

AK LEGISLATURE SPECIAL COMMITTEE FILES SCOMM 156 3331
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Appendix N12.—Southeast Marine Subregion economic contributions of PACKAGE expenditures by anglers for sportfishing, by residency, and guided/unguided, 2007.

	RESIDENT		NONRESIDENT		TOTAL		ALL ANGLERS
	Guided	Unguided	Guided	Unguided	RESIDENT	NONRESIDENT	
SALTWATER ANGLERS							
Direct effects							
Output	\$0	\$0	\$30,088,145	\$3,451,828	\$0	\$33,539,973	\$33,539,973
Income	\$0	\$0	\$9,495,235	\$1,066,695	\$0	\$10,561,930	\$10,561,930
Employment	0	0	394	44	0	438	438
Multiplier effects							
Output	\$0	\$0	\$13,116,355	\$1,488,182	\$0	\$14,604,537	\$14,604,537
Income	\$0	\$0	\$4,322,469	\$479,367	\$0	\$4,801,836	\$4,801,836
Employment	0	0	122	14	0	135	135
Total effects							
Output	\$0	\$0	\$43,204,500	\$4,940,010	\$0	\$48,144,510	\$48,144,510
Income	\$0	\$0	\$13,817,704	\$1,546,062	\$0	\$15,363,766	\$15,363,766
Employment	0	0	515	58	0	573	573

The following tables present estimates of output, income and employment in each region's industries that are the result of angler spending. Direct, indirect and induced effects of angler spending on industry output, income and employment are reported separately for expenditures by residents and nonresidents.

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APPENDIX O: DETAILED INDUSTRY IMPACTS OF ANGLER SPENDING

The following tables present estimates of output, income and employment in each region's industries that are the result of angler spending. Direct, indirect and induced effects of angler spending on industry output, income and employment are reported separately for expenditures by residents and nonresidents

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Appendix O1.-Industry output, income and employment impacts of all angler spending statewide.

Industry OUTPUT impacts STATEWIDE due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	7,123,950.0	3,896,625.0	480,406.0	11,500,985.0
21 Mining	2,463,387.0	44,314,305.0	7,970,862.0	54,748,554.0
22 Utilities	-	10,770,826.0	7,813,240.0	18,572,066.0
23 Construction	182,837,152.0	8,993,346.0	(1,228,934.0)	190,601,573.0
31-33 Manufacturing	80,241,946.0	42,905,653.0	23,007,721.0	146,155,318.0
42 Wholesale Trade	58,684,331.0	12,304,206.0	8,742,633.0	79,741,288.0
48-49 Transportation & Warehousing	67,589,707.0	23,980,982.0	11,202,183.0	103,672,875.0
44-45 Retail trade	170,337,105.0	16,154,722.0	36,645,817.0	223,137,637.0
51 Information	19,156.0	19,612,731.0	2,822,912.0	22,574,800.0
52 Finance & insurance	-	11,758,338.0	20,393,220.0	32,151,557.0
53 Real estate & rental	28,969,855.0	40,188,781.0	11,433,869.0	78,602,514.0
54 Professional- scientific & tech svcs	-	35,680,553.0	3,333,100.0	39,013,638.0
55 Management of companies	-	7,026,732.0	217,722.0	7,244,452.0
56 Administrative & waste services	754,665.0	18,126,836.0	3,125,843.0	22,007,345.0
61 Educational svcs	-	227,697.0	3,049,005.0	3,276,702.0
62 Health & social services	-	13,754.0	49,257,887.0	49,271,641.0
71 Arts- entertainment & recreation	188,880,071.0	5,781,850.0	2,721,734.0	197,383,654.0
72 Accommodation & food services	151,970,899.0	8,291,823.0	22,063,399.0	182,326,116.0
81 Other services	26,832,964.0	6,501,463.0	17,088,897.0	50,543,317.0
92 Government & non NAICS	26,197,494.0	10,329,368.0	58,228,796.0	94,755,651.0
Imports and other non-industry sources	376,268,276.0	-	-	376,268,276.0
Total Angler Expenditures	1,368,380,952.0	327,002,702.0	288,478,307.0	1,983,861,959.0

Industry INCOME impacts STATEWIDE due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	2,130,556.0	1,042,997.0	111,794.0	3,285,464.0
21 Mining	633,055.0	11,468,291.0	2,061,438.0	14,162,784.0
22 Utilities	-	2,272,721.0	1,943,947.0	4,216,665.0
23 Construction	68,672,076.0	4,136,159.0	(498,557.0)	73,287,674.0
31-33 Manufacturing	6,441,252.0	3,620,837.0	2,039,789.0	12,101,878.0
42 Wholesale Trade	22,183,199.0	4,650,351.0	3,304,228.0	30,137,777.0
48-49 Transportation & Warehousing	20,332,369.0	11,832,122.0	3,814,616.0	35,979,105.0
44-45 Retail trade	71,825,008.0	6,627,293.0	15,118,222.0	93,570,520.0
51 Information	5,428.0	4,783,796.0	419,114.0	5,208,338.0
52 Finance & insurance	-	3,603,186.0	5,675,807.0	9,278,993.0
53 Real estate & rental	17,669,913.0	6,430,676.0	2,041,991.0	26,022,580.0
54 Professional- scientific & tech svcs	-	15,567,060.0	1,360,081.0	16,927,139.0
55 Management of companies	-	3,030,826.0	93,909.0	3,124,735.0
56 Administrative & waste services	240,480.0	7,223,062.0	961,116.0	8,423,458.0
61 Educational svcs	-	102,374.0	1,419,764.0	1,522,139.0
62 Health & social services	-	5,466.0	26,733,060.0	26,738,526.0
71 Arts- entertainment & recreation	59,334,656.0	2,577,399.0	843,136.0	62,779,190.0
72 Accommodation & food services	50,847,026.0	3,003,496.0	7,839,376.0	61,689,901.0
81 Other services	8,945,344.0	2,648,111.0	7,035,117.0	18,628,572.0
92 Government & non NAICS	23,875,526.0	2,995,553.0	11,048,379.0	37,919,458.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	354,123,881.0	97,645,884.0	93,474,323.0	545,256,091.0

Industry EMPLOYMENT impacts STATEWIDE due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	205	100	7	312
21 Mining	3	60	11	74
22 Utilities	-	22	21	43
23 Construction	1,035	61	(8)	1,088
31-33 Manufacturing	163	81	69	313
42 Wholesale Trade	407	85	61	554
48-49 Transportation & Warehousing	395	219	82	696
44-45 Retail trade	2,650	215	488	3,353
51 Information	-	101	4	105
52 Finance & insurance	-	64	97	161
53 Real estate & rental	334	315	90	739
54 Professional- scientific & tech svcs	-	299	44	342
55 Management of companies	-	39	1	40
56 Administrative & waste services	5	249	43	297
61 Educational svcs	-	4	61	65
62 Health & social services	-	-	565	565
71 Arts- entertainment & recreation	3,187	131	43	3,362
72 Accommodation & food services	2,054	130	342	2,526
81 Other services	259	85	266	610
92 Government & non NAICS	384	63	189	635
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	11,080	2,323	2,476	15,879

Appendix O2.—Industry output, income and employment impacts of resident angler spending statewide.

Industry OUTPUT impacts STATEWIDE due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	5,061,865.0	1,207,735.0	172,100.0	6,441,700.0
21 Mining	1,841,911.0	24,216,924.0	3,216,324.0	29,275,159.0
22 Utilities	-	4,104,335.0	3,128,813.0	7,233,148.0
23 Construction	73,139,536.0	3,358,284.0	(88,135.0)	76,399,690.0
31-33 Manufacturing	46,581,730.0	15,461,203.0	8,032,073.0	70,075,006.0
42 Wholesale Trade	40,063,193.0	5,094,633.0	3,519,686.0	48,677,512.0
48-49 Transportation & Warehousing	8,719,843.0	9,365,248.0	4,184,284.0	22,269,375.0
44-45 Retail trade	123,468,407.0	6,795,753.0	14,858,988.0	145,123,148.0
51 Information	12,794.0	8,306,000.0	1,843,077.0	10,281,871.0
52 Finance & insurance	-	4,770,818.0	7,739,197.0	12,510,015.0
53 Real estate & rental	2,304,853.0	16,700,098.0	5,429,172.0	24,434,123.0
54 Professional- scientific & tech svcs	-	13,884,062.0	2,204,479.0	16,088,541.0
55 Management of companies	-	3,653,490.0	219,373.0	3,872,863.0
56 Administrative & waste services	129,832.0	6,321,002.0	1,427,114.0	7,877,948.0
61 Educational svcs	-	106,239.0	1,253,505.0	1,359,744.0
62 Health & social services	-	6,064.0	20,161,677.0	20,167,741.0
71 Arts- entertainment & recreation	50,209,077.0	2,036,391.0	1,422,852.0	53,668,320.0
72 Accommodation & food services	33,985,476.0	2,890,091.0	8,644,422.0	45,509,989.0
81 Other services	24,736,503.0	2,393,315.0	6,389,004.0	33,518,822.0
92 Government & non NAICS	7,540,480.0	3,659,698.0	22,734,818.0	33,934,996.0
Imports and other non-industry sources	301,407,028.0	-	-	301,407,028.0
Total Angler Expenditures	719,202,530.0	134,451,498.0	116,482,829.0	970,136,857.0

49%

Industry INCOME impacts STATEWIDE due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,534,236.0	302,893.0	41,966.0	1,879,094.0
21 Mining	473,345.0	6,268,065.0	831,778.0	7,573,188.0
22 Utilities	-	861,908.0	734,174.0	1,596,082.0
23 Construction	27,861,668.0	1,547,553.0	(26,468.0)	29,382,753.0
31-33 Manufacturing	3,030,069.0	1,392,258.0	686,497.0	5,108,824.0
42 Wholesale Trade	15,141,863.0	1,925,533.0	1,330,249.0	18,397,645.0
48-49 Transportation & Warehousing	3,117,416.0	4,302,149.0	1,514,105.0	8,933,670.0
44-45 Retail trade	51,214,317.0	2,787,880.0	6,128,468.0	60,130,665.0
51 Information	3,625.0	2,060,389.0	346,264.0	2,410,278.0
52 Finance & insurance	-	1,465,440.0	2,150,908.0	3,616,348.0
53 Real estate & rental	1,510,076.0	2,644,189.0	956,485.0	5,110,750.0
54 Professional- scientific & tech svcs	-	6,003,809.0	935,325.0	6,939,134.0
55 Management of companies	-	1,575,853.0	94,621.0	1,670,474.0
56 Administrative & waste services	41,372.0	2,718,164.0	506,397.0	3,265,933.0
61 Educational svcs	-	47,573.0	583,605.0	631,178.0
62 Health & social services	-	2,418.0	10,991,058.0	10,993,476.0
71 Arts- entertainment & recreation	15,776,088.0	890,792.0	504,860.0	17,171,740.0
72 Accommodation & food services	11,476,260.0	1,040,259.0	3,093,127.0	15,609,646.0
81 Other services	8,107,235.0	989,120.0	2,658,665.0	11,755,019.0
92 Government & non NAICS	6,847,554.0	1,060,243.0	3,278,450.0	11,186,247.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	146,122,921.0	39,868,483.0	37,340,533.0	223,331,937.0

41%

Industry EMPLOYMENT impacts STATEWIDE due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	150.8	27.7	2.6	181.1
21 Mining	2.4	32.6	4.3	39.2
22 Utilities	-	8.4	7.6	15.9
23 Construction	413.7	22.9	(0.3)	436.3
31-33 Manufacturing	75.8	31.2	23.4	130.4
42 Wholesale Trade	278.1	35.4	24.4	337.9
48-49 Transportation & Warehousing	57.1	79.6	31.9	168.7
44-45 Retail trade	1,847.4	90.5	198.0	2,135.9
51 Information	-	43.8	5.6	49.4
52 Finance & insurance	-	25.8	37.3	63.0
53 Real estate & rental	28.5	129.6	44.5	202.6
54 Professional- scientific & tech svcs	-	116.5	24.4	140.9
55 Management of companies	-	20.0	1.2	21.2
56 Administrative & waste services	0.8	93.8	20.6	115.2
61 Educational svcs	-	2.0	25.1	27.1
62 Health & social services	-	-	231.4	231.4
71 Arts- entertainment & recreation	845.4	44.7	25.9	916.0
72 Accommodation & food services	470.0	44.6	136.0	650.6
81 Other services	234.2	31.3	103.2	368.7
92 Government & non NAICS	126.6	22.8	60.1	209.5
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	4,531.1	903.3	1,007.2	6,441.5

Appendix O3.-Industry output, income and employment impacts of nonresident angler spending statewide.

Industry OUTPUT impacts STATEWIDE due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	2,062,085.0	2,688,890.0	308,306.0	5,059,282.0
21 Mining	621,476.0	20,097,381.0	4,754,538.0	25,473,396.0
22 Utilities	-	6,566,491.0	4,884,427.0	11,338,918.0
23 Construction	109,697,616.0	5,635,062.0	(1,130,799.0)	114,201,883.0
31-33 Manufacturing	33,660,216.0	27,444,450.0	14,975,648.0	76,080,313.0
42 Wholesale Trade	18,631,138.0	7,209,573.0	5,222,937.0	31,063,648.0
48-49 Transportation & Warehousing	58,869,864.0	14,615,734.0	7,017,899.0	81,703,498.0
44-45 Retail trade	46,868,898.0	9,358,969.0	21,786,829.0	78,014,696.0
51 Information	6,362.0	11,306,731.0	979,835.0	12,292,929.0
52 Finance & Insurance	-	6,987,520.0	12,654,023.0	19,641,543.0
53 Real estate & rental	24,665,002.0	23,498,693.0	6,004,697.0	54,168,390.0
54 Professional- scientific & tech svcs	-	21,786,491.0	1,128,621.0	22,915,111.0
55 Management of companies	-	3,373,242.0	(1,851.0)	3,371,589.0
56 Administrative & waste services	624,833.0	11,805,834.0	1,698,729.0	14,129,396.0
61 Educational svcs	-	121,458.0	1,795,500.0	1,916,957.0
62 Health & social services	-	7,690.0	29,096,210.0	29,103,898.0
71 Arts- entertainment & recreation	138,670,994.0	3,745,459.0	1,298,882.0	143,715,334.0
72 Accommodation & food services	117,985,423.0	5,411,732.0	13,418,977.0	136,816,127.0
81 Other services	2,086,461.0	4,108,148.0	10,699,893.0	17,024,493.0
92 Government & non NAICS	18,657,014.0	6,669,670.0	35,493,978.0	60,820,657.0
Imports and other non-industry sources	74,861,248.0	-	-	74,861,248.0
Total Angler Expenditures	649,178,422.0	162,551,204.0	171,995,478.0	1,013,725,100.0

51%

Industry INCOME impacts STATEWIDE due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	596,320.0	740,104.0	69,828.0	1,406,370.0
21 Mining	159,710.0	5,200,226.0	1,229,880.0	6,589,597.0
22 Utilities	-	1,410,813.0	1,209,773.0	2,620,586.0
23 Construction	41,810,408.0	2,588,606.0	(472,089.0)	43,914,923.0
31-33 Manufacturing	3,411,183.0	2,228,579.0	1,353,292.0	6,993,054.0
42 Wholesale Trade	7,041,536.0	2,724,816.0	1,973,979.0	11,740,332.0
48-49 Transportation & Warehousing	17,214,953.0	7,529,973.0	2,300,511.0	27,045,435.0
44-45 Retail trade	20,610,691.0	3,839,413.0	8,999,754.0	33,439,854.0
51 Information	1,803.0	2,723,407.0	72,850.0	2,798,061.0
52 Finance & Insurance	-	2,137,746.0	3,524,901.0	5,662,648.0
53 Real estate & rental	16,159,837.0	3,786,487.0	1,085,506.0	20,911,831.0
54 Professional- scientific & tech svcs	-	9,563,251.0	424,756.0	9,988,006.0
55 Management of companies	-	1,454,973.0	(712.0)	1,454,261.0
56 Administrative & waste services	199,108.0	4,504,898.0	454,719.0	5,157,526.0
61 Educational svcs	-	54,801.0	836,159.0	890,960.0
62 Health & social services	-	3,048.0	15,742,002.0	15,745,050.0
71 Arts- entertainment & recreation	43,558,568.0	1,886,807.0	338,276.0	45,595,449.0
72 Accommodation & food services	39,370,766.0	1,863,237.0	4,746,249.0	46,080,253.0
81 Other services	838,109.0	1,658,991.0	4,376,452.0	6,873,553.0
92 Government & non NAICS	17,027,972.0	1,935,310.0	7,769,929.0	26,733,212.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	208,000,960.0	57,747,401.0	56,133,790.0	321,882,151.0

59%

Industry EMPLOYMENT impacts STATEWIDE due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	54.4	72.2	4.1	131.0
21 Mining	0.8	27.1	6.6	34.4
22 Utilities	-	13.8	13.2	26.8
23 Construction	620.9	38.3	(7.2)	651.8
31-33 Manufacturing	86.7	49.3	45.9	182.0
42 Wholesale Trade	129.3	79.9	36.4	215.6
48-49 Transportation & Warehousing	338.3	139.1	50.0	527.3
44-45 Retail trade	802.2	124.8	290.3	1,217.0
51 Information	-	57.6	(1.6)	56.0
52 Finance & Insurance	-	37.7	60.0	97.7
53 Real estate & rental	305.4	185.3	45.1	535.8
54 Professional- scientific & tech svcs	-	182.0	19.3	201.4
55 Management of companies	-	18.6	-	18.6
56 Administrative & waste services	3.9	155.2	22.8	181.9
61 Educational svcs	-	2.1	36.0	38.3
62 Health & social services	-	-	333.8	333.8
71 Arts- entertainment & recreation	2,341.8	86.3	17.5	2,445.8
72 Accommodation & food services	1,584.1	85.6	205.7	1,875.4
81 Other services	24.3	54.0	162.5	240.8
92 Government & non NAICS	257.0	40.1	128.9	425.9
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	6,549.0	1,419.2	1,469.2	9,437.3

Appendix O4.-Industry output, income and employment impacts of all angler spending in the Southeast Region.

