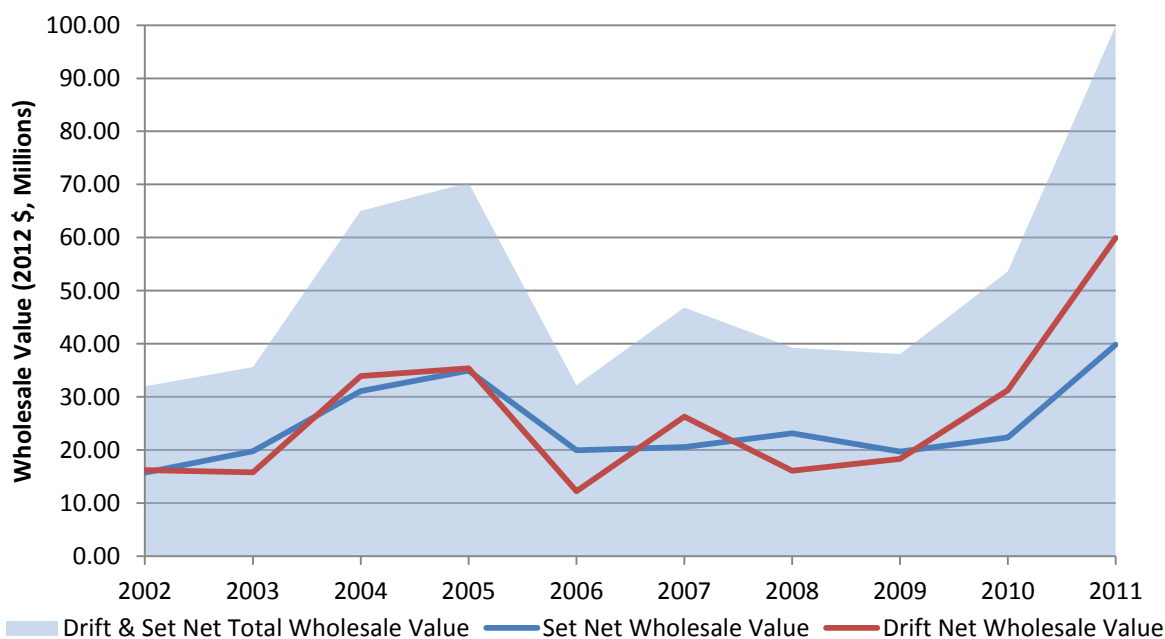
Table 24 and Table 25 on the following page show processed product values after adjusting for inflation (i.e. real values). Because of the calculation process used to generate product value estimates, the product values per ton of harvest are the same across the two gear types on a species-by-species basis.

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<sup>10</sup> Processors are required to report to ADF&G on an annual basis, the volume and value of products sold by species and product type. These data are reported by processors to ADF&G in the Commercial Operator Annual Reports (COAR Data). Because processors may buy salmon or other species from a wide range of fisheries it is generally not possible from the COAR data to determine the precise amount of processed product and value that is generated from an individual fishery. Processors of Cook Inlet salmon also purchase significant quantities of salmon from the Prince William Sound fishery, and therefore a summary of processed product values from all processors of Cook Inlet salmon would undoubtedly overstate the actual wholesale value of salmon harvested in the Cook Inlet fishery. It is also possible that sales of products produced in the summer fisheries may not occur until the next calendar year—in this case the sales would not be reported in the same year as the harvest.

These data issues mean that reliable estimates of processed product value generated from the annual harvest in a particular fishery require complex calculations. Northern Economics estimated these values by calculating a 10-year average ratio between the volume of fish purchased by processors and the processed product volume and then multiplied the ratio by the landings for each year to get an estimate of the processed product volume for each year. Then we multiplied the per pound value of the product to get the processed product value total.

**Figure 20. Inflation Adjusted Estimates of Wholesale Value from Cook Inlet Set and Drift Net Fisheries, 2002–2011**



Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b).

**Table 24. Estimated Nominal Processed Product Value from Cook Inlet Salmon by Gear (\$, Millions)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Drift-Net Cook Inlet Salmon</b>										
Chinook	0.01	0.02	0.03	0.05	0.13	0.03	0.04	0.02	0.02	0.03
Chum	0.28	0.22	0.34	0.24	0.27	0.38	0.18	0.33	2.35	1.29
Coho	0.40	0.19	0.92	1.39	0.88	1.17	0.58	0.45	1.13	0.42
Pink	0.10	0.01	0.20	0.02	0.26	0.08	0.11	0.18	0.38	0.03
Sockeye	10.03	10.31	22.89	25.74	8.59	20.55	13.42	15.01	25.82	55.27
<b>Total</b>	<b>10.81</b>	<b>10.75</b>	<b>24.37</b>	<b>27.44</b>	<b>10.14</b>	<b>22.21</b>	<b>14.33</b>	<b>15.99</b>	<b>29.69</b>	<b>57.02</b>
<b>Set-Net Cook Inlet Salmon</b>										
Chinook	0.46	0.48	1.14	1.01	0.84	0.85	0.99	0.45	0.66	0.87
Chum	0.02	0.04	0.02	0.02	0.03	0.02	0.02	0.03	0.14	0.21
Coho	0.41	0.19	0.50	0.66	0.71	0.71	0.53	0.37	0.98	0.50
Pink	0.11	0.01	0.10	0.01	0.26	0.09	0.08	0.10	0.36	0.03
Sockeye	9.49	12.75	20.57	25.38	14.64	15.70	18.98	16.30	19.09	35.87
<b>Total</b>	<b>10.49</b>	<b>13.47</b>	<b>22.33</b>	<b>27.07</b>	<b>16.48</b>	<b>17.37</b>	<b>20.60</b>	<b>17.25</b>	<b>21.22</b>	<b>37.47</b>
<b>Drift and Set Net Combined</b>										
Chinook	0.47	0.49	1.16	1.05	0.97	0.88	1.03	0.48	0.68	0.89
Chum	0.30	0.26	0.36	0.26	0.30	0.39	0.20	0.36	2.48	1.50
Coho	0.81	0.39	1.42	2.05	1.59	1.88	1.11	0.81	2.11	0.91
Pink	0.21	0.02	0.29	0.04	0.52	0.18	0.19	0.28	0.74	0.06
Sockeye	19.51	23.06	43.46	51.11	23.24	36.25	32.40	31.31	44.90	91.13
<b>Total</b>	<b>21.30</b>	<b>24.22</b>	<b>46.69</b>	<b>54.51</b>	<b>26.61</b>	<b>39.58</b>	<b>34.93</b>	<b>33.24</b>	<b>50.91</b>	<b>94.50</b>

Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b).