Industry OUTPUT impacts in the SOUTHEAST due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,525,564.0	1,246,807.0	34,281.0	2,806,654.0
21 Mining	5,675,264.0	459,240.0	61,589.0	6,196,093.0
22 Utilities	-	1,061,323.0	680,170.0	1,741,494.0
23 Construction	53,835,714.0	1,237,009.0	(219,354.0)	54,853,367.0
31-33 Manufacturing	6,613,817.0	1,286,001.0	1,584,997.0	9,484,817.0
42 Wholesale Trade	8,378,827.0	1,165,108.0	806,962.0	10,350,895.0
48-49 Transportation & Warehousing	18,443,836.0	4,618,188.0	1,122,036.0	24,184,059.0
44-45 Retail trade	26,256,166.0	3,496,920.0	6,532,361.0	36,285,448.0
51 Information	3.0	4,296,147.0	78,568.0	4,374,719.0
52 Finance & Insurance	-	1,336,949.0	3,119,695.0	4,456,644.0
53 Real estate & rental	2,395,601.0	5,790,835.0	1,629,080.0	9,815,514.0
54 Professional- scientific & tech svcs	-	4,493,016.0	345,014.0	4,838,029.0
55 Management of companies	-	155,042.0	(5,203.0)	149,839.0
56 Administrative & waste services	207,721.0	3,822,178.0	438,290.0	4,468,189.0
61 Educational svcs	-	23,345.0	370,523.0	393,868.0
62 Health & social services	-	2,641.0	7,681,198.0	7,683,838.0
71 Arts- entertainment & recreation	47,019,413.0	1,297,649.0	262,261.0	48,579,324.0
72 Accommodation & food services	31,990,865.0	1,632,058.0	4,187,679.0	37,800,601.0
81 Other services	6,948,715.0	1,022,937.0	3,524,794.0	11,496,448.0
92 Government & non NAICS	541,361.0	3,126,815.0	11,632,011.0	15,300,188.0
Imports and other non-industry sources	59,405,121.0	-	-	59,405,121.0
Total Angler Expenditures	269,227,986.0	41,570,201.0	43,868,944.0	354,665,145.0

Industry INCOME impacts in the SOUTHEAST due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	454,501.0	310,271.0	11,180.0	775,960.0
21 Mining	1,163,499.0	98,608.0	13,948.0	1,276,051.0
22 Utilities	-	238,175.0	154,882.0	392,856.0
23 Construction	20,377,697.0	560,882.0	(91,931.0)	20,846,651.0
31-33 Manufacturing	751,367.0	251,198.0	203,434.0	1,205,998.0
42 Wholesale Trade	3,166,449.0	440,307.0	304,959.0	3,911,715.0
48-49 Transportation & Warehousing	4,324,754.0	2,384,902.0	364,420.0	7,074,080.0
44-45 Retail trade	11,011,881.0	1,402,513.0	2,635,259.0	15,049,650.0
51 Information	-	1,005,510.0	(31,644.0)	973,866.0
52 Finance & Insurance	-	351,160.0	814,425.0	1,165,583.0
53 Real estate & rental	1,485,989.0	1,025,926.0	312,862.0	2,824,778.0
54 Professional- scientific & tech svcs	-	1,868,046.0	141,897.0	2,009,944.0
55 Management of companies	-	62,010.0	(2,083.0)	59,930.0
56 Administrative & waste services	61,503.0	1,182,248.0	106,762.0	1,350,511.0
61 Educational svcs	-	9,488.0	166,315.0	175,804.0
62 Health & social services	-	998.0	4,164,778.0	4,165,774.0
71 Arts- entertainment & recreation	15,400,653.0	538,968.0	60,289.0	15,999,912.0
72 Accommodation & food services	10,420,290.0	572,449.0	1,431,482.0	12,424,222.0
81 Other services	2,182,558.0	391,580.0	1,318,800.0	3,892,938.0
92 Government & non NAICS	170,667.0	804,819.0	2,289,805.0	3,565,492.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	71,272,005.0	13,500,039.0	14,369,650.0	99,141,694.0

Industry EMPLOYMENT impacts in the SOUTHEAST due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	53	34	1	88
21 Mining	7	1	-	8
22 Utilities	-	3	2	5
23 Construction	319	9	(1)	327
31-33 Manufacturing	22	8	5	35
42 Wholesale Trade	68	9	7	85
48-49 Transportation & Warehousing	124	55	11	189
44-45 Retail trade	418	47	88	553
51 Information	-	25	(2)	23
52 Finance & Insurance	-	7	15	23
53 Real estate & rental	40	44	11	95
54 Professional- scientific & tech svcs	-	41	5	46
55 Management of companies	-	1	(0)	1
56 Administrative & waste services	2	53	6	60
61 Educational svcs	-	0	8	9
62 Health & social services	-	-	88	88
71 Arts- entertainment & recreation	638	27	(0)	665
72 Accommodation & food services	484	28	69	581
81 Other services	79	15	52	146
92 Government & non NAICS	10	13	35	58
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	2,243	420	400	3,063

Appendix O5.-Industry output, income and employment impacts of resident angler spending in the Southeast Region.

Industry OUTPUT impacts in the SOUTHEAST REGION due to RESIDENT angler expenditure.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,034,816.0	270,796.0	12,179.0	1,317,792.0
21 Mining	3,145,784.0	189,322.0	22,448.0	3,357,554.0
22 Utilities	-	213,192.0	182,430.0	395,622.0
23 Construction	19,540,190.0	284,567.0	(2,490.0)	19,822,265.0
31-33 Manufacturing	1,831,462.0	329,607.0	262,763.0	2,423,831.0
42 Wholesale Trade	4,081,244.0	333,590.0	206,290.0	4,621,123.0
48-49 Transportation & Warehousing	699,168.0	1,064,685.0	346,559.0	2,110,412.0
44-45 Retail trade	14,553,971.0	1,333,563.0	1,778,984.0	17,666,519.0
51 Information	1.0	1,099,848.0	200,399.0	1,300,349.0
52 Finance & insurance	-	348,803.0	706,306.0	1,055,109.0
53 Real estate & rental	125,956.0	1,392,182.0	547,215.0	2,065,352.0
54 Professional- scientific & tech svcs	-	1,162,454.0	187,606.0	1,350,060.0
55 Management of companies	-	52,775.0	2,363.0	55,138.0
56 Administrative & waste services	-	597,137.0	140,733.0	737,869.0
61 Educational svcs	-	9,621.0	102,937.0	112,558.0
62 Health & social services	-	812.0	2,122,917.0	2,123,729.0
71 Arts- entertainment & recreation	6,265,834.0	211,628.0	155,709.0	6,633,171.0
72 Accommodation & food services	366,828.0	302,541.0	1,063,437.0	1,732,806.0
81 Other services	5,815,587.0	246,072.0	761,135.0	6,822,795.0
92 Government & non NAICS	55,493.0	598,615.0	3,027,072.0	3,681,181.0
Imports and other non-industry sources	38,520,462.0	-	-	38,520,462.0
Total Angler Expenditures	96,036,595.0	10,041,905.0	11,826,987.0	117,905,490.0

Industry INCOME impacts in the SOUTHEAST REGION due to RESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	308,695.0	67,415.0	3,223.0	379,331.0
21 Mining	644,924.0	39,827.0	5,079.0	689,828.0
22 Utilities	-	47,589.0	41,224.0	88,813.0
23 Construction	7,266,003.0	128,754.0	704.0	7,395,468.0
31-33 Manufacturing	203,123.0	67,919.0	34,528.0	305,569.0
42 Wholesale Trade	1,542,348.0	126,068.0	77,958.0	1,746,373.0
48-49 Transportation & Warehousing	254,209.0	487,887.0	126,840.0	868,936.0
44-45 Retail trade	5,906,985.0	534,853.0	717,391.0	7,159,228.0
51 Information	-	259,277.0	34,757.0	294,034.0
52 Finance & insurance	-	91,162.0	178,172.0	269,333.0
53 Real estate & rental	78,131.0	247,431.0	101,679.0	427,241.0
54 Professional- scientific & tech svcs	-	491,829.0	78,666.0	570,496.0
55 Management of companies	-	21,108.0	945.0	22,053.0
56 Administrative & waste services	-	227,643.0	42,355.0	269,997.0
61 Educational svcs	-	3,897.0	46,176.0	50,073.0
62 Health & social services	-	308.0	1,151,022.0	1,151,329.0
71 Arts- entertainment & recreation	2,052,651.0	85,444.0	55,253.0	2,193,348.0
72 Accommodation & food services	125,000.0	105,823.0	367,570.0	598,394.0
81 Other services	1,852,048.0	98,844.0	300,522.0	2,251,414.0
92 Government & non NAICS	50,553.0	154,240.0	379,954.0	584,748.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	20,264,669.0	3,287,314.0	3,744,025.0	27,316,007.0

Industry EMPLOYMENT impacts in the SOUTHEAST REGION due to RESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	36.2	7.1	0.3	43.5
21 Mining	3.7	0.2	-	4.1
22 Utilities	-	0.6	0.4	1.1
23 Construction	113.9	2.0	0.1	116.0
31-33 Manufacturing	5.8	2.0	1.1	8.9
42 Wholesale Trade	33.4	2.7	1.6	37.7
48-49 Transportation & Warehousing	5.8	12.1	3.5	21.3
44-45 Retail trade	220.6	18.0	24.0	262.5
51 Information	-	6.4	0.7	7.0
52 Finance & insurance	-	1.9	3.4	5.4
53 Real estate & rental	2.1	10.6	4.2	16.8
54 Professional- scientific & tech svcs	-	10.4	2.1	12.6
55 Management of companies	-	0.3	-	0.3
56 Administrative & waste services	-	10.0	2.2	12.3
61 Educational svcs	-	0.2	2.2	2.4
62 Health & social services	-	-	24.3	24.4
71 Arts- entertainment & recreation	85.1	4.2	2.1	91.4
72 Accommodation & food services	6.1	5.1	18.0	29.1
81 Other services	67.1	3.7	12.2	83.1
92 Government & non NAICS	2.0	2.6	6.1	10.9
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	581.8	100.1	108.6	790.4

Appendix O6.-Industry output, income and employment impacts of nonresident angler spending in the Southeast Region.

Industry OUTPUT impacts in the SOUTHEAST REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	490,749.0	976,011.0	22,102.0	1,488,862.0
21 Mining	2,529,480.0	269,918.0	39,141.0	2,838,539.0
22 Utilities	-	848,131.0	497,740.0	1,345,872.0
23 Construction	34,295,524.0	952,442.0	(216,864.0)	35,031,102.0
31-33 Manufacturing	4,782,355.0	956,394.0	1,322,234.0	7,060,983.0
42 Wholesale Trade	4,287,583.0	831,518.0	600,872.0	5,729,772.0
48-49 Transportation & Warehousing	17,744,666.0	3,553,503.0	775,477.0	22,073,647.0
44-45 Retail trade	11,702,195.0	2,163,357.0	4,753,377.0	18,618,929.0
51 Information	2.0	3,196,199.0	(121,831.0)	3,074,370.0
52 Finance & insurance	-	988,146.0	2,413,389.0	3,401,535.0
53 Real estate & rental	2,269,645.0	4,398,653.0	1,081,865.0	7,750,162.0
54 Professional- scientific & tech svcs	-	3,330,562.0	157,408.0	3,487,969.0
55 Management of companies	-	102,267.0	(7,566.0)	94,701.0
56 Administrative & waste services	207,721.0	3,225,041.0	297,557.0	3,730,320.0
61 Educational svcs	-	13,724.0	267,586.0	281,309.0
62 Health & social services	-	1,829.0	5,558,281.0	5,560,110.0
71 Arts- entertainment & recreation	40,753,579.0	1,086,021.0	106,552.0	41,946,153.0
72 Accommodation & food services	31,614,238.0	1,329,517.0	3,124,242.0	36,067,995.0
81 Other services	1,133,128.0	776,885.0	2,783,659.0	4,673,653.0
92 Government & non NAICS	485,969.0	2,529,200.0	8,604,939.0	11,619,007.0
Imports and other non-industry sources	20,684,659.0	-	-	20,684,659.0
Total Angler Expenditures	173,191,391.0	31,528,296.0	32,039,957.0	236,759,645.0

Industry INCOME impacts in the SOUTHEAST REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	145,806.0	242,856.0	7,967.0	396,629.0
21 Mining	518,575.0	58,781.0	8,869.0	586,223.0
22 Utilities	-	190,586.0	113,458.0	304,043.0
23 Construction	13,111,894.0	432,128.0	(92,840.0)	13,451,183.0
31-33 Manufacturing	548,244.0	183,269.0	168,906.0	900,417.0
42 Wholesale Trade	1,624,103.0	314,239.0	227,001.0	2,165,342.0
48-49 Transportation & Warehousing	4,070,545.0	1,897,015.0	237,580.0	6,205,140.0
44-45 Retail trade	5,104,898.0	867,680.0	1,917,868.0	7,890,422.0
51 Information	-	746,233.0	(66,401.0)	679,830.0
52 Finance & insurance	-	259,998.0	636,253.0	896,250.0
53 Real estate & rental	1,407,858.0	778,495.0	211,183.0	2,397,537.0
54 Professional- scientific & tech svcs	-	1,376,217.0	63,231.0	1,439,448.0
55 Management of companies	-	40,902.0	(3,028.0)	37,877.0
56 Administrative & waste services	61,503.0	954,605.0	64,407.0	1,080,514.0
61 Educational svcs	-	5,591.0	120,139.0	125,731.0
62 Health & social services	-	690.0	3,013,756.0	3,014,445.0
71 Arts- entertainment & recreation	13,348,002.0	453,524.0	5,038.0	13,806,564.0
72 Accommodation & food services	10,295,290.0	466,626.0	1,063,912.0	11,825,828.0
81 Other services	330,509.0	292,736.0	1,018,278.0	1,641,522.0
92 Government & non NAICS	420,314.0	650,579.0	1,909,851.0	2,980,744.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	50,987,336.0	10,212,725.0	10,625,625.0	71,825,687.0

Industry EMPLOYMENT impacts in the SOUTHEAST REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	17.0	26.8	0.6	44.9
21 Mining	2.9	0.3	-	3.6
22 Utilities	-	2.2	1.3	3.6
23 Construction	205.0	6.6	(1.5)	210.5
31-33 Manufacturing	16.3	5.6	4.2	26.1
42 Wholesale Trade	35.0	6.7	4.9	46.8
48-49 Transportation & Warehousing	119.0	42.7	7.0	167.8
44-45 Retail trade	196.9	29.2	64.2	290.3
51 Information	-	18.7	(2.7)	16.0
52 Finance & insurance	-	5.5	11.8	17.3
53 Real estate & rental	37.8	33.3	7.2	78.3
54 Professional- scientific & tech svcs	-	30.1	3.2	33.1
55 Management of companies	-	0.6	(0.1)	0.5
56 Administrative & waste services	1.5	42.7	3.7	48.0
61 Educational svcs	-	0.2	5.9	6.2
62 Health & social services	-	-	63.7	63.7
71 Arts- entertainment & recreation	553.0	23.1	(2.2)	573.9
72 Accommodation & food services	458.3	22.8	50.7	531.8
81 Other services	11.9	11.6	39.7	63.3
92 Government & non NAICS	7.7	10.7	28.8	47.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	1,661.6	320.0	290.9	2,272.1

Appendix O7.-Industry output, income and employment impacts of all angler spending in the Southcentral Region.