**Table 25. Estimated Real Processed Product Value from Cook Inlet Salmon by Gear (2012 \$, Millions)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Drift-Net Cook Inlet Salmon</b>										
Chinook	0.01	0.02	0.03	0.06	0.16	0.03	0.05	0.03	0.02	0.03
Chum	0.42	0.32	0.47	0.31	0.33	0.45	0.20	0.38	2.47	1.29
Coho	0.60	0.29	1.28	1.79	1.07	1.38	0.65	0.51	1.19	0.42
Pink	0.14	0.02	0.27	0.03	0.32	0.10	0.12	0.21	0.40	0.03
Sockeye	15.07	15.17	31.87	33.22	10.40	24.32	15.10	17.19	27.23	55.21
<b>Total</b>	<b>16.24</b>	<b>15.82</b>	<b>33.93</b>	<b>35.41</b>	<b>12.27</b>	<b>26.28</b>	<b>16.12</b>	<b>18.32</b>	<b>31.32</b>	<b>56.96</b>
<b>Set-Net Cook Inlet Salmon</b>										
Chinook	0.70	0.70	1.58	1.30	1.02	1.01	1.11	0.52	0.69	0.87
Chum	0.03	0.06	0.03	0.02	0.03	0.02	0.03	0.04	0.14	0.21
Coho	0.61	0.28	0.69	0.85	0.86	0.84	0.59	0.42	1.04	0.50
Pink	0.17	0.02	0.14	0.02	0.31	0.11	0.09	0.11	0.38	0.03
Sockeye	14.25	18.75	28.65	32.75	17.72	18.57	21.35	18.66	20.13	35.83
<b>Total</b>	<b>15.77</b>	<b>19.81</b>	<b>31.09</b>	<b>34.94</b>	<b>19.94</b>	<b>20.56</b>	<b>23.18</b>	<b>19.75</b>	<b>22.38</b>	<b>37.43</b>
<b>Drift and Set Net Combined</b>										
Chinook	0.71	0.73	1.62	1.36	1.18	1.04	1.16	0.55	0.72	0.89
Chum	0.45	0.38	0.50	0.34	0.36	0.47	0.23	0.42	2.62	1.49
Coho	1.21	0.57	1.97	2.64	1.92	2.22	1.24	0.93	2.23	0.91
Pink	0.31	0.03	0.41	0.05	0.63	0.21	0.22	0.32	0.78	0.06
Sockeye	29.32	33.92	60.53	65.97	28.12	42.89	36.45	35.85	47.36	91.04
<b>Total</b>	<b>32.01</b>	<b>35.62</b>	<b>65.03</b>	<b>70.35</b>	<b>32.21</b>	<b>46.83</b>	<b>39.30</b>	<b>38.07</b>	<b>53.70</b>	<b>94.40</b>

Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b) and BLS (2012).

Table 26 shows the estimated wholesale value of products sold by processors generated from the landings in all the Cook Inlet salmon fisheries from 2002–2011, including the seine and hatchery cost recovery fisheries; it also compares the two showing the latter as a percentage of the former. This table clearly demonstrates the value added by processors to the Cook Inlet salmon fishery. Over the 10-year period shown, it is estimated that harvesters have been paid roughly 53 percent of the wholesale generated by processors.

**Table 26. Harvest Value as a percentage of Processed Product Value for All Cook Inlet Salmon Fisheries**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10- years
Ex-Vessel Value to Harvesters (\$, Millions)	16.4	18.4	25.8	33.6	19.9	24.9	24.3	22.1	34.9	54.2	274.5
Wholesale Value of Products (\$, Millions)	33.5	31.7	54.9	61.4	43.2	43.9	46.4	47.7	54.1	101.8	518.4
Percent of Wholesale Value Paid to Harvesters	49%	58%	47%	55%	46%	57%	52%	46%	64%	53%	53%

Note: Includes values from the seine and hatchery cost recovery fisheries as well as the drift and set net fisheries. Ex-vessel values reflect updated CFEC data.

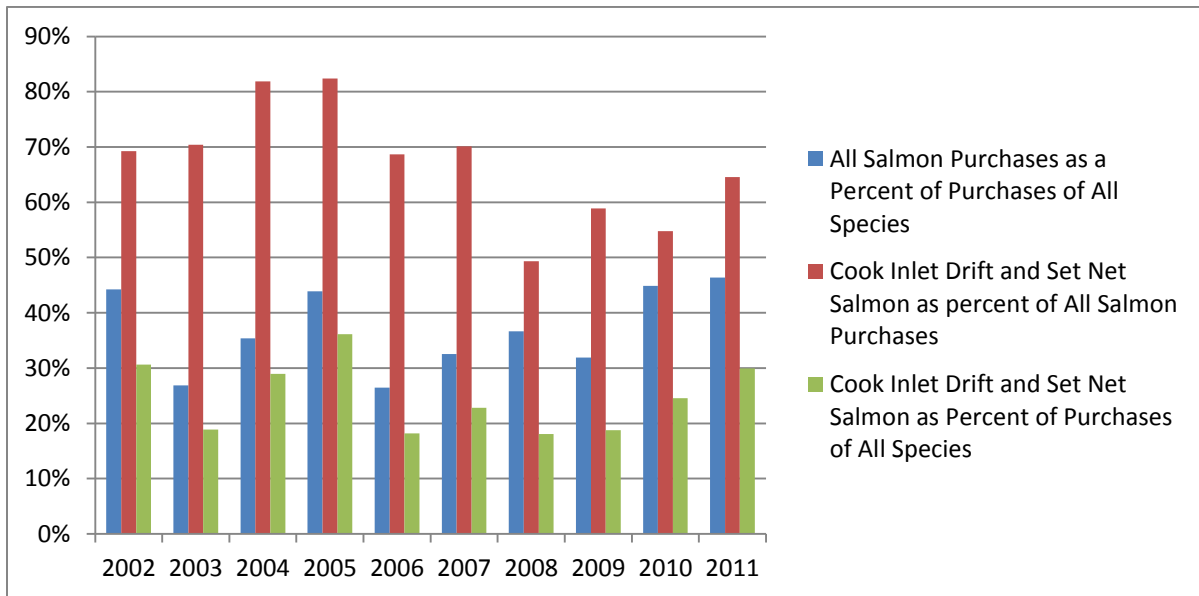
Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b).

Table 27 shows the relative importance of Cook Inlet salmon to Cook Inlet processors. The table compares ex-vessel values of major species that are purchased from harvesters for salmon, halibut, sablefish (also known as black cod) groundfish (pollock, Pacific cod, flatfish etc) and all other species. The values shown for salmon include purchases from the Cook Inlet set and drift net fisheries as well as purchases from the Cook Inlet seine fishery and purchases from the Prince William Sound salmon

fishery. It is clear that salmon (from all sources) and halibut are the two most important species for Cook Inlet processors with sablefish a distant third.

In the bottom half of the table the focus shifts to purchases of salmon from the Cook Inlet set and drift net fisheries. While it is clear that majority of the salmon purchased by these processors comes from the Cook Inlet set and drift net fisheries, other sources of salmon are also important. The table shows purchases of Cook Inlet set and drift net salmon as a percentage all purchases from harvesters. The Cook Inlet set and drift net fisheries account for between 18 and 36 percent of the value of the fish the Cook Inlet processors purchase in a year. Data from the bottom portion of Table 27 are summarized in Figure 21.

**Figure 21. Relative Importance of Cook Inlet Set and Drift Net Salmon to Cook Inlet Processors**



Source: Figure developed by Northern Economics based on data from ADF&G (2013, 2012a, & 2012b).



**Table 27. The Importance of Cook Inlet Salmon to Cook Inlet Processors**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Value by Species of Purchased by Cook Inlet Processors from all Sources (\$, Millions)</b>										
Groundfish	0.76	1.06	0.96	0.60	0.83	1.57	0.74	0.88	1.09	3.08
Halibut, Pacific	13.66	38.39	37.30	37.63	43.35	49.84	47.59	44.51	60.28	45.77
Other	0.01	0.01	0.00	0.00	0.06	0.03	0.00	0.11	0.14	0.06
Sablefish	4.36	10.33	11.19	10.47	11.34	11.41	11.50	12.76	12.87	15.01
Salmon, Chinook	0.35	0.48	0.90	1.01	0.83	0.78	0.81	0.44	0.78	0.64
Salmon, chum	1.77	0.96	0.78	1.21	1.37	0.73	4.71	3.10	6.55	3.63
Salmon, coho	0.42	0.55	1.23	1.07	1.38	0.82	0.99	0.93	1.45	0.45
Salmon, pink	1.22	2.28	2.24	3.69	2.82	6.80	8.99	3.53	17.88	8.10
Salmon, sockeye	11.14	14.01	21.91	31.10	13.58	21.15	19.15	19.32	33.90	42.53
<b>Salmon, All Species</b>	<b>14.9</b>	<b>18.28</b>	<b>27.06</b>	<b>38.08</b>	<b>19.98</b>	<b>30.28</b>	<b>34.65</b>	<b>27.32</b>	<b>60.56</b>	<b>55.35</b>
<b>Total</b>	<b>33.67</b>	<b>68.08</b>	<b>76.50</b>	<b>86.79</b>	<b>75.55</b>	<b>93.13</b>	<b>94.48</b>	<b>85.58</b>	<b>134.93</b>	<b>119.29</b>
<b>Value of Purchases by Species as a Percentage of Total Purchases by Cook Inlet Processors from all Sources</b>										
Groundfish	2%	2%	1%	1%	1%	2%	1%	1%	1%	3%
Halibut, Pacific	41%	56%	49%	43%	57%	54%	50%	52%	45%	38%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sablefish	13%	15%	15%	12%	15%	12%	12%	15%	10%	13%
Salmon, Chinook	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Salmon, chum	5%	1%	1%	1%	2%	1%	5%	4%	5%	3%
Salmon, coho	1%	1%	2%	1%	2%	1%	1%	1%	1%	0%
Salmon, pink	4%	3%	3%	4%	4%	7%	10%	4%	13%	7%
Salmon, sockeye	33%	21%	29%	36%	18%	23%	20%	23%	25%	36%
<b>Salmon, All species</b>	<b>44%</b>	<b>27%</b>	<b>35%</b>	<b>44%</b>	<b>26%</b>	<b>33%</b>	<b>37%</b>	<b>32%</b>	<b>45%</b>	<b>46%</b>
<b>Value by Species of Purchases by Cook Inlet Processors from Cook Inlet Set and Drift Net Fisheries (\$, Millions)</b>										
Salmon, Chinook	0.30	0.40	0.70	0.83	0.63	0.69	0.72	0.34	0.59	0.46
Salmon, chum	0.19	0.12	0.16	0.09	0.13	0.10	0.10	0.12	0.99	0.49
Salmon, coho	0.32	0.16	0.67	0.73	0.71	0.57	0.66	0.70	1.29	0.28
Salmon, pink	0.08	0.04	0.06	0.01	0.14	0.06	0.06	0.08	0.72	0.06
Salmon, sockeye	9.43	12.15	20.58	29.72	12.10	19.81	15.55	14.83	29.57	34.44
<b>Salmon, All species</b>	<b>10.32</b>	<b>12.87</b>	<b>22.16</b>	<b>31.38</b>	<b>13.72</b>	<b>21.23</b>	<b>17.09</b>	<b>16.08</b>	<b>33.16</b>	<b>35.73</b>
<b>Cook Inlet Set and Drift Net Purchases by Cook Inlet Processors as a Percentage of Purchases from all Sources</b>										
Salmon, Chinook	88%	83%	78%	83%	77%	88%	88%	77%	75%	72%
Salmon, chum	11%	12%	20%	8%	9%	14%	2%	4%	15%	14%
Salmon, coho	76%	29%	55%	68%	52%	69%	67%	75%	89%	63%
Salmon, pink	6%	2%	3%	0%	5%	1%	1%	2%	4%	1%
Salmon, sockeye	85%	87%	94%	96%	89%	94%	81%	77%	87%	81%
<b>Salmon, All species</b>	<b>69%</b>	<b>70%</b>	<b>82%</b>	<b>82%</b>	<b>69%</b>	<b>70%</b>	<b>49%</b>	<b>59%</b>	<b>55%</b>	<b>65%</b>
<b>Cook Inlet Drift and Set Net Purchases by Cook Inlet Processors as a Percentage of all Purchases</b>										
All Salmon	31%	19%	29%	36%	18%	23%	18%	19%	25%	30%