Industry OUTPUT impacts in the SOUTHCENTRAL due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	4,949,392.0	2,344,818.0	243,212.0	7,537,422.0
21 Mining	3,029,259.0	41,924,266.0	7,898,824.0	52,852,350.0
22 Utilities	-	7,761,321.0	5,643,986.0	13,405,306.0
23 Construction	123,329,496.0	6,642,118.0	(813,937.0)	129,157,672.0
31-33 Manufacturing	61,016,572.0	28,797,806.0	16,752,521.0	106,566,899.0
42 Wholesale Trade	44,205,615.0	8,900,919.0	6,429,914.0	59,536,449.0
48-49 Transportation & Warehousing	42,815,099.0	16,884,774.0	8,578,490.0	68,078,366.0
44-45 Retail trade	128,166,754.0	11,797,762.0	26,910,636.0	166,875,152.0
51 Information	15,083.0	14,299,532.0	2,302,836.0	16,617,451.0
52 Finance & insurance	-	10,288,228.0	16,695,048.0	26,983,275.0
53 Real estate & rental	24,031,699.0	30,207,016.0	8,608,057.0	62,846,770.0
54 Professional- scientific & tech svcs	-	28,721,041.0	3,152,488.0	31,873,531.0
55 Management of companies	-	7,386,996.0	294,627.0	7,681,624.0
56 Administrative & waste services	481,215.0	12,708,071.0	2,365,228.0	15,552,513.0
61 Educational svcs	-	178,348.0	2,375,528.0	2,553,877.0
62 Health & social services	-	10,147.0	36,958,489.0	36,968,636.0
71 Arts- entertainment & recreation	132,915,417.0	4,434,232.0	1,789,222.0	139,138,869.0
72 Accommodation & food services	112,292,126.0	6,068,770.0	16,139,129.0	134,500,028.0
81 Other services	18,021,514.0	5,326,647.0	12,232,163.0	35,580,323.0
92 Government & non NAICS	1,533,501.0	7,276,653.0	42,430,870.0	51,241,021.0
Imports and other non-industry sources	279,096,106.0	-	-	279,096,106.0
Total Angler Expenditures	975,698,840.0	251,955,452.0	216,997,327.0	1,444,641,644.0

Industry INCOME impacts in the SOUTHCENTRAL due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,418,369.0	699,529.0	40,394.0	2,158,294.0
21 Mining	779,193.0	10,865,022.0	2,046,869.0	13,691,086.0
22 Utilities	-	1,577,692.0	1,374,202.0	2,951,895.0
23 Construction	46,376,390.0	3,048,663.0	(329,588.0)	49,095,457.0
31-33 Manufacturing	5,103,578.0	2,800,294.0	1,519,200.0	9,423,073.0
42 Wholesale Trade	16,706,953.0	3,363,992.0	2,430,104.0	22,501,048.0
48-49 Transportation & Warehousing	13,511,987.0	8,211,072.0	2,979,477.0	24,702,537.0
44-45 Retail trade	54,131,691.0	4,874,206.0	11,175,942.0	70,181,838.0
51 Information	4,030.0	3,466,935.0	362,545.0	3,833,412.0
52 Finance & insurance	-	3,222,102.0	4,706,099.0	7,928,199.0
53 Real estate & rental	15,748,280.0	4,799,392.0	1,514,907.0	22,062,577.0
54 Professional- scientific & tech svcs	-	12,584,532.0	1,334,295.0	13,918,830.0
55 Management of companies	-	3,188,064.0	127,156.0	3,315,219.0
56 Administrative & waste services	153,200.0	4,967,057.0	737,593.0	5,857,847.0
61 Educational svcs	-	80,037.0	1,105,530.0	1,185,567.0
62 Health & social services	-	4,113.0	20,050,302.0	20,054,413.0
71 Arts- entertainment & recreation	41,559,292.0	1,968,536.0	589,215.0	44,117,045.0
72 Accommodation & food services	36,895,124.0	2,188,489.0	5,692,567.0	44,776,199.0
81 Other services	6,018,604.0	2,161,531.0	5,108,402.0	13,288,539.0
92 Government & non NAICS	1,352,487.0	2,104,588.0	7,963,622.0	11,420,677.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	239,759,153.0	76,175,738.0	70,528,842.0	386,463,736.0

Industry EMPLOYMENT impacts in the SOUTHCENTRAL due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	145	63	3	211
21 Mining	3	49	9	61
22 Utilities	-	17	16	33
23 Construction	695	43	(2)	736
31-33 Manufacturing	133	63	50	245
42 Wholesale Trade	302	61	46	408
48-49 Transportation & Warehousing	197	139	59	395
44-45 Retail trade	1,997	169	348	2,513
51 Information	-	69	30	99
52 Finance & insurance	-	58	73	130
53 Real estate & rental	308	235	77	620
54 Professional- scientific & tech svcs	-	247	40	286
55 Management of companies	-	56	2	58
56 Administrative & waste services	3	169	32	204
61 Educational svcs	-	18	47	65
62 Health & social services	-	0	411	411
71 Arts- entertainment & recreation	2,007	85	63	2,155
72 Accommodation & food services	1,817	99	237	1,952
81 Other services	446	71	206	723
92 Government & non NAICS	41	42	121	205
Imports and other non-industry sources	2	4	16	22
Total Angler Expenditures	7,897	1,755	1,882	11,535

Appendix O8.—Industry output, income and employment impacts of resident angler spending in the Southcentral Region.

Industry OUTPUT impacts in the SOUTHCENTRAL REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	3,643,658.0	725,267.0	91,505.0	4,460,429.0
21 Mining	2,362,453.0	25,018,545.0	3,526,925.0	30,907,923.0
22 Utilities	-	3,317,379.0	2,482,678.0	5,800,055.0
23 Construction	50,895,000.0	2,763,355.0	(102,944.0)	53,555,412.0
31-33 Manufacturing	36,778,389.0	11,778,298.0	6,695,981.0	55,252,668.0
42 Wholesale Trade	31,093,424.0	3,963,573.0	2,851,523.0	37,938,520.0
48-49 Transportation & Warehousing	6,756,724.0	7,383,637.0	3,486,106.0	17,626,467.0
44-45 Retail trade	95,658,753.0	5,061,634.0	12,037,327.0	112,757,716.0
51 Information	10,353.0	6,678,791.0	1,478,592.0	8,167,737.0
52 Finance & insurance	-	4,585,559.0	7,139,437.0	11,724,996.0
53 Real estate & rental	2,144,825.0	13,836,179.0	4,380,198.0	20,361,199.0
54 Professional- scientific & tech svcs	-	12,299,385.0	2,016,667.0	14,316,052.0
55 Management of companies	-	4,094,093.0	250,260.0	4,344,353.0
56 Administrative & waste services	87,862.0	5,042,565.0	1,143,426.0	6,273,854.0
61 Educational svcs	-	88,635.0	1,076,826.0	1,165,461.0
62 Health & social services	-	4,901.0	16,690,992.0	16,695,893.0
71 Arts- entertainment & recreation	42,912,711.0	1,801,993.0	1,031,648.0	45,746,350.0
72 Accommodation & food services	32,014,222.0	2,346,897.0	7,039,335.0	41,400,453.0
81 Other services	17,145,161.0	2,148,763.0	5,194,230.0	24,488,154.0
92 Government & non NAICS	574,584.0	2,911,761.0	18,368,172.0	21,854,518.0
Imports and other non-industry sources	228,495,897.0	-	-	228,495,897.0
Total Angler Expenditures	550,574,016.0	115,881,204.0	96,878,683.0	763,333,906.0

Industry INCOME impacts in the SOUTHCENTRAL REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,071,163.0	208,471.0	17,705.0	1,297,340.0
21 Mining	607,676.0	6,484,043.0	914,030.0	8,005,751.0
22 Utilities	-	674,380.0	572,048.0	1,246,429.0
23 Construction	19,272,022.0	1,271,253.0	(30,178.0)	20,513,101.0
31-33 Manufacturing	2,513,812.0	1,192,536.0	605,109.0	4,311,457.0
42 Wholesale Trade	11,751,366.0	1,509,322.0	1,077,697.0	14,338,385.0
48-49 Transportation & Warehousing	2,423,948.0	3,386,692.0	1,267,681.0	7,078,322.0
44-45 Retail trade	39,843,162.0	2,091,197.0	4,997,894.0	46,932,252.0
51 Information	2,768.0	1,634,518.0	274,507.0	1,911,793.0
52 Finance & insurance	-	1,440,225.0	2,014,367.0	3,454,591.0
53 Real estate & rental	1,405,531.0	2,167,981.0	762,398.0	4,335,890.0
54 Professional- scientific & tech svcs	-	5,331,650.0	870,175.0	6,201,826.0
55 Management of companies	-	1,766,920.0	108,008.0	1,874,927.0
56 Administrative & waste services	27,972.0	2,068,558.0	393,439.0	2,489,968.0
61 Educational svcs	-	39,687.0	500,981.0	540,668.0
62 Health & social services	-	1,992.0	9,054,927.0	9,056,919.0
71 Arts- entertainment & recreation	13,423,962.0	797,494.0	375,366.0	14,596,822.0
72 Accommodation & food services	10,602,088.0	844,355.0	2,499,043.0	13,945,485.0
81 Other services	5,584,602.0	876,901.0	2,193,803.0	8,655,307.0
92 Government & non NAICS	485,163.0	838,533.0	2,719,061.0	4,042,757.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	109,015,231.0	34,626,685.0	31,188,079.0	174,829,998.0

Industry EMPLOYMENT impacts in the SOUTHCENTRAL REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	109.5	18.1	1.6	129.1
21 Mining	2.6	29.7	4.3	36.7
22 Utilities	-	7.0	6.8	13.8
23 Construction	288.8	19.0	(0.5)	307.3
31-33 Manufacturing	67.1	26.3	22.2	115.5
42 Wholesale Trade	212.0	27.2	19.4	258.7
48-49 Transportation & Warehousing	43.5	61.5	26.1	131.2
44-45 Retail trade	1,428.5	69.2	163.5	1,661.0
51 Information	-	33.5	4.4	38.0
52 Finance & insurance	-	25.1	34.8	59.7
53 Real estate & rental	27.5	114.5	38.0	180.2
54 Professional- scientific & tech svcs	-	103.6	22.1	125.6
55 Management of companies	-	22.5	1.3	23.8
56 Administrative & waste services	0.5	77.4	17.0	95.1
61 Educational svcs	-	1.6	21.7	23.4
62 Health & social services	-	-	196.8	196.8
71 Arts- entertainment & recreation	749.0	38.1	20.8	807.8
72 Accommodation & food services	453.5	37.3	112.5	603.2
81 Other services	160.9	27.6	88.5	277.0
92 Government & non NAICS	24.8	15.9	44.5	85.3
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	3,568.5	755.3	845.7	5,169.3

Appendix O9.- Industry output, income and employment impacts of nonresident angler spending in the Southcentral Region.

Industry OUTPUT impacts in the SOUTHCENTRAL REGION due to NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1,305,734.0	1,619,551.0	151,707.0	3,076,993.0
21 Mining	666,806.0	16,905,721.0	4,371,899.0	21,944,427.0
22 Utilities	-	4,443,942.0	3,161,308.0	7,605,250.0
23 Construction	72,434,496.0	3,878,763.0	(710,993.0)	75,602,266.0
31-33 Manufacturing	24,238,183.0	17,019,508.0	10,056,540.0	51,314,231.0
42 Wholesale Trade	13,112,191.0	4,907,346.0	3,578,391.0	21,597,928.0
48-49 Transportation & Warehousing	35,858,375.0	9,501,137.0	5,092,384.0	50,451,896.0
44-45 Retail trade	32,508,001.0	6,736,128.0	14,873,309.0	54,117,438.0
51 Information	4,730.0	7,620,741.0	824,244.0	8,449,714.0
52 Finance & insurance	-	5,700,669.0	9,555,611.0	15,256,279.0
53 Real estate & rental	21,886,874.0	16,370,337.0	4,227,859.0	42,485,070.0
54 Professional- scientific & tech svcs	-	16,421,656.0	1,135,821.0	17,557,477.0
55 Management of companies	-	3,292,903.0	44,367.0	3,337,269.0
56 Administrative & waste services	393,353.0	7,663,506.0	1,221,800.0	9,278,659.0
61 Educational svcs	-	89,713.0	1,298,902.0	1,388,616.0
62 Health & social services	-	5,246.0	20,267,507.0	20,272,752.0
71 Arts- entertainment & recreation	90,002,706.0	2,632,239.0	757,574.0	93,392,519.0
72 Accommodation & food services	80,277,904.0	3,721,873.0	9,099,794.0	93,099,571.0
81 Other services	876,353.0	3,177,884.0	7,037,933.0	11,092,169.0
92 Government & non NAICS	956,917.0	4,364,892.0	24,062,698.0	29,384,507.0
Imports and other non-industry sources	50,600,209.0	-	-	50,600,209.0
Total Angler Expenditures	425,124,824.0	136,074,248.0	120,108,844.0	681,307,916.0

Industry INCOME impacts in the SOUTHCENTRAL REGION due to NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	347,206.0	491,058.0	22,889.0	860,954.0
21 Mining	171,517.0	4,380,979.0	1,132,839.0	5,685,335.0
22 Utilities	-	903,312.0	802,154.0	1,705,466.0
23 Construction	27,104,388.0	1,777,410.0	(289,420.0)	28,592,378.0
31-33 Manufacturing	2,589,766.0	1,607,758.0	914,091.0	5,111,616.0
42 Wholesale Trade	4,955,587.0	1,854,670.0	1,352,407.0	8,162,664.0
48-49 Transportation & Warehousing	11,088,039.0	4,824,380.0	1,711,796.0	17,624,215.0
44-45 Retail trade	14,288,529.0	2,783,009.0	6,178,048.0	23,249,586.0
51 Information	1,264.0	1,832,317.0	88,038.0	1,921,619.0
52 Finance & insurance	-	1,781,877.0	2,691,732.0	4,473,609.0
53 Real estate & rental	14,342,749.0	2,631,431.0	752,509.0	17,726,689.0
54 Professional- scientific & tech svcs	-	7,252,882.0	464,120.0	7,717,004.0
55 Management of companies	-	1,421,144.0	19,148.0	1,440,292.0
56 Administrative & waste services	125,228.0	2,898,499.0	344,154.0	3,367,879.0
61 Educational svcs	-	40,350.0	604,549.0	644,901.0
62 Health & social services	-	2,121.0	10,995,375.0	10,997,496.0
71 Arts- entertainment & recreation	28,135,330.0	1,171,042.0	213,829.0	29,520,201.0
72 Accommodation & food services	26,293,036.0	1,344,134.0	3,193,544.0	30,830,714.0
81 Other services	434,002.0	1,284,630.0	2,914,599.0	4,633,231.0
92 Government & non NAICS	867,304.0	1,266,055.0	5,244,561.0	7,377,920.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	130,743,922.0	41,549,052.0	39,340,763.0	211,633,738.0

Industry EMPLOYMENT impacts in the SOUTHCENTRAL REGION due to NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	35.4	45.0	1.8	82.2
21 Mining	0.8	19.0	4.8	24.7
22 Utilities	-	9.6	9.4	19.2
23 Construction	406.4	23.5	(1.5)	428.6
31-33 Manufacturing	65.5	36.6	27.4	129.5
42 Wholesale Trade	89.6	33.8	26.2	149.4
48-49 Transportation & Warehousing	153.9	77.5	32.4	263.9
44-45 Retail trade	568.6	99.4	184.0	852.1
51 Information	-	35.6	25.4	61.0
52 Finance & insurance	-	32.6	38.1	70.7
53 Real estate & rental	280.9	120.5	38.6	440.2
54 Professional- scientific & tech svcs	-	143.0	17.9	160.7
55 Management of companies	-	33.6	0.6	34.2
56 Administrative & waste services	2.4	92.0	14.9	109.3
61 Educational svcs	-	16.5	24.9	41.3
62 Health & social services	-	0.2	214.4	214.6
71 Arts- entertainment & recreation	1,258.1	46.9	42.1	1,347.0
72 Accommodation & food services	1,163.4	61.7	124.1	1,349.2
81 Other services	285.1	43.3	117.9	446.1
92 Government & non NAICS	16.6	26.1	76.5	119.5
Imports and other non-industry sources	2.4	3.7	15.9	22.1
Total Angler Expenditures	4,328.8	999.6	1,036.7	6,365.4

Appendix O10.— Industry output, income and employment impacts of all angler spending in the Interior Region.

Industry OUTPUT impacts in the INTERIOR due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	255,142.0	214,963.0	46,921.0	517,023.0
21 Mining	25,066.0	457,163.0	40,130.0	522,388.0
22 Utilities	-	697,874.0	272,189.0	970,065.0
23 Construction	5,671,949.0	461,148.0	(125,307.0)	6,007,791.0
31-33 Manufacturing	4,805,839.0	2,858,194.0	695,255.0	8,359,287.0
42 Wholesale Trade	4,608,379.0	382,775.0	269,400.0	5,260,555.0
48-49 Transportation & Warehousing	7,635,924.0	1,587,249.0	364,917.0	9,588,091.0
44-45 Retail trade	14,828,600.0	569,678.0	1,538,696.0	16,954,973.0
51 Information	681.0	1,042,670.0	31,299.0	1,074,649.0
52 Finance & Insurance	-	339,356.0	785,273.0	1,124,629.0
53 Real estate & rental	542,552.0	2,177,988.0	370,335.0	3,090,875.0
54 Professional- scientific & tech svcs	-	1,022,345.0	84,870.0	1,107,215.0
55 Management of companies	-	94,827.0	(4,218.0)	90,610.0
56 Administrative & waste services	65,729.0	1,058,748.0	104,082.0	1,228,559.0
61 Educational svcs	-	14,714.0	135,971.0	150,685.0
62 Health & social services	-	743.0	1,978,122.0	1,978,865.0
71 Arts- entertainment & recreation	11,881,623.0	175,416.0	134,723.0	12,191,762.0
72 Accommodation & food services	7,697,909.0	502,361.0	1,028,106.0	9,228,374.0
81 Other services	1,862,734.0	251,682.0	760,273.0	2,874,687.0
92 Government & non NAICS	819,403.0	725,918.0	2,846,302.0	4,391,621.0
Imports and other non-industry sources	39,700,851.0	-	-	39,700,851.0
Total Angler Expenditures	100,402,412.0	14,655,805.0	11,355,343.0	126,413,553.0

Industry INCOME impacts in the INTERIOR due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	78,277.0	34,667.0	9,781.0	122,725.0
21 Mining	6,375.0	116,629.0	10,133.0	133,134.0
22 Utilities	-	159,315.0	60,749.0	220,064.0
23 Construction	2,222,058.0	218,151.0	(57,452.0)	2,382,757.0
31-33 Manufacturing	179,120.0	121,128.0	60,956.0	361,206.0
42 Wholesale Trade	1,742,067.0	144,698.0	101,839.0	1,988,600.0
48-49 Transportation & Warehousing	2,090,713.0	649,469.0	122,792.0	3,062,974.0
44-45 Retail trade	6,258,187.0	237,517.0	625,299.0	7,121,012.0
51 Information	269.0	253,555.0	(3,697.0)	250,128.0
52 Finance & Insurance	-	92,847.0	210,099.0	302,945.0
53 Real estate & rental	360,387.0	366,453.0	71,751.0	798,593.0
54 Professional- scientific & tech svcs	-	422,857.0	29,502.0	452,359.0
55 Management of companies	-	41,228.0	(1,833.0)	39,392.0
56 Administrative & waste services	22,666.0	491,958.0	17,846.0	532,471.0
61 Educational svcs	-	6,913.0	64,427.0	71,337.0
62 Health & social services	-	289.0	1,097,283.0	1,097,576.0
71 Arts- entertainment & recreation	3,610,247.0	90,057.0	24,358.0	3,724,660.0
72 Accommodation & food services	2,725,876.0	186,841.0	375,224.0	3,287,942.0
81 Other services	575,382.0	111,691.0	317,361.0	1,004,432.0
92 Government & non NAICS	674,229.0	228,584.0	706,761.0	1,609,576.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	20,545,860.0	4,174,849.0	3,843,173.0	28,563,882.0

Industry EMPLOYMENT impacts in the INTERIOR due to RESIDENT & NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	6	4	1	11
21 Mining	0	2	0	2
22 Utilities	-	1	0	1
23 Construction	31	3	(1)	33
31-33 Manufacturing	3	3	1	7
42 Wholesale Trade	34	3	2	39
48-49 Transportation & Warehousing	47	17	3	67
44-45 Retail trade	243	8	21	271
51 Information	-	6	(0)	5
52 Finance & Insurance	-	2	4	6
53 Real estate & rental	4	13	2	19
54 Professional- scientific & tech svcs	-	8	2	10
55 Management of companies	-	0	-	0
56 Administrative & waste services	0	12	1	14
61 Educational svcs	-	0	3	3
62 Health & social services	-	-	21	21
71 Arts- entertainment & recreation	220	5	2	227
72 Accommodation & food services	96	7	14	117
81 Other services	15	4	10	28
92 Government & non NAICS	20	7	14	41
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	720	105	98	922

Appendix O11.-Industry output, income and employment impacts of resident angler spending in the Interior Region.

Industry OUTPUT impacts in the INTERIOR REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	193,446.0	125,168.0	20,332.0	338,946.0
21 Mining	20,165.0	275,208.0	20,253.0	315,623.0
22 Utilities	-	282,187.0	159,912.0	442,099.0
23 Construction	2,704,345.0	159,513.0	5,460.0	2,869,319.0
31-33 Manufacturing	3,726,561.0	1,069,318.0	254,579.0	5,050,457.0
42 Wholesale Trade	3,764,875.0	181,442.0	114,754.0	4,061,071.0
48-49 Transportation & Warehousing	1,210,810.0	600,640.0	171,625.0	1,982,874.0
44-45 Retail trade	12,292,908.0	294,470.0	680,959.0	13,278,337.0
51 Information	612.0	487,808.0	102,076.0	590,496.0
52 Finance & insurance	-	150,302.0	246,531.0	396,832.0
53 Real estate & rental	34,072.0	982,537.0	270,945.0	1,287,553.0
54 Professional- scientific & tech svcs	-	391,594.0	80,983.0	472,577.0
55 Management of companies	-	59,415.0	2,448.0	61,863.0
56 Administrative & waste services	41,970.0	391,571.0	67,000.0	500,543.0
61 Educational svcs	-	7,103.0	84,132.0	91,235.0
62 Health & social services	-	312.0	920,819.0	921,131.0
71 Arts- entertainment & recreation	1,401,355.0	47,995.0	76,053.0	1,525,403.0
72 Accommodation & food services	1,604,627.0	198,734.0	421,918.0	2,225,279.0
81 Other services	1,775,756.0	103,177.0	245,113.0	2,124,046.0
92 Government & non NAICS	197,056.0	259,796.0	1,161,298.0	1,618,150.0
Imports and other non-industry sources	35,888,492.0	-	-	35,888,492.0
Total Angler Expenditures	64,856,852.0	6,068,288.0	5,067,184.0	76,022,320.0

Industry INCOME impacts in the INTERIOR REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	59,452.0	18,817.0	4,347.0	82,616.0
21 Mining	5,123.0	70,288.0	5,094.0	80,504.0
22 Utilities	-	63,480.0	36,541.0	100,021.0
23 Construction	1,067,198.0	75,846.0	3,087.0	1,146,130.0
31-33 Manufacturing	132,388.0	50,283.0	15,187.0	197,860.0
42 Wholesale Trade	1,423,204.0	68,588.0	43,379.0	1,535,171.0
48-49 Transportation & Warehousing	422,600.0	281,420.0	67,290.0	771,301.0
44-45 Retail trade	5,088,832.0	118,609.0	280,733.0	5,488,175.0
51 Information	242.0	119,824.0	20,363.0	140,229.0
52 Finance & insurance	-	41,009.0	64,893.0	105,902.0
53 Real estate & rental	22,632.0	165,362.0	49,789.0	237,784.0
54 Professional- scientific & tech svcs	-	157,375.0	33,388.0	190,763.0
55 Management of companies	-	25,831.0	1,065.0	26,895.0
56 Administrative & waste services	14,473.0	207,952.0	29,912.0	252,337.0
61 Educational svcs	-	3,327.0	30,380.0	33,706.0
62 Health & social services	-	124.0	510,766.0	510,891.0
71 Arts- entertainment & recreation	425,804.0	22,827.0	24,293.0	472,923.0
72 Accommodation & food services	584,096.0	73,617.0	156,531.0	814,244.0
81 Other services	530,043.0	47,919.0	111,034.0	688,995.0
92 Government & non NAICS	164,688.0	82,044.0	140,524.0	387,257.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	9,940,774.0	1,694,346.0	1,628,596.0	13,263,707.0

Industry EMPLOYMENT impacts in the INTERIOR REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	4.5	2.5	0.3	7.3
21 Mining	0.1	1.3	0.1	1.5
22 Utilities	-	0.6	0.3	0.8
23 Construction	14.8	1.1	-	15.8
31-33 Manufacturing	2.3	1.1	0.2	3.7
42 Wholesale Trade	27.8	1.5	0.9	30.0
48-49 Transportation & Warehousing	7.6	5.5	1.4	14.4
44-45 Retail trade	184.1	4.0	9.1	197.3
51 Information	-	2.6	0.3	3.0
52 Finance & insurance	-	0.7	1.2	2.1
53 Real estate & rental	0.3	5.8	1.7	7.8
54 Professional- scientific & tech svcs	-	3.2	0.9	4.1
55 Management of companies	-	0.3	-	0.3
56 Administrative & waste services	0.2	4.8	0.9	5.9
61 Educational svcs	-	0.1	1.2	1.4
62 Health & social services	-	-	9.6	9.6
71 Arts- entertainment & recreation	25.9	1.3	1.4	28.7
72 Accommodation & food services	22.3	2.7	6.2	31.3
81 Other services	13.3	1.5	3.7	18.5
92 Government & non NAICS	9.1	2.4	3.6	15.1
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	312.6	42.7	43.5	398.7

Appendix O12.-Industry output, income and employment impacts of nonresident angler spending in the Interior Region.

Industry OUTPUT impacts in the INTERIOR REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	61,686.0	89,795.0	26,589.0	178,070.0
21 Mining	4,931.0	181,957.0	19,877.0	206,765.0
22 Utilities	-	415,687.0	112,277.0	527,964.0
23 Construction	2,967,604.0	301,835.0	(130,767.0)	3,138,472.0
31-33 Manufacturing	1,079,278.0	1,788,876.0	440,676.0	3,308,830.0
42 Wholesale Trade	843,504.0	201,333.0	154,648.0	1,199,484.0
48-49 Transportation & Warehousing	6,425,314.0	986,809.0	193,292.0	7,605,217.0
44-45 Retail trade	2,535,692.0	295,208.0	845,737.0	3,676,636.0
51 Information	69.0	554,862.0	(70,777.0)	484,153.0
52 Finance & insurance	-	189,054.0	538,742.0	727,797.0
53 Real estate & rental	508,480.0	1,195,451.0	99,390.0	1,803,322.0
54 Professional- scientific & tech svcs	-	630,751.0	3,887.0	634,638.0
55 Management of companies	-	35,412.0	(6,668.0)	28,747.0
56 Administrative & waste services	23,759.0	667,177.0	37,082.0	728,016.0
61 Educational svcs	-	7,611.0	71,839.0	79,447.0
62 Health & social services	-	431.0	1,057,303.0	1,057,735.0
71 Arts- entertainment & recreation	10,480,268.0	127,421.0	58,670.0	10,666,357.0
72 Accommodation & food services	6,093,282.0	303,627.0	606,188.0	7,003,095.0
81 Other services	86,978.0	148,505.0	515,180.0	750,641.0
92 Government & non NAICS	622,347.0	466,122.0	1,685,014.0	2,773,482.0
Imports and other non-industry sources	3,812,359.0	-	-	3,812,359.0
Total Angler Expenditures	35,545,560.0	8,587,519.0	6,258,159.0	50,391,238.0

Industry INCOME impacts in the INTERIOR REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	18,825.0	15,850.0	5,434.0	40,109.0
21 Mining	1,252.0	46,341.0	5,039.0	52,630.0
22 Utilities	-	95,835.0	24,208.0	120,043.0
23 Construction	1,154,858.0	142,305.0	(80,539.0)	1,236,627.0
31-33 Manufacturing	46,732.0	70,845.0	45,769.0	163,346.0
42 Wholesale Trade	318,863.0	75,108.0	58,460.0	453,429.0
48-49 Transportation & Warehousing	1,668,113.0	568,049.0	55,512.0	2,291,673.0
44-45 Retail trade	1,169,365.0	118,908.0	344,566.0	1,632,837.0
51 Information	27.0	133,931.0	(24,060.0)	109,899.0
52 Finance & insurance	-	51,838.0	145,206.0	197,043.0
53 Real estate & rental	337,755.0	201,091.0	21,862.0	560,809.0
54 Professional- scientific & tech svcs	-	255,482.0	(3,886.0)	261,595.0
55 Management of companies	-	15,395.0	(2,898.0)	12,497.0
56 Administrative & waste services	8,193.0	284,006.0	(12,086.0)	280,113.0
61 Educational svcs	-	3,586.0	34,047.0	37,631.0
62 Health & social services	-	165.0	586,517.0	586,685.0
71 Arts- entertainment & recreation	3,184,443.0	67,230.0	65.0	3,251,737.0
72 Accommodation & food services	2,141,780.0	113,224.0	218,693.0	2,473,698.0
81 Other services	45,339.0	63,772.0	206,327.0	315,437.0
92 Government & non NAICS	509,541.0	146,540.0	566,237.0	1,222,319.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	10,605,086.0	2,480,503.0	2,214,587.0	15,300,175.0

Industry EMPLOYMENT impacts in the INTERIOR REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	1.5	1.8	0.2	3.5
21 Mining	-	0.8	-	0.9
22 Utilities	-	0.8	0.1	1.0
23 Construction	16.0	1.8	(0.8)	17.1
31-33 Manufacturing	0.8	1.4	0.5	3.0
42 Wholesale Trade	6.3	1.4	1.1	8.9
48-49 Transportation & Warehousing	39.5	11.8	1.2	52.6
44-45 Retail trade	58.5	3.9	11.4	73.8
51 Information	-	2.9	(0.7)	2.2
52 Finance & insurance	-	1.0	2.7	3.7
53 Real estate & rental	3.9	7.0	0.4	11.4
54 Professional- scientific & tech svcs	-	5.1	0.6	5.7
55 Management of companies	-	-	-	0.1
56 Administrative & waste services	0.2	7.6	0.4	8.1
61 Educational svcs	-	-	1.4	1.5
62 Health & social services	-	-	11.2	11.2
71 Arts- entertainment & recreation	194.1	3.5	0.3	198.0
72 Accommodation & food services	73.6	4.5	8.0	86.1
81 Other services	1.3	2.0	6.2	9.3
92 Government & non NAICS	10.8	4.1	10.6	25.4
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	407.0	62.0	54.9	523.7

Appendix O13.-Industry output, income and employment impacts of all angler spending in the Cook Inlet Subregion.

Industry OUTPUT impacts in the COOK INLET due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	3,288,164.0	4,958,117.0	277,802.0	8,424,083.0
21 Mining	2,576,844.0	27,495,718.0	5,729,755.0	35,802,315.0
22 Utilities	-	4,770,585.0	3,932,142.0	8,702,726.0
23 Construction	114,770,704.0	4,716,893.0	(144,341.0)	119,343,061.0
31-33 Manufacturing	43,410,915.0	20,116,177.0	10,887,526.0	74,414,513.0
42 Wholesale Trade	31,697,630.0	6,676,467.0	4,643,233.0	43,017,331.0
48-49 Transportation & Warehousing	22,546,700.0	12,055,968.0	5,949,502.0	40,552,167.0
44-45 Retail trade	102,637,883.0	10,208,222.0	19,371,117.0	132,217,222.0
51 Information	12,751.0	9,774,171.0	2,407,578.0	12,194,500.0
52 Finance & insurance	-	7,651,937.0	12,230,388.0	19,882,334.0
53 Real estate & rental	19,816,057.0	20,233,717.0	7,101,770.0	46,951,542.0
54 Professional- scientific & tech svcs	-	21,066,179.0	3,421,866.0	24,488,045.0
55 Management of companies	-	7,620,081.0	681,664.0	8,201,745.0
56 Administrative & waste services	224,544.0	9,276,231.0	1,913,789.0	10,414,565.0
61 Educational svcs	-	123,971.0	1,747,151.0	1,871,125.0
62 Health & social services	-	6,626.0	27,104,067.0	27,110,694.0
71 Arts- entertainment & recreation	69,950,914.0	2,849,640.0	1,777,009.0	74,577,564.0
72 Accommodation & food services	61,528,255.0	4,036,895.0	11,371,240.0	76,936,385.0
81 Other services	15,309,059.0	3,611,460.0	8,267,974.0	27,188,491.0
92 Government & non NAICS	850,836.0	4,827,347.0	29,921,476.0	35,599,457.0
Imports and other non-industry sources	234,069,478.0	-	-	234,069,478.0
Total Angler Expenditures	722,490,422.0	180,976,189.0	158,492,765.0	1,061,959,343.0

Industry INCOME impacts in the COOK INLET due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	789,891.0	1,294,488.0	55,147.0	2,139,528.0
21 Mining	663,134.0	7,129,746.0	1,485,475.0	9,278,355.0
22 Utilities	-	961,241.0	912,616.0	1,873,858.0
23 Construction	42,920,299.0	2,167,578.0	(33,773.0)	45,054,105.0
31-33 Manufacturing	3,419,497.0	2,199,153.0	1,016,982.0	6,625,630.0
42 Wholesale Trade	11,979,708.0	2,523,285.0	1,754,851.0	16,257,841.0
48-49 Transportation & Warehousing	7,423,558.0	5,766,099.0	2,171,665.0	15,361,323.0
44-45 Retail trade	43,606,590.0	4,248,271.0	8,094,554.0	55,949,413.0
51 Information	3,410.0	2,380,919.0	447,001.0	2,831,330.0
52 Finance & insurance	-	2,414,196.0	3,493,747.0	5,907,945.0
53 Real estate & rental	12,861,398.0	3,212,709.0	1,228,973.0	17,303,079.0
54 Professional- scientific & tech svcs	-	9,327,326.0	1,484,129.0	10,811,459.0
55 Management of companies	-	3,292,217.0	251,307.0	3,543,521.0
56 Administrative & waste services	72,009.0	3,290,782.0	654,382.0	4,017,172.0
61 Educational svcs	-	55,817.0	821,104.0	876,921.0
62 Health & social services	-	2,695.0	14,708,781.0	14,711,475.0
71 Arts- entertainment & recreation	21,829,683.0	1,243,692.0	653,255.0	23,826,630.0
72 Accommodation & food services	20,305,919.0	1,458,065.0	4,047,510.0	25,811,493.0
81 Other services	4,796,499.0	1,504,274.0	3,538,392.0	9,839,165.0
92 Government & non NAICS	742,131.0	1,400,004.0	4,612,179.0	6,754,313.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	171,513,722.0	55,862,553.0	51,398,277.0	278,774,551.0

Industry EMPLOYMENT impacts in the COOK INLET due to RESIDENT & NONRESIDENT angler expenditures.				
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	100	165	7	272
21 Mining	3	32	7	42
22 Utilities	-	9	12	21
23 Construction	645	32	(1)	677
31-33 Manufacturing	103	50	37	190
42 Wholesale Trade	217	46	32	295
48-49 Transportation & Warehousing	122	104	44	270
44-45 Retail trade	1,592	143	268	2,002
51 Information	-	48	7	55
52 Finance & insurance	-	42	60	102
53 Real estate & rental	252	172	63	486
54 Professional- scientific & tech svcs	-	178	37	215
55 Management of companies	-	42	3	45
56 Administrative & waste services	1	123	29	153
61 Educational svcs	-	2	34	37
62 Health & social services	-	-	320	320
71 Arts- entertainment & recreation	1,214	59	36	1,309
72 Accommodation & food services	868	65	181	1,114
81 Other services	136	47	141	324
92 Government & non NAICS	30	26	72	128
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	5,282	1,385	1,390	8,056

Appendix O14.-Industry output, income and employment impacts of resident angler spending in the Cook Inlet Subregion.