Source: Table developed by Northern Economics based on data from ADF&G (2013, 2012a, & 2012b).

Table 28 compares processed product value of salmon species by fishery region. In this table we estimate the processed product value of all salmon harvested in the Cook Inlet fisheries, including products from the seine and hatchery cost recovery fisheries. For 2011, the total value of processed product from all Cook Inlet salmon fisheries is estimated at \$102 million.

Table 29 summarizes processed product value by species groups and the region in which processing occurred. Data for Cook Inlet Processors include the value of salmon that were harvested in the Prince William Sound fisheries as well as Salmon from Cook Inlet. In 2011, the total processed product value of all species generated by Cook Inlet salmon processors was estimated at \$212 million, although this is a conservative estimate due to reporting issues with the value for processed halibut.

Table 28. Processed Product Value of Salmon Species and Region

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Salmon Harvested in All Cook Inlet Fisheries—Drift, Set, Seine and Hatchery Cost Recovery Fisheries (\$, Millions)</b>										
Chinook	0.47	0.50	1.16	1.05	0.97	0.88	1.03	0.48	0.68	0.89
Chum	0.75	0.77	4.66	2.42	1.68	0.40	3.60	1.92	3.73	1.93
Coho	0.83	0.44	1.54	2.07	2.04	1.91	1.11	0.81	2.12	0.91
Pink	9.91	2.66	2.99	3.21	13.43	2.08	4.84	10.48	2.03	2.17
Sockeye	21.50	27.32	44.53	52.60	25.03	38.67	35.80	33.96	45.56	95.86
Total	33.47	31.69	54.89	61.35	43.15	43.93	46.38	47.65	54.12	101.76
<b>Salmon Harvested in All Prince William Sound Fisheries (\$, Millions)</b>										
Chinook	3.67	4.57	6.17	5.74	5.09	5.66	2.80	1.54	2.44	3.19
Chum	11.81	10.64	7.82	12.28	16.21	24.29	55.82	34.42	55.75	28.08
Coho	5.18	5.49	12.09	7.69	12.92	6.15	13.69	6.13	8.66	7.04
Pink	19.18	43.05	43.21	71.45	41.33	130.11	130.41	47.70	218.86	104.52
Sockeye	31.33	30.10	30.70	33.44	43.27	51.15	27.10	41.26	39.65	74.45
Total	71.19	93.86	99.99	130.60	118.83	217.35	229.82	131.05	325.36	217.28
<b>Salmon Processed in the AK Peninsula and Chignik (\$, Millions)</b>										
Chinook	0.15	0.11	0.54	0.7	0.29	Conf.	0.26	0.31	0.5	0.42
Chum	1.86	2.44	2.36	2.5	7.07	Conf.	5	8.56	11.15	13.03
Coho	1.58	2.46	1.92	1.53	2.52	Conf.	5.05	3.57	3.72	2.2
Pink	5.78	8.47	11.71	13.69	13.32	24.71	37.12	30.63	8.62	26.36
Sockeye	32.19	38.64	52.67	70.85	55.74	Conf.	49.55	58.54	61.15	62.98
Total	41.56	52.13	69.19	89.27	78.94	24.71	96.98	101.61	85.15	104.97
<b>Salmon Processed in Bristol Bay (\$, Millions)</b>										
Chinook	0.52	0.53	1.42	1.51	2.71	1.22	0.9	0.71	0.59	2.51
Chum	1.01	4.95	1.45	3.09	6.52	18.64	7.39	5.2	4.69	4.96
Coho	0.29	0.46	0.59	0.6	1.01	0.53	1.16	0.5	0.49	0.48
Pink	0	Conf.	0.05	Conf.	0.34	0	0.8	Conf.	1.98	0.01
Sockeye	70.61	89.21	135.53	174.14	185.36	196.68	204.1	222.3	290.82	266.39
Total	72.43	95.15	139.03	179.35	195.94	217.08	214.35	228.71	298.57	274.34
<b>Salmon Processed in Kodiak (\$, Millions)</b>										
Chinook	0.12	0.08	0.17	0.2	0.3	0.22	0.23	0.07	0.28	0.34
Chum	1.62	4.49	3.8	2.36	8.21	5.32	11.3	7.81	9.61	8.93
Coho	2.38	2.03	2.89	2.76	5.15	3.04	3.65	2.43	3.69	2.15
Pink	19.1	24.08	31.52	51.28	69.44	74.49	51.48	76.85	70.08	66.85
Sockeye	15.35	33.42	33.01	32.23	19.25	31.14	30.08	36.56	27.09	47.33
Total	38.57	64.09	71.38	88.83	102.35	114.22	96.73	123.72	110.74	125.6
<b>Salmon Processed in Southeast Alaska (\$, Millions)</b>										
Chinook	11.06	11.46	18.38	19.25	21.43	20.18	20.4	15.89	17.52	20.55
Chum	13.89	36.45	51.98	33.64	104.47	64.43	110.63	74.77	96.46	114.49
Coho	20.57	19.24	31.81	31.92	39.37	25.4	44.96	33.86	43.97	35.13
Pink	56.33	72.37	69.54	74.52	32.99	105.62	70.15	102.89	127.08	237.37
Sockeye	8.15	14.91	19.78	16.14	16.61	22.62	8.29	14.19	10.29	20.34
Total	110	154.44	191.49	175.47	214.87	238.24	254.44	241.6	295.32	427.88
<b>Salmon Processed in the Yukon, Kuskokwim, and N.W. Alaska (\$, Millions)</b>										
Chinook	1.97	0.67	4.41	3.25	5.25	3.97	1.58	0.97	1.57	0.00
Chum	0.16	0.3	0.18	1.62	2.2	1.58	3.68	4.21	5.68	10.88
Coho	Conf.	0.93	4.48	2.56	3.01	2.11	5.98	4.29	1.89	3.71
Pink	0	0	0	0	0	Conf.	Conf.	Conf.	Conf.	Conf.
Sockeye	Conf.	Conf.	Conf.	Conf.	Conf.	Conf.	Conf.	3.2	2.28	1.21
Total	2.13	1.9	9.07	7.44	10.46	7.66	11.25	12.66	11.42	15.79