Industry OUTPUT impacts in the COOK INLET REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	2,300,875.0	1,391,097.0	128,657.0	3,820,629.0
21 Mining	2,026,783.0	17,201,578.0	2,785,053.0	22,013,413.0
22 Utilities	-	2,356,037.0	1,891,498.0	4,247,535.0
23 Construction	42,932,380.0	2,128,579.0	62,045.0	45,122,983.0
31-33 Manufacturing	26,601,094.0	8,902,465.0	4,888,132.0	40,391,691.0
42 Wholesale Trade	22,661,983.0	3,105,450.0	2,253,449.0	28,020,883.0
48-49 Transportation & Warehousing	5,307,787.0	5,766,187.0	2,791,868.0	13,865,842.0
44-45 Retail trade	79,254,015.0	4,291,979.0	9,428,979.0	92,974,973.0
51 Information	9,341.0	5,179,732.0	1,397,959.0	6,587,031.0
52 Finance & insurance	-	3,762,080.0	5,820,422.0	9,582,502.0
53 Real estate & rental	1,478,511.0	10,552,771.0	3,731,765.0	15,763,047.0
54 Professional- scientific & tech svcs	-	9,888,605.0	1,997,999.0	11,886,605.0
55 Management of companies	-	4,514,707.0	370,156.0	4,884,862.0
56 Administrative & waste services	60,029.0	3,849,492.0	989,556.0	4,899,078.0
61 Educational svcs	-	66,409.0	856,233.0	922,644.0
62 Health & social services	-	3,530.0	13,252,382.0	13,255,913.0
71 Arts- entertainment & recreation	25,921,678.0	1,326,126.0	977,902.0	28,225,706.0
72 Accommodation & food services	22,258,888.0	1,803,688.0	5,438,006.0	29,500,582.0
81 Other services	14,732,267.0	1,632,532.0	3,845,812.0	20,210,608.0
92 Government & non NAICS	459,870.0	2,263,153.0	14,288,070.0	17,011,092.0
Imports and other non-industry sources	203,065,693.0	-	-	203,065,693.0
Total Angler Expenditures	449,071,170.0	90,086,196.0	77,195,939.0	616,353,305.0

Industry INCOME impacts in the COOK INLET REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	562,480.0	363,014.0	26,654.0	952,151.0
21 Mining	521,580.0	4,480,780.0	722,081.0	5,704,439.0
22 Utilities	-	475,738.0	422,710.0	898,449.0
23 Construction	18,072,939.0	982,370.0	43,018.0	17,098,327.0
31-33 Manufacturing	1,810,414.0	977,502.0	455,190.0	3,243,106.0
42 Wholesale Trade	8,564,803.0	1,173,664.0	851,663.0	10,590,128.0
48-49 Transportation & Warehousing	1,920,839.0	2,670,879.0	1,047,111.0	5,638,829.0
44-45 Retail trade	33,267,114.0	1,786,158.0	3,939,719.0	38,992,988.0
51 Information	2,498.0	1,274,801.0	274,643.0	1,551,941.0
52 Finance & insurance	-	1,192,825.0	1,665,602.0	2,858,427.0
53 Real estate & rental	989,396.0	1,654,528.0	642,044.0	3,285,969.0
54 Professional- scientific & tech svcs	-	4,320,027.0	871,741.0	5,191,769.0
55 Management of companies	-	1,993,760.0	159,925.0	2,153,684.0
56 Administrative & waste services	19,251.0	1,578,347.0	355,257.0	1,952,854.0
61 Educational svcs	-	29,881.0	402,363.0	432,243.0
62 Health & social services	-	1,440.0	7,191,734.0	7,193,175.0
71 Arts- entertainment & recreation	8,131,713.0	578,641.0	371,888.0	9,082,241.0
72 Accommodation & food services	7,398,853.0	650,485.0	1,944,119.0	9,993,457.0
81 Other services	4,510,987.0	681,762.0	1,663,007.0	6,855,755.0
92 Government & non NAICS	386,798.0	651,002.0	1,862,429.0	2,900,229.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	84,239,551.0	27,497,501.0	24,912,874.0	136,650,135.0

Industry EMPLOYMENT impacts in the COOK INLET REGION due to RESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	71.7	45.9	3.3	121.0
21 Mining	2.3	20.3	3.3	26.0
22 Utilities	-	4.6	5.3	9.8
23 Construction	241.4	14.6	0.6	256.6
31-33 Manufacturing	55.0	21.7	16.6	93.5
42 Wholesale Trade	155.1	21.3	15.5	191.8
48-49 Transportation & Warehousing	34.6	48.3	21.3	104.3
44-45 Retail trade	1,206.1	59.9	130.8	1,396.7
51 Information	-	25.9	4.6	30.7
52 Finance & insurance	-	20.6	28.6	49.2
53 Real estate & rental	18.9	89.2	33.4	141.7
54 Professional- scientific & tech svcs	-	83.8	20.8	104.4
55 Management of companies	-	25.3	2.1	27.4
56 Administrative & waste services	0.4	59.7	15.0	75.1
61 Educational svcs	-	1.3	16.9	18.1
62 Health & social services	-	-	156.5	156.5
71 Arts- entertainment & recreation	447.1	27.2	19.8	494.3
72 Accommodation & food services	317.9	28.7	87.3	433.9
81 Other services	128.2	21.1	67.4	216.7
92 Government & non NAICS	20.1	12.0	30.4	62.6
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	2,698.8	632.0	679.4	4,010.3

Appendix O15.—Industry output, income and employment impacts of nonresident angler spending in the Cook Inlet Subregion.

Industry OUTPUT impacts in the COOK INLET REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	987,289.0	3,467,020.0	149,145.0	4,603,454.0
21 Mining	550,061.0	10,294,140.0	2,944,702.0	13,788,902.0
22 Utilities	-	2,414,548.0	2,040,644.0	4,455,191.0
23 Construction	71,838,344.0	2,588,114.0	(206,386.0)	74,220,078.0
31-33 Manufacturing	16,809,721.0	11,213,712.0	5,999,394.0	34,022,822.0
42 Wholesale Trade	9,035,647.0	3,571,017.0	2,389,784.0	14,996,448.0
48-49 Transportation & Warehousing	17,238,913.0	6,289,779.0	3,157,634.0	26,686,325.0
44-45 Retail trade	23,383,868.0	5,916,243.0	9,942,138.0	39,242,249.0
51 Information	3,410.0	4,594,439.0	1,009,819.0	5,807,469.0
52 Finance & insurance	-	3,889,857.0	6,409,976.0	10,299,832.0
53 Real estate & rental	18,137,546.0	9,680,846.0	3,370,005.0	31,188,495.0
54 Professional- scientific & tech svcs	-	11,177,573.0	1,423,867.0	12,601,440.0
55 Management of companies	-	3,005,374.0	211,508.0	3,216,883.0
56 Administrative & waste services	164,515.0	4,426,739.0	924,233.0	5,515,487.0
61 Educational svcs	-	57,562.0	890,918.0	948,481.0
62 Health & social services	-	3,096.0	13,951,685.0	13,954,781.0
71 Arts- entertainment & recreation	44,029,239.0	1,523,514.0	799,107.0	46,351,858.0
72 Accommodation & food services	39,269,367.0	2,233,207.0	5,933,234.0	47,435,803.0
81 Other services	576,792.0	1,978,928.0	4,422,162.0	6,977,883.0
92 Government & non NAICS	390,766.0	2,564,194.0	15,633,406.0	18,588,365.0
Imports and other non-industry sources	31,003,785.0	-	-	31,003,785.0
Total Angler Expenditures	273,419,252.0	90,869,993.0	81,296,766.0	445,586,014.0

Industry INCOME impacts in the COOK INLET REGION due to NONRESIDENT angler expenditures.

NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	227,411.0	931,474.0	28,493.0	1,187,377.0
21 Mining	141,554.0	2,668,966.0	763,394.0	3,573,916.0
22 Utilities	-	485,503.0	489,906.0	975,409.0
23 Construction	26,847,360.0	1,185,208.0	(76,791.0)	27,955,778.0
31-33 Manufacturing	1,509,083.0	1,211,651.0	561,792.0	3,282,524.0
42 Wholesale Trade	3,414,905.0	1,349,621.0	903,188.0	5,667,713.0
48-49 Transportation & Warehousing	5,502,719.0	3,095,220.0	1,124,554.0	9,722,494.0
44-45 Retail trade	10,339,476.0	2,462,113.0	4,154,835.0	16,956,425.0
51 Information	912.0	1,106,118.0	172,356.0	1,279,389.0
52 Finance & insurance	-	1,221,371.0	1,828,145.0	3,049,518.0
53 Real estate & rental	11,892,002.0	1,558,181.0	586,929.0	14,037,110.0
54 Professional- scientific & tech svcs	-	5,007,299.0	612,388.0	5,619,690.0
55 Management of companies	-	1,299,457.0	91,382.0	1,390,837.0
56 Administrative & waste services	52,758.0	1,712,435.0	299,125.0	2,064,318.0
61 Educational svcs	-	25,938.0	418,741.0	444,679.0
62 Health & social services	-	1,255.0	7,517,047.0	7,518,300.0
71 Arts- entertainment & recreation	13,797,970.0	665,051.0	281,389.0	14,744,411.0
72 Accommodation & food services	12,907,066.0	807,580.0	2,103,392.0	15,818,040.0
81 Other services	285,512.0	822,512.0	1,875,385.0	2,983,410.0
92 Government & non NAICS	355,333.0	749,002.0	2,749,750.0	3,854,084.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	87,274,061.0	28,364,952.0	26,485,403.0	142,124,416.0

Industry EMPLOYMENT impacts in the COOK INLET REGION due to NONRESIDENT angler expenditures.

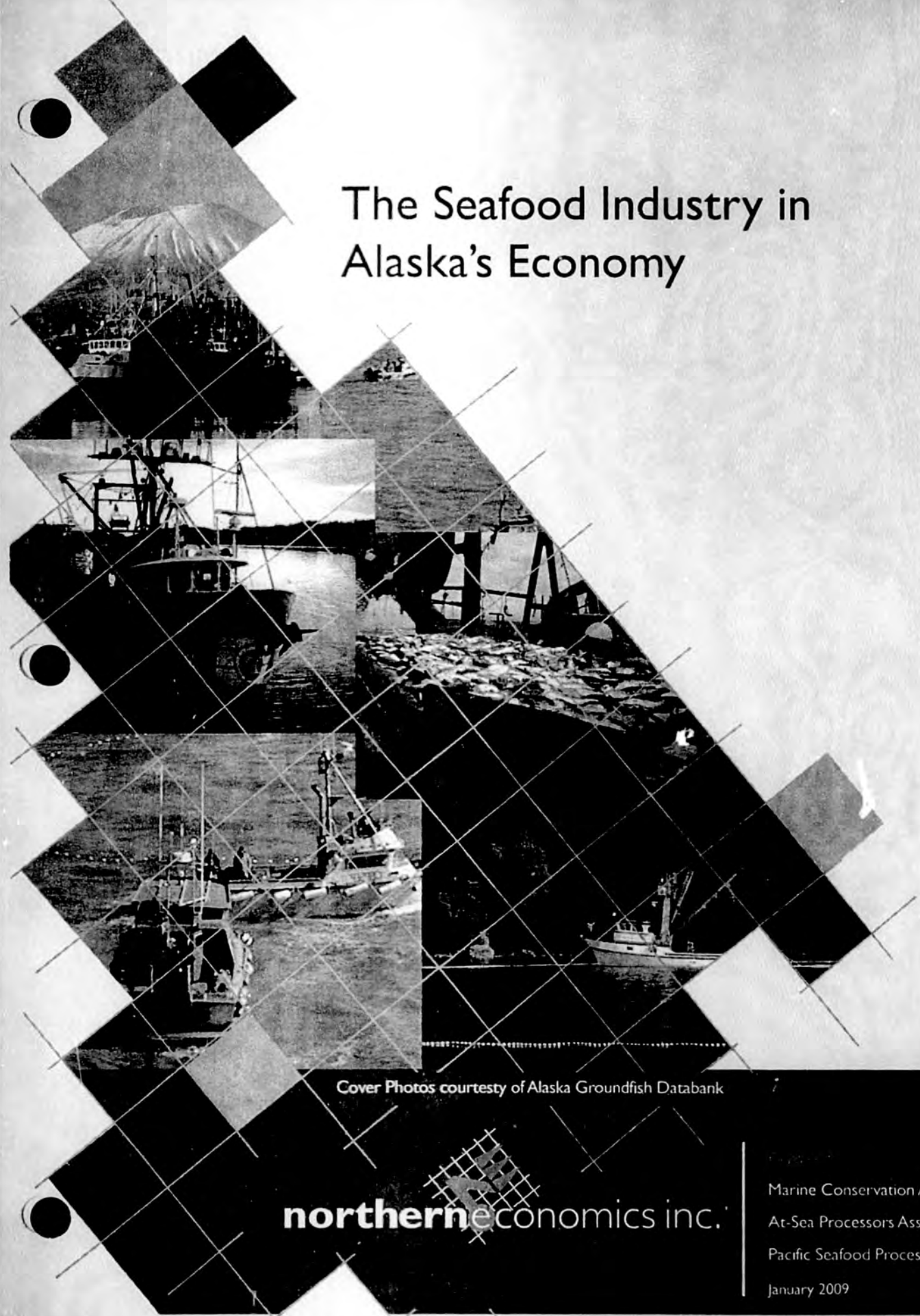
NAICS Industry Categories	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	26.7	119.1	3.7	151.3
21 Mining	0.7	12.1	3.6	16.3
22 Utilities	-	4.7	6.5	11.2
23 Construction	403.2	17.6	(1.2)	419.8
31-33 Manufacturing	48.0	29.2	20.5	96.7
42 Wholesale Trade	61.8	24.4	18.4	102.7
48-49 Transportation & Warehousing	87.0	55.4	23.1	165.7
44-45 Retail trade	385.4	82.6	137.6	605.6
51 Information	-	22.1	2.4	24.5
52 Finance & insurance	-	21.5	31.1	52.5
53 Real estate & rental	232.6	82.3	29.1	344.1
54 Professional- scientific & tech svcs	-	93.8	18.1	110.2
55 Management of companies	-	16.5	1.1	17.6
56 Administrative & waste services	1.0	63.3	13.5	77.8
61 Educational svcs	-	1.0	17.4	18.7
62 Health & social services	-	-	163.7	163.8
71 Arts- entertainment & recreation	766.9	32.0	15.7	814.5
72 Accommodation & food services	550.0	35.8	94.0	679.9
81 Other services	7.9	25.6	73.9	107.5
92 Government & non NAICS	9.6	14.0	41.4	65.0
Imports and other non-industry sources	-	-	-	-
Total Angler Expenditures	2,583.3	752.5	710.2	4,045.8

Appendix O15-Industry output, income and employment impacts of nonresident spending in the Cook Inlet Subregion

Industry Output Impacts in the COOK INLET REGION due to NONRESIDENT spending			
NAICS Industry Categories	Direct	Indirect	Total
17 Ad. Primary Fish & Hunting	887,288.0	3,467,000.0	4,354,288.0
21 Mining	680,000.0	10,284,140.0	10,964,140.0
22 Utilities	2,414,648.0	2,040,844.0	4,455,492.0
23 Construction	17,538,344.0	3,888,114.0	21,426,458.0
31-33 Manufacturing	18,808,110.0	11,571,112.0	30,379,222.0
42 Wholesale Trade	0,032,843.0	3,251,013.0	3,283,856.0
44-45 Transportation & Warehousing	17,338,813.0	6,289,719.0	23,628,532.0
46-48 Retail Trade	23,282,888.0	6,918,243.0	30,201,131.0
51 Information	3,110.0	1,008,810.0	1,011,920.0
52 Finance & Insurance	-	2,889,851.0	2,889,851.0
53 Real Estate & Rental	10,132,240.0	4,889,048.0	15,021,288.0
54 Professional, Scientific & Tech Svcs	11,171,813.0	1,233,885.0	12,405,698.0
55 Management of Companies	2,009,314.0	2,112,098.0	4,121,412.0
56 Administrative & Waste Services	164,412.0	4,438,738.0	4,603,150.0
57 Educational Svcs	-	37,282.0	37,282.0
58 Health & Social Services	14,013,338.0	3,068.0	14,016,406.0
71 Arts, Entertainment & Recreation	14,013,338.0	6,223,813.0	20,237,151.0
72 Accommodation & Food Services	20,268,281.0	3,523,507.0	23,791,788.0
81 Other Services	528,303.0	1,918,828.0	2,447,131.0
91 Government & Non-NAICS	300,788.0	2,004,184.0	2,304,972.0
Exports and other non-county sources	31,003,788.0	-	31,003,788.0
Total Output Expenditures	213,518,353.0	60,889,033.0	274,407,386.0

Industry Income Impacts in the COOK INLET REGION due to NONRESIDENT spending			
NAICS Industry Categories	Direct	Indirect	Total
17 Ad. Primary Fish & Hunting	327,111.0	891,414.0	1,218,525.0
21 Mining	141,040.0	2,688,288.0	2,829,328.0
22 Utilities	482,301.0	688,046.0	1,170,347.0
23 Construction	20,247,023.0	1,860,306.0	22,107,329.0
31-33 Manufacturing	1,009,083.0	1,211,001.0	2,220,084.0
42 Wholesale Trade	1,141,803.0	1,349,821.0	2,491,624.0
44-45 Transportation & Warehousing	5,882,112.0	2,048,230.0	7,930,342.0
46-48 Retail Trade	10,328,488.0	2,462,112.0	12,790,600.0
51 Information	112.0	1,108,118.0	1,108,230.0
52 Finance & Insurance	-	2,221,211.0	2,221,211.0
53 Real Estate & Rental	11,883,003.0	1,058,181.0	12,941,184.0
54 Professional, Scientific & Tech Svcs	-	2,001,208.0	2,001,208.0
55 Management of Companies	-	1,204,481.0	1,204,481.0
56 Administrative & Waste Services	22,788.0	1,713,488.0	1,736,276.0
57 Educational Svcs	-	28,508.0	28,508.0
58 Health & Social Services	-	1,208,112.0	1,208,112.0
71 Arts, Entertainment & Recreation	12,818,101.0	819,091.0	13,637,192.0
72 Accommodation & Food Services	12,502,283.0	601,280.0	13,103,563.0
81 Other Services	388,313.0	823,413.0	1,211,726.0
91 Government & Non-NAICS	109,332.0	1,894,022.0	2,003,354.0
Exports and other non-county sources	-	-	-
Total Income Expenditures	52,311,881.0	28,284,813.0	80,596,694.0

Industry Employment Impacts in the COOK INLET REGION due to NONRESIDENT spending			
NAICS Industry Categories	Direct	Indirect	Total
17 Ad. Primary Fish & Hunting	161	1,181	1,342
21 Mining	63	123	186
22 Utilities	1	43	44
23 Construction	403	13	416
31-33 Manufacturing	69	28	97
42 Wholesale Trade	81	24	105
44-45 Transportation & Warehousing	31	20	51
46-48 Retail Trade	384	628	1,012
51 Information	1	23	24
52 Finance & Insurance	-	21	21
53 Real Estate & Rental	328	62	390
54 Professional, Scientific & Tech Svcs	-	83	83
55 Management of Companies	-	18	18
56 Administrative & Waste Services	10	83	93
57 Educational Svcs	-	1	1
58 Health & Social Services	-	187	187
71 Arts, Entertainment & Recreation	1,082	22	1,104
72 Accommodation & Food Services	220	28	248
81 Other Services	12	28	40
91 Government & Non-NAICS	40	11	51
Exports and other non-county sources	-	-	-
Total Employment Expenditures	2,883	1,818	4,701



The Seafood Industry in Alaska's Economy

Cover Photos courtesy of Alaska Groundfish Databank

northerneconomics inc.

by

Marine Conservation Alliance
At-Sea Processors Association
Pacific Seafood Processors Association
January 2009

The Seafood Industry in Alaska's Economy

northern economics inc.

Prepared for the

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At-Sea Processors Association
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Abbreviations

ADCCED	Alaska Department of Commerce, Community and Economic Development
ADF&G	Alaska Department of Fish and Game
ADOLWD	Alaska Department of Labor and Workforce Development
ADOR	Alaska Department of Revenue
BSAI	Bering Sea/Aleutian Islands
CFEC	Commercial Fisheries Entry Commission
CDQ	Community Development Quota
EEZ	Exclusive Economic Zone
GOA	Gulf of Alaska
IFQ	individual fishing quota
IPHC	International Pacific Halibut Commission
MSC	Marine Stewardship Council
mt	metric tons
NMFS	National Marine Fisheries Service (NOAA Fisheries)
NPFMC	North Pacific Fishery Management Council
USCG	U.S. Coast Guard

Ex-vessel value: The term nominally means the value of harvested but unprocessed fish as it transferred off of the harvesting vessel. Typically the ex-vessel value equals the amount of money that fishing vessels receive for unprocessed fish or shellfish; ex-vessel value is equal to the quantity of fish or shellfish retained for processing multiplied by the ex-vessel (hooked) per-unit price. Catcher-processors do not technically generate an ex-vessel value, but a value may be imputed from catcher processor harvested fish—see Imputed Ex-vessel Value.

Factory trawler: A larger catcher-processor equipped as a stern trawler.

First wholesale value: Amount of money that first processors receive for their product; first wholesale value is equal to the quantity of processed product multiplied by the wholesale product price after primary processing.

Fisheries business tax: State tax levied on fisheries businesses and persons who process or export fisheries resource from Alaska. The tax is based on the fisheries value paid to commercial seafood processors or the market value when there is not an arms-length transaction. Fisheries business tax is

Glossary

At-sea processing sector: Includes vessels that process catch at-sea, such as catcher-processors or motherships, and catcher vessels that deliver fish or shellfish to at-sea processors.

Average Employment: In this document average employment refers to the average number of employees over the course of a given year at shore-based processing plants and associated facilities. These estimates are based on ES-202 reports (see **ES-202 Reports**) submitted to the Alaska Department of Labor and Workforce Development (ADOLWD).

Basic sector: Those firms that export a large share of their production, thereby bringing in revenue from outside the state. In-state federal government expenditures, Permanent Fund dividend payments and expenditures by out-of-state tourists are also basic sector activities.

Catcher processor: A vessel that processes its own catch; some catcher processors also purchase fish or shellfish harvested by catcher vessels and process that catch.

Catcher vessel: A vessel that is used for catching fish or shellfish and that does not process fish or shellfish on board.

Direct economic impacts: The initial, immediate economic effects (i.e., output, employment, income) caused by a specific activity; direct impacts initiate subsequent rounds of spending and re-spending and result in indirect and induced impacts.

ES-202 Reports: These reports are required by the US Employment Security (ES) Act as a means to track employment and employees for purposes of unemployment insurance. Employers paying wages and salaries are required to submit ES-202 reports to their state's department of labor every quarter. The form asks employers to indicate the industry sector in which they operate and to report persons (by name and social security number) that were employed on the 12th day of each month within the quarter. From this report, ADOLWD can generate estimates of the number of wage and salary employees in an industry in any month and also the average number of employees over the course of the year. In addition, because they have the social security numbers of individuals employed at each firm they can estimate the total workforce utilized in the industry. In Alaska, ADOLWD is also able to estimate the residency status of the workforce using the database generated for the permanent fund dividend. It should be noted that firms that operate fishing vessels are not required to submit ES-202 forms, and therefore estimates regarding employment and workforce in the fish harvesting industry are much less certain than estimates of employment and workforce in the fish processing industry.

Ex-vessel value: This term nominally means the value of harvested but unprocessed fish as it transferred off of the harvesting vessel. Typically the ex-vessel value equals the amount of money that fishing vessels receive for unprocessed fish or shellfish; ex-vessel value is equal to the quantity of fish or shellfish retained for processing multiplied by the ex-vessel (dockside) per-unit price. Catcher processors do not technically generate an ex-vessel value, but a value may be imputed from catcher processor harvested fish—see **Imputed Ex-vessel Value**.

Factory trawler: A larger catcher-processor equipped as a stern trawler.

First wholesale value: Amount of money that first processors receive for their product; first wholesale value is equal to the quantity of processed product multiplied by the wholesale product price after primary processing.

Fisheries business tax: State tax levied on fisheries businesses and persons who process or export fisheries resource from Alaska. The tax is based on the fisheries value paid to commercial seafood harvesters or fair market value when there is not an arms length transaction. Fisheries business tax is

collected primarily from licensed processors and persons who export fish from Alaska. The tax rate is 3 percent.

Fishery resource landing tax: State tax levied on processed fishery resource first landed in Alaska or any processed fishery resource subject to sec. 210(f) of the American Fisheries Act. The tax is based on the unprocessed value of the resource, which is determined by multiplying a statewide average price per pound by the unprocessed weight. Fishery Resource Landing Tax is collected primarily from factory trawlers and floating processors which process fishery resource outside of the state's 3-mile limit and bring their products into Alaska for transshipment. The tax rate is 3 percent.

Imputed Ex-vessel Value: Catcher processors, because their fish are fed directly into their on-board processing lines do not generate a financial transaction in which fish are bought or sold. Technically, therefore, there is no ex-vessel price associated with the raw/unprocessed fish. In order to account for the value of this fish, so that it can be compared to other fisheries, an ex-vessel value is often imputed for them. The imputed ex-vessel value is equal to the price per pound of shore based fish of the same species caught in a similar location with a similar gear multiplied by the amount of catcher processor harvests.

Indirect economic impacts: The economic impacts that result from an activity purchasing local goods and services to produce its products.

Induced economic impacts: The economic impacts that result from local spending of income and government revenue generated by direct and indirect activities.

Job: As used in this report, the term "job" refers to a particular full or part-time employment opportunity.

Mothership: A vessel engaged solely in processing; motherships operate at sea by taking deliveries of fish or shellfish harvested by catcher vessels and processing them.

Nominal dollars: Dollars unadjusted for inflation.

Output: The value of goods and services produced by an activity. Output is also a measure of sales.

Payments to labor: Wages and salaries.

Real dollars: Dollars adjusted for inflation.

Secondary economic impacts: The sum of the indirect and induced economic impacts of an activity.

Shore-side processor: Any land-based person, company or vessel that receives unprocessed or limited-processed fish or shellfish, except catcher-processors, motherships, buying stations, restaurants or persons receiving fish or shellfish for personal consumption or bait.

Stationary floating processor: A vessel operating as a processor that remains anchored or otherwise remains stationary in a single location while receiving or processing fish or shellfish.

Total economic impacts: The sum of the direct, indirect and induced economic impacts of an activity.

Workers: In this document the term workers is used to mean participants in the workforce.

Workforce: In this document workforce means the estimated number of individuals that work in a particular industry sector or region. In theory, if two persons fill a particular job over the course of a year, the workforce for that job is two. In the harvesting sector and the at-sea sector, the workforce is undocumented—there is no listing of all of the individuals that have worked onboard a fishing vessel. Therefore, the workforce is estimated based on standardized parameters and assumptions.

collected primarily from licensed processors and persons who export fish from Alaska. The tax rate is 3 percent.

Fishery resource landing tax: State tax levied on processed fishery resource that landed in Alaska or any processed fishery resource subject to sec. 2101 of the American Fisheries Act. The tax is based on the unprocessed value of the resource, which is determined by multiplying a statewide average price per pound by the unprocessed weight. Fishery Resource Landing Tax is collected primarily from factory trawlers and floating processors which process fishery resource outside of the state's 3-mile limit and bring their product into Alaska for transshipment. The tax rate is 3 percent.

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Indirect economic impacts: The economic impacts that result from an activity purchasing local goods and services to produce its products.

Induced economic impacts: The economic impacts that result from local spending of income and government revenue generated by direct and indirect activities.

Job: As used in this report, the term "job" refers to a particular full or part time employment opportunity.

Mothership: A vessel engaged solely in processing, motherships operate at sea by taking delivery of fish or shellfish harvested by catcher vessels and processing them.

Nominal dollars: Dollars unadjusted for inflation.

Output: The value of goods and services produced by an activity. Output is also a measure of sales.

Payments to labor: Wages and salaries.

Real dollars: Dollars adjusted for inflation.

Secondary economic impacts: The sum of the indirect and induced economic impacts of an activity.

Shore-side processor: Any land-based person, company or vessel that receives unprocessed or limited-processed fish or shellfish, except catcher processors, motherships, buying stations, restaurants or persons receiving fish or shellfish for personal consumption or sale.

Stationary floating processor: A vessel operating as a processor that remains anchored or otherwise remains stationary in a single location while receiving or processing fish or shellfish.

Total economic impacts: The sum of the direct, indirect and induced economic impacts of an activity.

Workers: In this document the term workers is used to mean participants in the workforce.

Workforce: In this document workforce means the estimated number of individuals that work in a particular industry sector or region. In theory, if two persons fill a particular job over the course of a year, the workforce for that job is two. In the harvesting sector and the at-sea sector, the workforce is undocumented—there is no listing of all of the individuals that have worked onboard a fishing vessel. Therefore, the workforce is estimated based on standardized parameters and assumptions.

Executive Summary

The commercial harvesting and processing of fish and other seafood products is part of Alaska's historical heritage dating back well over 100 years. The industry started with cod, halibut, herring and salmon in the late 1800s and early 1900s and has grown to include today's sophisticated offshore fisheries for pollock, cod, crab, and other species. As a major player in global markets, Alaska's seafood industry is an economic engine for the state and the nation. If Alaska were an independent country, it would rank in the top 10 of seafood producing nations. On the national scale, Alaska produces over half the United States' seafood landings. Alaska has 8 of the 20 largest seafood ports nationally (based on ex-vessel value of product): Unalaska/Dutch Harbor (2nd); Kodiak (3rd); Naknek-King Salmon (7th); Seward (9th); Sitka (10th); Cordova (11th); Homer (13th); and Petersburg (16th). Additionally, Unalaska/Dutch Harbor has been one of the nation's highest volume seafood ports for years. Within Alaska, the industry is the largest private sector employer, and provides jobs and revenues to communities throughout the state.

The seafood industry in Alaska is dependent on a healthy marine ecosystem and access to sustainable stocks of fish and shellfish. Management is science-driven and conservation comes first. Alaska's fishery management systems are held up as examples to fisheries around the world. The Pew Ocean Commission, as well as the United States Commission on Oceans Policy found that Alaska's fisheries are some of the best managed fisheries in the country, citing the role of science in setting catch limits, efforts to control bycatch and protect habitat. National Geographic (Bourne, 2003) identified Alaska as one of the three best managed and most sustainable fisheries in the world.

The mosaic of fisheries in Alaska is complex. State fisheries include salmon, herring, shellfish, and other species harvested within three miles of shore and in Alaska's vast network of rivers and lakes. Federal fisheries are those harvested beyond 3 miles, in federal waters out to the 200 mile limit. Federal fisheries include some of the nation's largest, such as pollock, cod, and crab. All of these fisheries, both federal and state, contribute to the economic and social well-being of Alaska's coastal communities, its urban cities, and the state as a whole.

Some highlights of the economic importance of the Alaska seafood industry include:

Importance of Alaska to the Global Seafood Market

If Alaska were a nation, it would place 9th among seafood producing countries.

The groundfish fishery in the waters off Alaska is among the largest fisheries in the world. Alaska landings of traditional global groundfish species groups (including cod, pollock, hake, and haddock) and flatfish accounted for about one-fifth of the world harvest of these species groups in 2006.

In the same year, around 42 percent of the world capture production of species in the "salmon, trout, smelt" group occurred in Alaska waters.

Alaska is the top producer of wild, high-value salmon, producing nearly 80 percent of the world supply of wild king, sockeye and coho.

Importance of Alaska Seafood to the U.S.

In 2007, Alaska accounted for over 62 percent of the volume of the commercial seafood harvested in the United States.

Alaska as a single state led all other multi-state regions in the US in terms of ex-vessel value with over 37 percent of the US total. The five New England States combined for a distant second at with 21 percent, followed by the five states on the Gulf of Mexico with 16 percent.