Note: Cells with "Conf." indicate that the value cannot be released due to confidentiality.

Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b).

**Table 29. Processed Product Value of All Species by Region of Processing**

Species	Year									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Processors in the Cook Inlet Study Area including Seward (\$, Millions)</b>										
Salmon	48.51	52.55	71.61	83.01	56.38	70.62	80.58	63.85	113.84	144.87
Halibut	17.23	33.22	37.74	33.28	44.96	43.77	50.54	53.94	63.46	40.18
Sablefish	5.63	9.73	11.66	11.97	12.56	13.58	13.00	14.62	15.16	17.41
Groundfish	1.08	2.23	1.99	1.98	3.21	3.59	1.64	0.74	2.31	9.43
Other	0.29	0.32	0.00	0.00	0.12	0.06	0.00	0.35	0.32	0.11
Total	72.74	98.05	123.00	130.24	117.23	131.62	145.76	133.50	195.09	212.00
<b>Processors in Prince William Sound excluding Seward (\$, Millions)</b>										
Salmon	88.17	72.99	83.26	108.95	105.60	190.66	195.62	114.86	265.64	176.60
Halibut	23.79	16.62	24.84	31.60	30.64	32.19	27.36	20.60	19.35	15.35
Sablefish	14.71	16.62	13.14	18.13	23.63	16.51	19.64	14.76	12.93	26.73
Groundfish	3.31	1.19	1.01	1.71	2.10	2.88	6.54	4.38	5.82	4.69
Other	0.80	0.94	1.28	1.02	1.06	0.98	0.69	0.67	0.77	0.43
Total	130.79	108.36	123.53	161.41	163.04	243.23	249.84	155.26	304.51	223.81
<b>Processors in Bristol Bay (\$, Millions)</b>										
Salmon	77.89	95.15	139.03	179.35	195.94	217.08	214.35	228.71	298.57	274.34
<b>Processors in Kodiak (\$, Millions)</b>										
Salmon	43.76	64.09	71.38	88.83	102.35	114.22	96.73	123.72	110.74	125.60
Halibut	22.30	27.38	29.51	31.70	27.73	43.15	41.02	30.85	42.19	44.50
Sablefish	7.24	9.97	9.72	8.81	10.09	13.17	12.39	12.85	17.61	23.59
Crab	8.80	7.99	8.76	9.68	9.85	9.77	15.36	10.28	12.92	13.23
Groundfish	61.05	58.14	73.74	89.56	98.57	104.62	119.03	76.91	110.64	137.61
Other	2.53	3.04	5.34	5.25	2.76	3.53	4.54	6.46	5.46	4.09
Total	145.70	170.61	198.46	233.83	251.34	288.45	289.07	261.06	299.56	348.63
<b>Processors in Southeast Alaska (\$, Millions)</b>										
Salmon	152.98	154.44	191.49	175.47	214.87	238.24	254.44	241.60	295.32	427.88
Halibut	31.97	35.83	48.10	57.93	65.77	63.04	54.15	38.54	47.09	40.34
Sablefish	28.97	30.87	33.42	34.00	36.45	34.98	41.40	30.67	38.59	48.19
Crab	15.41	12.60	11.64	12.06	11.81	16.90	15.02	12.71	12.88	17.72
Groundfish	2.64	2.37	2.93	2.05	2.51	2.33	2.89	2.63	2.68	2.62
Other	14.88	15.68	24.96	27.46	23.08	32.57	37.16	38.24	44.71	33.65
Total	246.84	251.79	312.55	308.98	354.50	388.06	405.06	364.38	441.27	570.39
<b>Processors in AK Peninsula and the Aleutians (\$, Millions) (See note)</b>										
	45.18	52.13	69.19	89.27	78.94	24.71	96.98	101.61	85.15	104.97
Halibut	35.03	48.73	47.26	45.11	49.11	54.24	55.32	34.34	58.31	62.58
Sablefish	12.19	13.55	12.57	13.04	16.36	17.53	18.45	17.36	20.22	25.79
Crab	124.15	143.28	133.68	131.86	127.57	157.20	203.54	197.98	214.28	300.71
Groundfish	438.06	443.73	450.51	571.00	590.88	534.99	606.70	396.81	448.07	601.65
Other	6.92	4.44	7.40	10.38	8.54	6.01	11.21	13.38	15.15	10.35
Total	661.54	705.86	720.61	860.66	871.40	794.69	992.20	761.48	841.18	1,106.07
<b>Processors in the Yukon, Kuskokwim, and N.W. Alaska (\$, Millions)</b>										
Salmon	2.21	1.90	9.07	7.44	10.46	7.66	11.25	12.66	11.42	15.79

Source: Table developed by Northern Economics using data from ADF&G (2013, 2012a, & 2012b).

**Notes:**

Halibut processed product values for Cook Inlet processors provided by ADF&G from COAR data are known to contain errors—over the 10-year period from 2002-2011 reported processed product data were less than ex-vessel purchases. In the absence of better information, processed product values for halibut in Cook Inlet have been adjusted so that the sum from 2002-2011 is equal to the value of purchases as reported in Table 27.

AK Peninsula and Aleutians region numbers may include small amounts of groundfish, crab and herring landed in Bristol Bay or the YK.