In terms of volume, Alaska's pollock fishery is the largest in the U.S., accounting for more than one-third of total U.S. fisheries landings.

Alaska also accounted for 96 percent of total U.S. commercial landings of salmon in 2007, and approximately one-third or more of total U.S. crab catches. U.S. domestic production of king and snow crab comes entirely from Alaska.

Alaska landings accounted for over 90 percent of the U.S. Pacific Ocean herring harvest and over 75 percent of the US commercial catch of Pacific Halibut in 2007.

Since 1997, Dutch Harbor-Unalaska has been the leading U.S. fishing port in quantity of commercial fishery landings. In 2006, the port had record landings for quantity at a U.S. port, with more than 414,200 mt of seafood.

In 2007, Alaska had two of the country's three top fishing ports ranked by total harvest value. Dutch Harbor-Unalaska ranked second (after New Bedford, MA) with a harvest value of \$174 million; Kodiak moved was ranked third with \$126 million in harvest value.

In the list of top 100 U.S. ports based on volume for 2007, Alaska had 14 including: Unalaska/Dutch Harbor(1st); Kodiak (4th); Naknek-King Salmon (11th); Cordova (12th); Ketchikan (17th); Petersburg (18th); Seward (19th); Sitka (22nd); Juneau (37th); Homer (41th); Kenai (57th); Wrangell (53rd); Yakutat (64th); Anchorage (78th). Were it not for confidentiality restrictions for ports with 3 or fewer companies, Akutan, King Cove, and Sandpoint would all be listed in the top 20.

Importance of Alaska Seafood to Alaska

The total estimated ex-vessel value of Alaska's commercial harvest was \$1.55 billion in 2007.¹

The additional value added by Alaska's seafood processing sector brought the total wholesale value of Alaska's commercial seafood industry to over \$3.6 billion in 2007.

It is estimated that the seafood industry's \$3.6 billion in wholesale value generated an additional \$2.2 billion in indirect and induced economic output for a total contribution of \$5.8 billion to Alaska's economic output. The seafood industry also generated a total of 78,519 direct, indirect and induced jobs and \$1.75 billion in direct, indirect and induced payments to labor and income.

While data for 2007 are not available it is estimated that in 2006, the wholesale value generated by the seafood industry represented over 9.4 percent of the \$36.4 billion basic sector activity in Alaska's economy. The basic sector, because it brings money into the state from outside, is the driving force behind all economic activity in the state.

The seafood industry ranks third in importance behind the North Slope oil and gas industry and federal government in terms of generating basic economic activity in Alaska.

According to ADCCED (2007), seafood is Alaska's top international export—seafood exports accounted for half of the State's total export value.

In 2006, seafood processing accounted for about 80 percent of all manufacturing jobs in the state.

With an estimated workforce of 56,606, the seafood industry employs more workers than any other industry sector in Alaska. The retail and wholesale trade sector follows with a workforce of 56,445.

With the concentration of major fishing ports in the Aleutian and Pribilof Islands region, seafood processing accounted for 65.4 percent of all private sector payments to labor in the region in 2007.

¹ This estimate includes the imputed ex-vessel value of the crab and groundfish that are harvested by vessels that both catch and process seafood, i.e. catcher processors. Because these vessels process their own catch they do not make payments for their unprocessed fish, nor do they report the unprocessed value of their catch.

The seafood processing industry is estimated to have accounted for over 33 percent of private sector payments to labor in Bristol Bay and 39 percent of private sectors payment to labor in Kodiak.

The Community Development Quota (CDQ) Program augments the important role of the seafood industry in Western Alaska. Sixty-five Bering Sea communities participate in the CDQ Program.

From 1992 through 2005 the CDQ Program generated over \$362 million in net income.

The value of CDQ group assets in the aggregate increased from about \$13.3 million in 1992 to over \$415 million in 2005.

The seafood processing industry is estimated to have accounted for over 33 percent of private sector payments to labor in Bristol Bay and 39 percent of private sector payment to labor in Kodiak. The Community Development Quota (CDQ) Program augments the important role of the seafood industry in Western Alaska. Sixty-five Bristol Bay communities participate in the CDQ Program. From 1992 through 2002 the CDQ Program generated over \$362 million in net income. The value of CDQ group assets in the aggregate increased from about \$13.3 million in 1992 to over \$412 million in 2002.

1 Introduction

The commercial harvesting and processing of fish and other seafood products is part of Alaska's historical heritage dating back well over 100 years. Starting with cod, herring, halibut, and salmon in the 1800s and growing to include today's sophisticated offshore fisheries for pollock, cod, crab, and other species. As a major player in global markets, Alaska's seafood industry is an economic engine for the state and the nation. If Alaska were an independent country, it would rank in the top 10 of seafood producing nations. On the national scale, Alaska produces over half the United States' seafood landings, and Unalaska/Dutch Harbor has consistently been the nation's highest volume seafood port for years. Within Alaska, the industry is one of Alaska's largest private sector employers, and provides jobs and revenues to communities throughout the state.

The mosaic of fisheries in Alaska is complex. State fisheries include salmon, herring, shellfish, and other species harvested within 3 miles of shore and in Alaska's vast network of rivers and lakes. Federal fisheries are those harvested beyond 3 miles, in federal waters out to the 200 mile limit. Federal fisheries include some of the nation's largest, such as pollock, cod, and crab. All of these fisheries, both federal and state, contribute to the economic and social well-being of Alaska's coastal communities, its urban cities, and the state as a whole.

1.1 Purpose and Organization

The purpose of this report is to describe the economic importance of Alaska's seafood industry, focusing primarily on the industry's significance to the state economy. The report draws on data from a wide range of sources and presents those data in a precise, easy-to-read format. The report includes extensive footnotes for those readers who want additional information.

Chapter 2 offers a historical overview of the growth of Alaska's seafood industry, with a focus on the development of the fisheries for the major species or species groups, including groundfish, shellfish, salmon, herring and halibut. Chapter 3 presents a comparison of the Alaska seafood industry with national and international seafood industries.

Chapter 4 provides a "snapshot" of the contemporary economic impacts of Alaska's seafood industry using data from 2006 and 2007—whichever was the most recent data available. In addition to presenting the estimated economic effects of the seafood industry on the state as a whole, the analysis differentiates the impacts by:

- Region of industry activity (Southeast, Southcentral, Kodiak, Aleutian and Pribilof Islands, Bristol Bay, Yukon-Kuskokwim, Northwest and Arctic)
- Residency of participants (Alaska resident, nonresident)
- Fisheries jurisdictional area (federal, state, joint)
- Major target species or species group

Chapter 4 also includes a discussion of the economic effects of two commercial fisheries-related areas of special interest: 1) in-state expenditures for commercial fisheries management and research by State of Alaska and federal agencies and 2) the Community Development Quota Program, a federal fisheries program established in 1992 with the goal of promoting fisheries-related economic development in western Alaska.

1.2 Data Sources

In general, data reporting the volume and value of catches of Alaska's fisheries are considered to be among the best in the US and around the world. Most of the harvesting and processing data used in this report for Alaska fisheries were provided by the Alaska Fisheries Science Center of the National Marine Fisheries Service (NMFS) at the request of Northern Economics, Inc. These data include estimates of the ex-vessel value and first wholesale value of Alaska fish and shellfish landings in 2007. Information on the historical trend in the ex-vessel value of Alaska fisheries was provided by the economic component of the Stock Assessment and Fishery Evaluation (SAFE) report published by NMFS (Hiatt, 2008b).

The majority of employment and income data were obtained from the "Seafood Industry" Web site developed by the Research and Analysis Division of the Alaska Department of Labor and Workforce Development (ADOLWD). The data sources and methodology used to derive employment estimates are described on ADOLWD's Seafood Industry Web site.²

While catch volume and value data regarding Alaska's fisheries are deemed to be very reliable, information on employment, particularly employment in harvesting operations and in at-sea processing operations, is considered much less reliable. (Northern Economics, Inc., 2007). Harvesters and at-sea processing employees differ from other groups involved in harvesting and processing seafood in terms of the amount of data collected on their activities, and these differences result in less overall information being available for stakeholders. Individuals working in Alaska's shore-based fish processing sector are wage-and-salary employees. This classification means that the number of processing jobs is recorded in the annual average monthly employment statistics reported by the ADOLWD. Commercial fish harvesters and at-sea processing employees are exempted from unemployment insurance and other employment reporting requirements because these crewmembers are classified as self-employed. Consequently, detailed information on these workers is generally not available for most Alaskan fisheries.

Because detailed data on harvesting and at-sea employment are not available, estimates of employment and income are based on data that are available—such as vessels and permits owner information—augmented with information gathered from industry sources and surveys. While Northern Economics believe these estimates are reasonable, employment and payments to labor estimates in this report should not be considered as accurate or reliable as, for example, data presented on ex-vessel or wholesale value.³

² The address of the State of Alaska's "Seafood Industry" Web site is <http://almis.labor.state.ak.us/cgi/databrowsing/?PAGEID=4&SUBID=300>. Data sources and methodology are described on a Web page at <http://www.labor.state.ak.us/research/seafood/Methodology.pdf>.

³ Funding for a program to improve seafood harvesting employment data was approved by the Alaska Legislature as part of the State's budget on April 15, 2008. (Welch, 2008).

2 Overview and History of Alaska's Seafood Industry

Alaska's seafood industry began over 130 years ago. The purpose of this chapter is to examine how Alaska's seafood industry evolved to its current prominent position in the state's economy. First, a brief historic summary of volume landed by the different fisheries from 1900 to 2007 is presented. Then an overview is provided of changes in the value of the fish and shellfish caught in Alaska's commercial fisheries over the past two decades. The remainder of the chapter briefly describes the historical development of the principal fisheries, starting from the pre-statehood period. As is shown below, each fishery has a unique history, and the development of each made a significant contribution to Alaska's economic growth.

2.1 General Overview of Alaska's Seafood Industry.

Typically, Alaska commercial fisheries are divided into five major species groups: groundfish, shellfish, salmon, herring and halibut. Figure 1 shows the total weight of landings of US fishermen by species by year between 1900 and 2006, while Figure 2 shows landings from 1900 to 1976 using a scale more appropriate to landings during those earlier years. The figures show how the volume of overall landings has fluctuated, with salmon being the largest industry by pounds landed up to the 1960s. Herring was important from the 1920s up to the 1960s, but has become less important from a volume perspective since then. Halibut, which is managed by the federal government and the International Pacific Halibut Commission (IPHC), has been relatively stable since the 1930s but has also fluctuated from year to year. Crab and shellfish became increasingly important beginning in the 1960s, then crashed in the late 1970s and have fluctuated at generally lower levels since then.

In 1976 the enactment of the Fishery Conservation and Management Act (FCMA) (Magnuson-Stevens Act)⁴ marked the start of a new era of domestic groundfish fishery. Before then, the United States only claimed a 3-mile territorial sea or 12-mile contiguous zone jurisdiction and foreign vessels could fish many of the same stocks as US fishermen. While U.S. fishermen concentrated on species like salmon, herring and nearshore crab, foreign fleets concentrated on groundfish species like Pacific Ocean perch, turbot, pollock and cod. The new act was implemented to change all that. The Act extended federal jurisdiction and the control of US waters to 200 nautical miles in the ocean, and created mechanisms to control foreign fishing activities within the newly defined Fishery Conservation Zone (FCZ). The ensuing fishing reductions allowed already overfished stocks to recover and ensured good conservation and management of the fishery resources.⁵ Groundfish harvests by US fishermen were relatively insignificant prior to the MSFCMA, but since 1982 the volume of groundfish increased and since after 1988 the volume has averaged over 2 million metric tons per year.

Landings volumes in 2007 by species were:

- Salmon: 390,652 mt
- Herring: 28,746 mt
- Halibut: 24,445 mt
- Crab & shellfish: 31,320 mt
- Groundfish: 2,406,000 mt
- All species combined: 2,881,162 mt

⁴ Renamed in 1980 to honor the late Senator Warren G. Magnuson, and in 1996 to include Senator Ted Stevens, the FCMA is now known as the MSFCMA.

⁵ Harvests of fishery resources off the coast of Alaska by foreign fishing vessels are not included in Figure 1.

Figure 1. Historic Landings US Vessels by Species off Alaska, 1900 – 2006

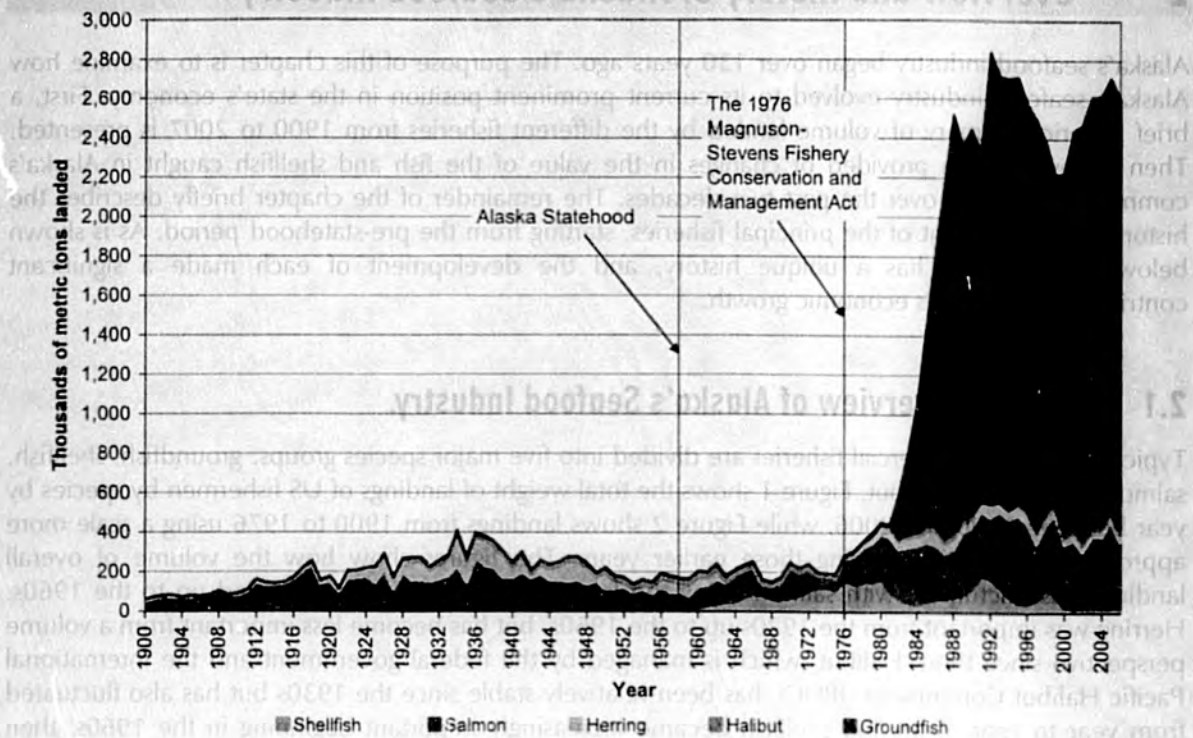
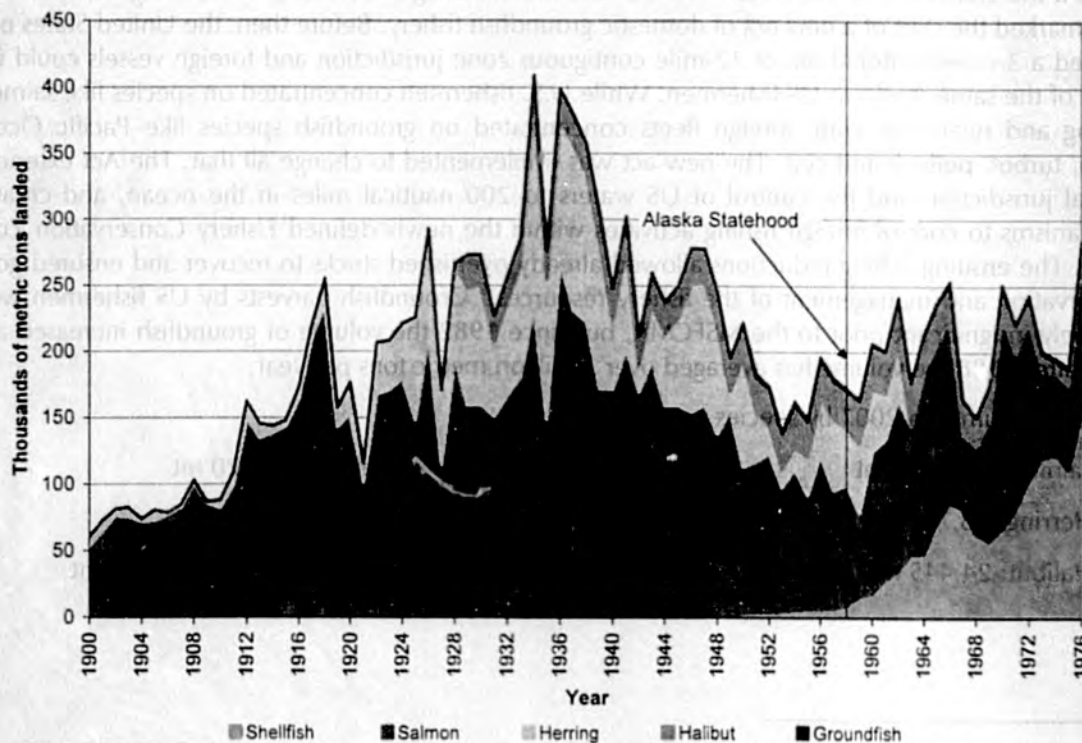