## 5.1 Processing Jobs and Payments to Labor

As indicated above, processors add significant value to the seafood that is harvested in the Cook Inlet region. They also contribute to the economy with the wages and salaries they pay their workers and the jobs they provide. Information on wage and salary employment of seafood processors is collected and disseminated by ADOLWD, along with all other wage and salary employment data. To avoid disclosure of confidential information, ADOLWD combines industry sectors—for purposes of reporting, the seafood processing industry is combined with all other food manufacturing businesses.<sup>11</sup> Because of this aggregation, precise data on the economic contributions of the seafood processing industry are not always available, particularly in areas like Anchorage and the Matanuska-Susitna Borough, where other types of food manufacturing business are located.

Table 30 summarizes the wages and salaries paid to workers in the food manufacturing sector in the Cook Inlet Region from 2002–2011. In 2011, wages and salaries paid to workers in the food manufacturing sector in the Cook Inlet Region were \$33.3 million. More than half of the wages and salaries (54 percent) were paid to workers in Anchorage, while 43 percent went to workers in the Kenai Peninsula Borough. Table 31 summarizes annual monthly employment in the sector. Over the 10-year period shown, there has been a monthly average of 1,077 jobs, but in 2011 the average monthly employment number was at a 10-year high of 1,324.

**Table 30. Wages and Salaries in the Food Processing Sector by Borough in the Cook Inlet Region, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Borough</b>	<b>Annual Wages Paid to Workers in the Food Processing Sector (\$, thousands)</b>									
Anchorage Municipality	14,552	13,214	11,587	11,983	12,322	12,512	10,711	10,348	17,214	18,048
Kenai Peninsula Borough	9,114	12,514	14,354	15,668	13,476	13,902	14,096	13,223	15,381	14,334
Matanuska-Susitna Borough	141	111	138	172	129	n/a	730	1,191	972	969
<b>Cook Inlet Region</b>	<b>23,807</b>	<b>25,838</b>	<b>26,079</b>	<b>27,824</b>	<b>25,927</b>	<b>26,414</b>	<b>25,537</b>	<b>24,762</b>	<b>33,567</b>	<b>33,352</b>

Note: The food manufacturing sector includes seafood processing as well as other food manufacturing firms.

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

**Table 31. Average Monthly Employment in the Food Processing Sector by Borough, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Borough</b>	<b>Average Monthly Employment by Year in the Food Processing Sector</b>									
Anchorage Municipality	499	533	460	463	465	462	396	374	551	653
Kenai Peninsula Borough	432	586	626	624	602	546	556	512	529	619
Matanuska-Susitna Borough	18	12	18	15	12	20	37	49	52	52
<b>Study Area Total</b>	<b>949</b>	<b>1,131</b>	<b>1,104</b>	<b>1,102</b>	<b>1,079</b>	<b>1,028</b>	<b>989</b>	<b>935</b>	<b>1,132</b>	<b>1,324</b>

Note: The food manufacturing sector includes seafood processing as well as other food manufacturing firms.

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

<sup>11</sup> In addition to seafood processing, the food manufacturing sector includes dairies, vegetable packing plants, wholesale bakeries and sausage makers. For the state as a whole, seafood processing accounts for over 93 percent of food manufacturing jobs, wages and salaries from 2002–2011. In 2011 there were an average of 10,130 seafood processing jobs and only 488 jobs in other food manufacturing businesses. However, it is likely that the majority of the non-seafood food manufacturing jobs in the state are located in the Cook Inlet region, so the statewide ratio may not be a good estimator.

Table 32 provides an estimate of food manufacturing jobs as a percentage of private industry jobs in the Cook Inlet Region. In the Kenai Peninsula Borough, food manufacturing has accounted for as much as 4.7 percent (in 2004 and 2005) of total private sector jobs. In Anchorage and the Mat-Su Borough, food processing is a much smaller percent of the private sector.

**Table 32. Total Food Processing Jobs as a Percent of Private Industry Jobs, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Borough</b>	<b>Food Processing Jobs as a Percent of Private Industry Jobs (Percent)</b>									
Anchorage Municipality	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.5	0.5
Kenai Peninsula Borough	3.3	4.5	4.7	4.7	4.5	4.1	4.1	3.8	3.7	4.2
Matanuska-Susitna Borough	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3
<b>Study Area Total</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.6</b>	<b>0.8</b>	<b>0.9</b>

Note: The food manufacturing sector includes seafood processing as well as other food manufacturing firms.

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

Table 33 provides an estimate of the number of processing jobs that are likely attributable to the processing of salmon in Cook Inlet. We estimate most of the jobs attributable to salmon are found in the Kenai Peninsula Borough. We also note that the number of salmon-related processing jobs in Anchorage in 2010 and 2011 increased significantly and accounted for more than 25 percent of the total. Overall we estimate there were 1,617 jobs attributable to processing salmon in 2011.<sup>12</sup>

**Table 33. Estimates of Salmon Processing Employment by Borough, 2002–2011**

<b>Borough</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Anchorage Municipality	77	103	52	47	58	18	40	30	342	472
Kenai Peninsula Borough	649	1,322	1,456	1,428	1,116	1,118	1,041	1,047	939	1,130
Matanuska-Susitna Borough	19	22	13	8	10	98	60	114	8	15
<b>Study Area Total</b>	<b>745</b>	<b>1,447</b>	<b>1,521</b>	<b>1,483</b>	<b>1,184</b>	<b>1,234</b>	<b>1,141</b>	<b>1,191</b>	<b>1,289</b>	<b>1,617</b>

Note: Calculated as the difference between May employment and peak employment during the year.

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

As noted above, the process used to estimate salmon processing jobs takes advantage of the fact that salmon processing occurs almost exclusively during the summer months. Our estimates are based on the difference between food manufacturing jobs in the month of May and the peak number of jobs reported in the summer months as demonstrated in Table 34.

**Table 34. Estimates of Salmon Processing Employment in the Cook Inlet Region, 2002–2011**

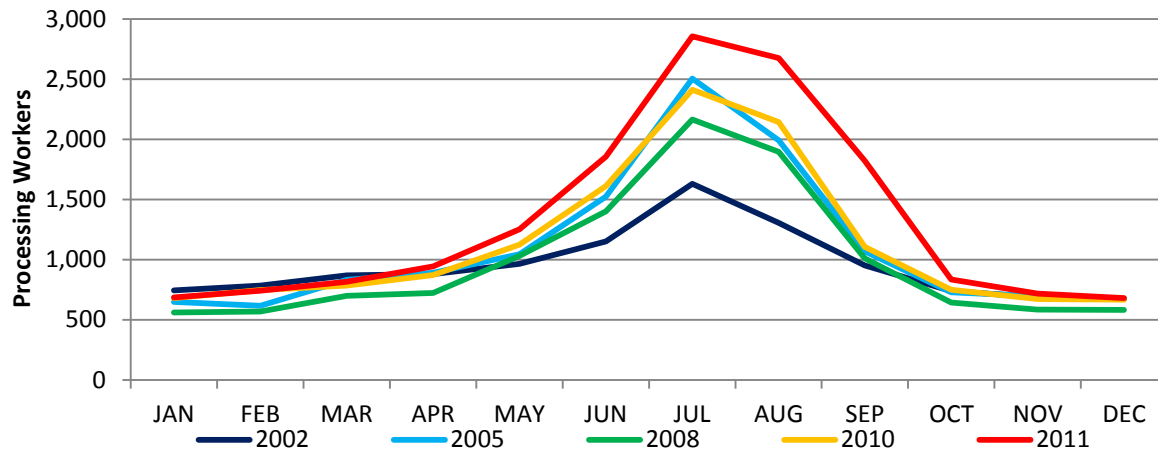
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Monthly Employment	949	1,132	1,103	1,102	1,079	1,028	989	935	1,131	1,324
May Employment	966	1,048	1,073	1,045	1,002	991	1,033	978	1,125	1,253
Peak Employment in Each Borough	1,711	2,495	2,594	2,528	2,186	2,225	2,174	2,169	2,414	2,870
<b>Estimated Jobs Due to Salmon: Difference between May &amp; Peak</b>	<b>745</b>	<b>1,447</b>	<b>1,521</b>	<b>1,483</b>	<b>1,184</b>	<b>1,234</b>	<b>1,141</b>	<b>1,191</b>	<b>1,289</b>	<b>1,617</b>

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

<sup>12</sup> Salmon processing jobs are typically of a 2–3 month duration, but over the course of a year these jobs account for only a fraction of average monthly employment.

Figure 22 shows the seasonality in food manufacturing jobs for 5 of the 10 years from 2002–2011.

**Figure 22. Seasonal Food Processing Employment in the Cook Inlet Region in Selected Years**



Source: Figure developed by Northern Economics based on data from ADOLWD (2013).

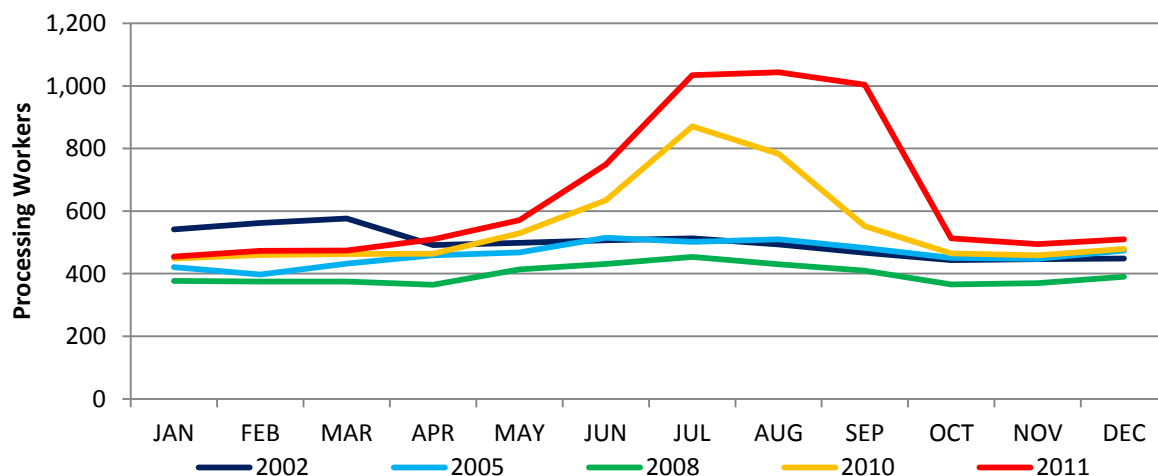
Table 35 and Figure 23 show estimates of salmon processing jobs and demonstrate the seasonality of jobs in the food manufacturing sector in Anchorage. There has been a significant increase in the number of jobs attributable to salmon processing in 2010 and 2011. In 2010 there were 300 more jobs attributed to salmon processing than in 2009.

**Table 35. Estimates of Salmon Processing Employment in the Municipality of Anchorage, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Monthly Employment	499	533	460	463	465	462	396	374	551	653
May Employment	499	522	444	468	452	498	414	376	529	571
Peak Employment	576	625	496	515	510	516	454	406	871	1,043
Estimated Jobs Due to Salmon: Difference between May & Peak	77	103	52	47	58	18	40	30	342	472

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

**Figure 23. Municipality of Anchorage Seasonal Food Processing Employment in Selected Years**



Source: Figure developed by Northern Economics based on data from ADOLWD (2013).

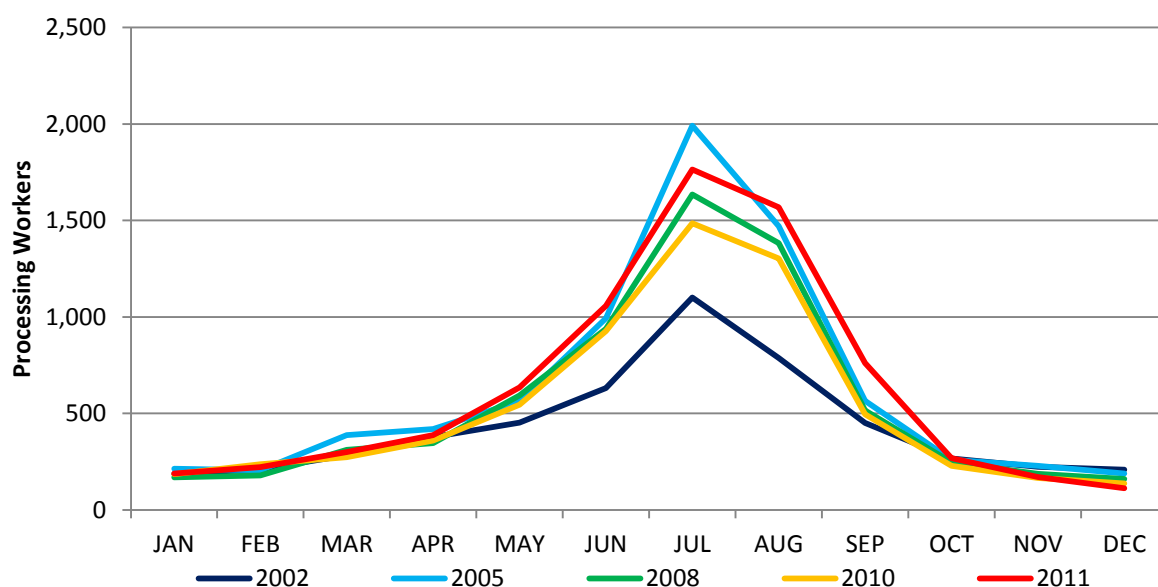
Table 36 and Figure 24 show estimates of salmon processing jobs and demonstrate the seasonality of jobs in the food manufacturing sector in the Kenai Peninsula Borough. Food manufacturing jobs in the Kenai Peninsula Borough have a much greater overall seasonality than in Anchorage. There are very few jobs in the winter months, and by May the number of jobs has increased to around 500. The peak, which occurs in July, was as high as 2,072 in 2004, but has declined in more recent years. The number of jobs attributable to salmon processing in the Kenai Peninsula Borough has averaged about 1,120 over the 10-year period.

**Table 36. Estimates of Salmon Processing Employment in the Kenai Peninsula Borough, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Monthly Employment	432	586	626	624	602	546	556	512	529	619
May Employment	452	519	616	564	541	484	594	560	546	634
Peak Employment	1,101	1,841	2,072	1,992	1,657	1,602	1,635	1,607	1,485	1,764
<b>Estimated Jobs Due to Salmon: Difference between May &amp; Peak</b>	<b>649</b>	<b>1,322</b>	<b>1,456</b>	<b>1,428</b>	<b>1,116</b>	<b>1,118</b>	<b>1,041</b>	<b>1,047</b>	<b>939</b>	<b>1,130</b>

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

**Figure 24. Kenai Peninsula Borough Seasonal Food Processing Employment in Selected Years**



Source: Figure developed by Northern Economics based on data from ADOLWD (2013).



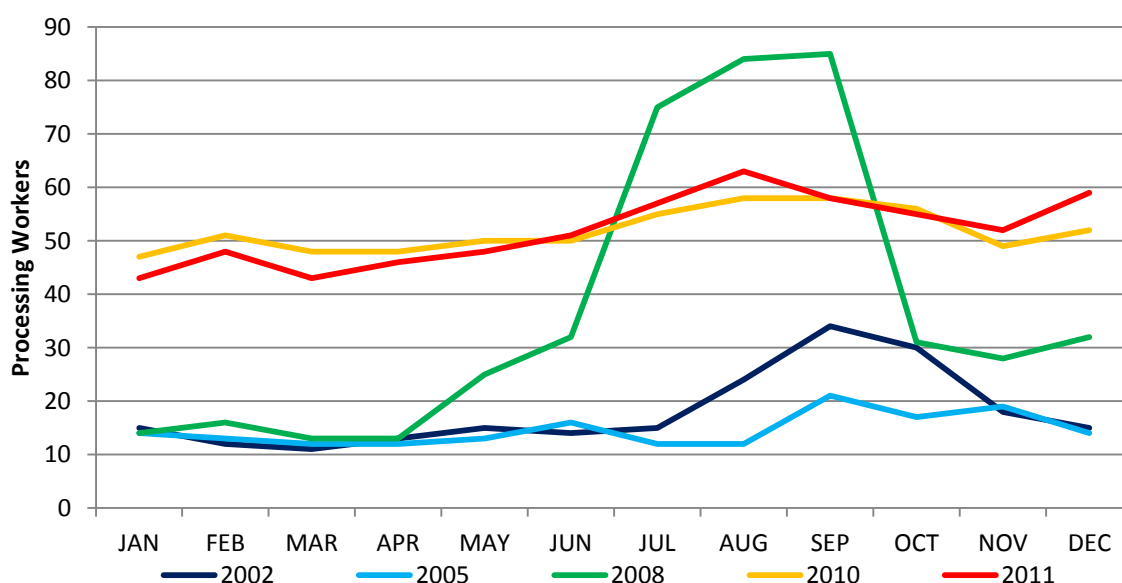
Table 37 and Figure 25 show our estimates of jobs related to salmon processing and the seasonality of food manufacturing jobs in the Mat-Su Borough. The sector and the number of jobs have seen major changes in the 10-year period shown. In 2007–2009 it appears that there were active salmon processors in the borough and as many as 156 jobs were attributable to salmon based on our estimation process. In other years, however, the differences between May and peak employment have been relatively small.

**Table 37. Estimates of Salmon Processing Employment in the Matanuska-Susitna Borough, 2002–2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Monthly Employment	18	12	18	15	12	20	37	49	52	52
May Employment	15	7	13	13	9	9	25	42	50	48
Peak Employment	34	29	26	21	19	107	85	156	58	63
<b>Estimated Jobs Due to Salmon: Difference between May &amp; Peak</b>	<b>19</b>	<b>22</b>	<b>13</b>	<b>8</b>	<b>10</b>	<b>98</b>	<b>60</b>	<b>114</b>	<b>8</b>	<b>15</b>

Source: Table developed by Northern Economics based on data from ADOLWD (2013).

**Figure 25. Matanuska-Susitna Borough Seasonal Food Processing Employment in Selected Years**



Source: Figure developed by Northern Economics based on data from ADOLWD (2013).



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