Figure 2. Details of Historic Landings by Species, 1900 – 1976

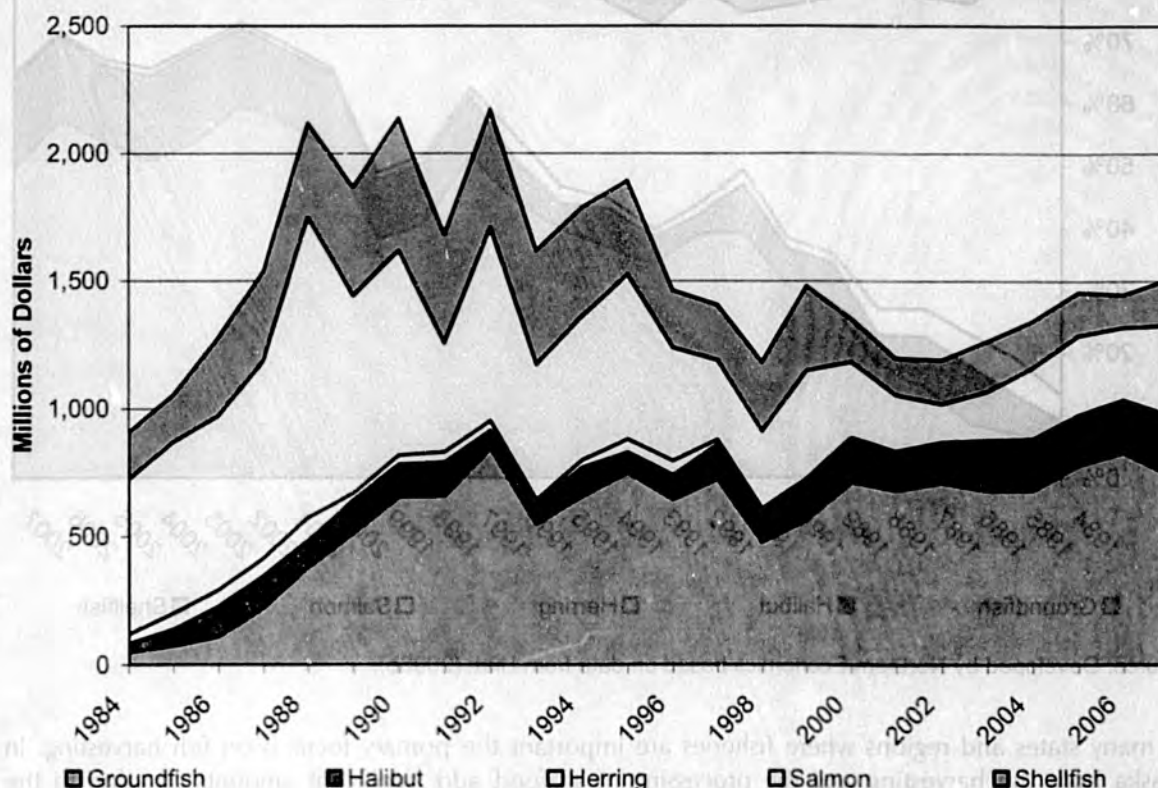


Sources for Figure 1 and Figure 2: Developed by Northern Economics from multiple sources including ADFG&G, (1987 and 2008), IPHC (2008), NMFS (2008d and 2008e), and Plotnick (2008)

From the volumes shown in the figures above, it might be interpreted that the size of the groundfish fisheries make the salmon, crab, herring, and halibut fisheries insignificant. However, most groundfish fisheries are high-volume low-value fisheries—for years the typical price received for pollock, the dominant groundfish species, was \$0.8 per pound. Fish are harvested and processed for the money, and therefore the importance of the state's fisheries is judged by the values that they generate. This report will describe the values of the fisheries in terms of two primary sources of value: ex-vessel value—the value received by harvesters from buyers and processors, included an imputed ex-vessel value for catcher processors; and wholesale value—the value received by processors for the market ready product they produce.

Figure 3 shows the ex-vessel value of the Alaska harvest by species group from 1984 through 2007 as reported by Hiatt. (2008b).⁶ The data have been adjusted for inflation (i.e., they are reported in real dollars). The value of landings shows considerable year-to-year variation. Much of this fluctuation can be attributed to natural changes in stock abundance for certain species that create larger or smaller harvests in some years.

Figure 3. Real Ex-vessel Value of Alaska Seafood Industry Harvest by Species Group, 1984-2007



Note: The data have been adjusted to 2007 dollars by applying GDP implicit price deflators presented in Hiatt (2008b). Also note that the ex-vessel values include imputed values from catcher processors.

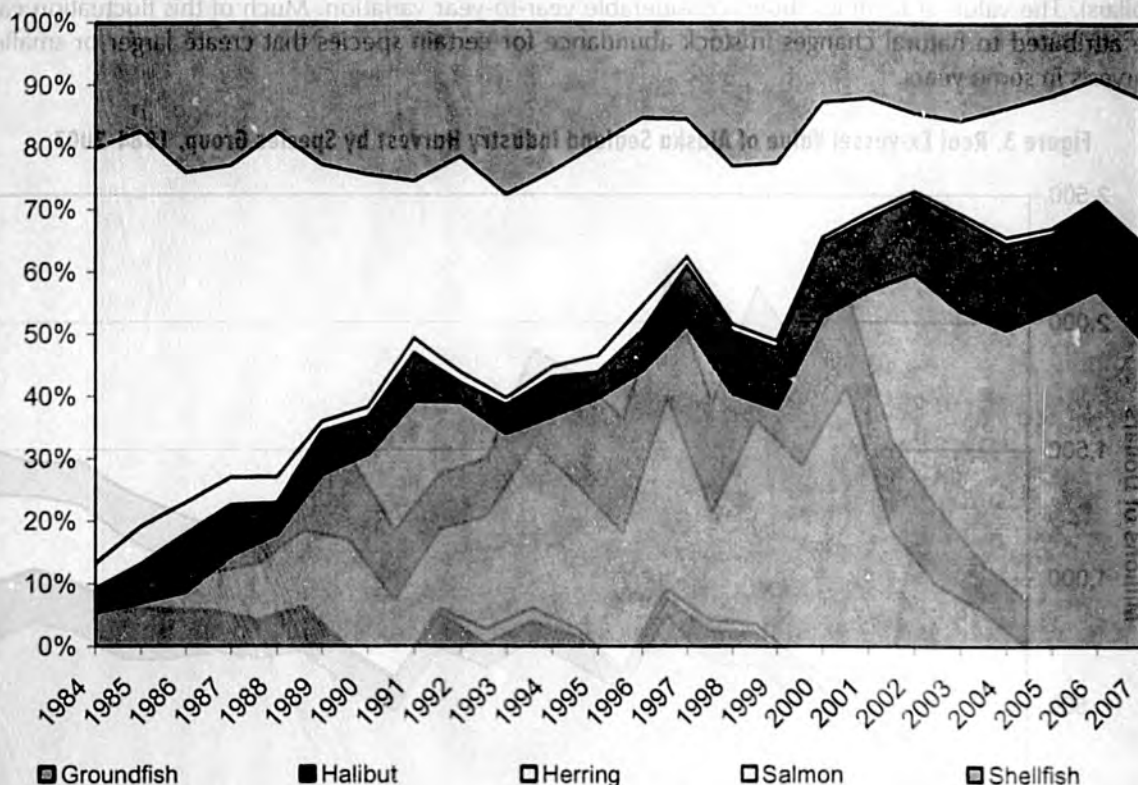
Source: Developed by Northern Economics based on data from Hiatt (2008b).

Figure 4 shows that the importance of species groups has changed over time. During the late 1980s, salmon generated about half of the total ex-vessel value of Alaska fisheries, while shellfish typically

⁶ Consistently reliable data for ex-vessel value are not available for all species for earlier years.

contributed more than one-fifth of the overall value. Beginning in the early 1990s, however, groundfish displaced salmon and shellfish as the most significant component of total value. Tremendous growth in the domestic groundfish catch occurred as American harvesters and processors took over the offshore groundfish fishery from foreign fleets. The rapid expansion and profitability of the fishery earned it the reputation as "the next Alaska gold rush." Since the 1990s, groundfish catches have stabilized, but they continue to dominate the overall value and volume of Alaska's harvest. In 2007, the groundfish fishery accounted for 50 percent of the ex-vessel value of all commercial fisheries off Alaska, while the salmon fishery was second with 20 percent of the total Alaska ex-vessel value. The value of the Pacific halibut catch amounted to 14 percent of the total.

Figure 4. Percentage of Ex-vessel Value of Alaska Seafood Industry Harvest by Species Group, 1984-2007

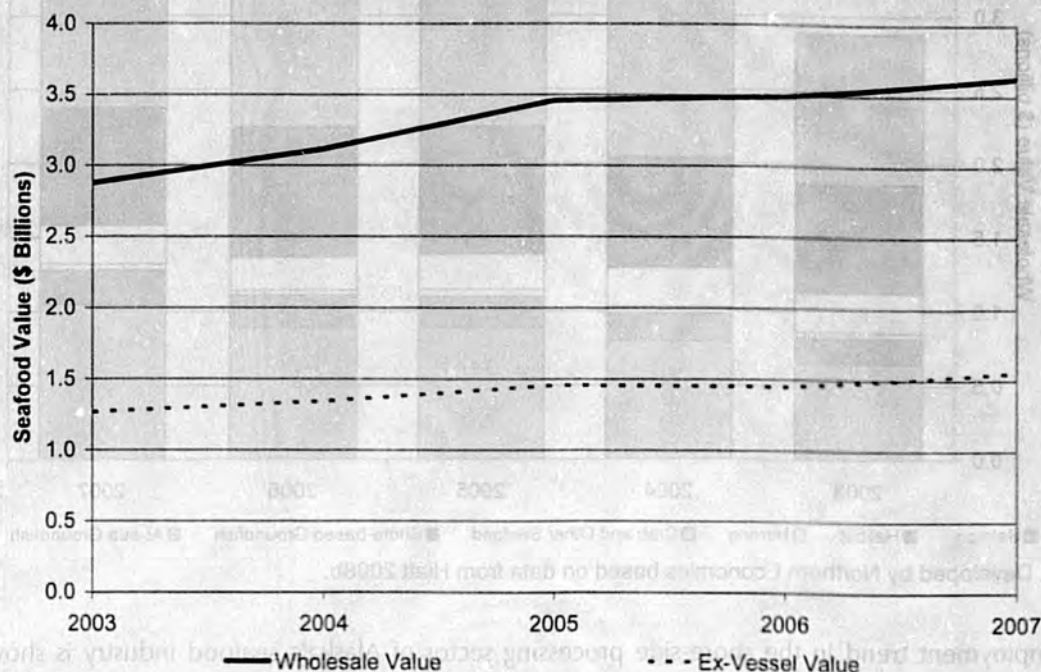


Source: Developed by Northern Economics based on data from Hiatt (2008b).

In many states and regions where fisheries are important the primary focus is on fish harvesting. In Alaska both the harvesting and the processing of seafood add significant amounts of value to the economy. Seafood processing is a critically important component of the seafood industry in Alaska because of the distance from the resource to the markets and high cost of transporting unprocessed fish to those markets. Because of the importance of processing to the understanding of the seafood industry, Alaska is one of the few regions that collect and report data on processed product volumes and perhaps more importantly, on the wholesale value that is added to the resource by processors. For many years ADF&G had a voluntary program that allowed seafood processors to report processed product values. In 2003 mandatory reporting of processed product values was required by both ADF&G and NMFS, and since then complete reliable estimates of wholesale value have become

available.⁷ Figure 5 shows both the total ex-vessel value and the total wholesale value since 2003 generated in the Alaska seafood industry in terms of 2007 dollars. On average, since 2003 total ex-vessel value has been 44 percent of wholesale value.

Figure 5. Recent Trends in Real Wholesale and Ex-vessel Value in Alaska Fisheries, 2003 - 2007



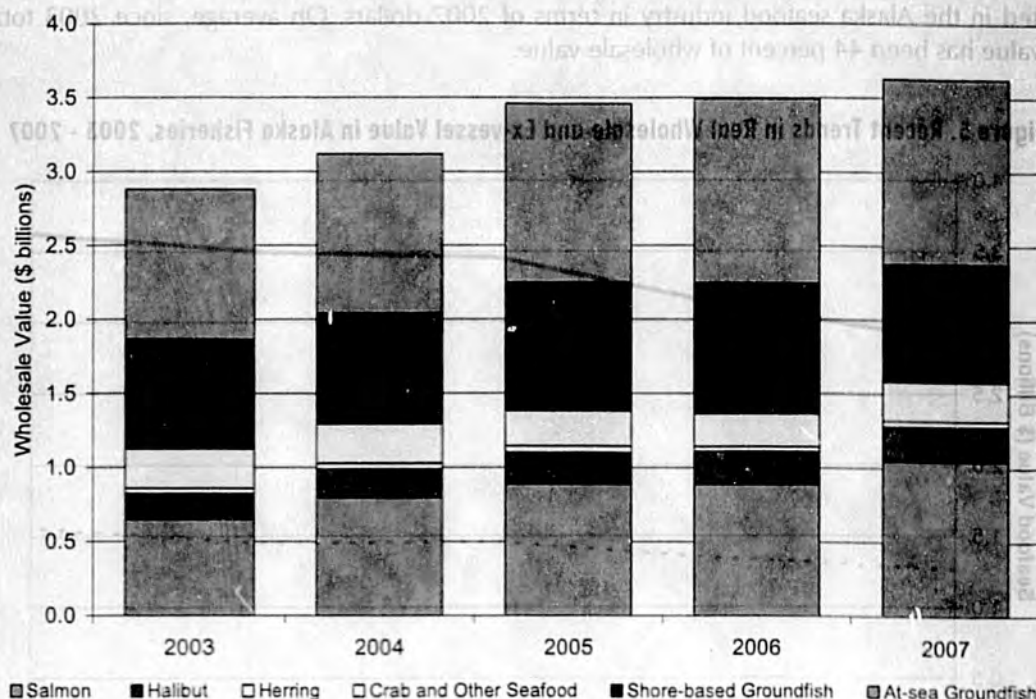
Note: The data have been adjusted to 2007 dollars by applying GDP price deflators presented in Hiatt 2008b.

Source: Developed by Northern Economics based on data from Hiatt 2008b.

Figure 6 summarizes total wholesale value in Alaska's fisheries by species after adjusting for inflation to 2007 dollars. Over the last 5 years wholesale value has increased from just over 2.88 billion to 3.63 billion, an increase in real terms of 126 percent. Of the primary species groups, the wholesale value of salmon had the greatest increases (up 62 percent), while the wholesale value of crab fell in 2005 and 2006 and then recovered in 2007.

⁷ The wholesale values reported in this report include only "primary processing" values. The majority of processing in Alaska consists of "primary processing" wherein processors perform the first modification to the fish and shellfish delivered by harvesters. In some cases, the products after the initial stage of processing may be table-ready or final product. In general, however, relatively little of the output of Alaska commercial fishery harvests is sold fresh because of the remoteness of most fishing ports. More often, the primary products are reprocessed by secondary processors, the majority of which are outside of Alaska. Secondary processing adds additional value to the product, creating skinless/boneless fillets, smoked salmon, fish patties, breaded fish sticks and many other seafood products.

Figure 6. Recent Trends in Wholesale Value by Species, 2003 – 2007



Source: Developed by Northern Economics based on data from Hiatt 2008b.

The employment trend in the shore-side processing sector of Alaska's seafood industry is shown in Figure 7, which reports the annual average of monthly employment by year from 1980 to 2007. After the collapse of Alaska's king crab fishery in the early 1980s, processing employment slid for three years and then changed little for the next three. But in 1988, the aforementioned "Americanization" of the groundfish resources⁸ began to "turbo-charge" Alaska's seafood processing sector (Fried 1996). The peak in shore-side processing labor in 1992 corresponds to a record high harvest volume and total ex-vessel value. In that year large groundfish and Bering Sea snow crab catches, together with record salmon harvests, increased the demand for processor workers.

The employment numbers in Figure 7 exclude processing workers in the at-sea component of the industry (catcher processor and motherships). These vessels are not included in ADOLWD estimates of seafood processing workers because much of their employment occurs outside the state's jurisdiction, and comparable time series data simply do not exist. A similar problem exists with respect to harvesting employment—fish harvesting crews are considered self-employed contractors and as such there are no comparable or consistent data sources that report employment numbers for fish harvesters.⁹

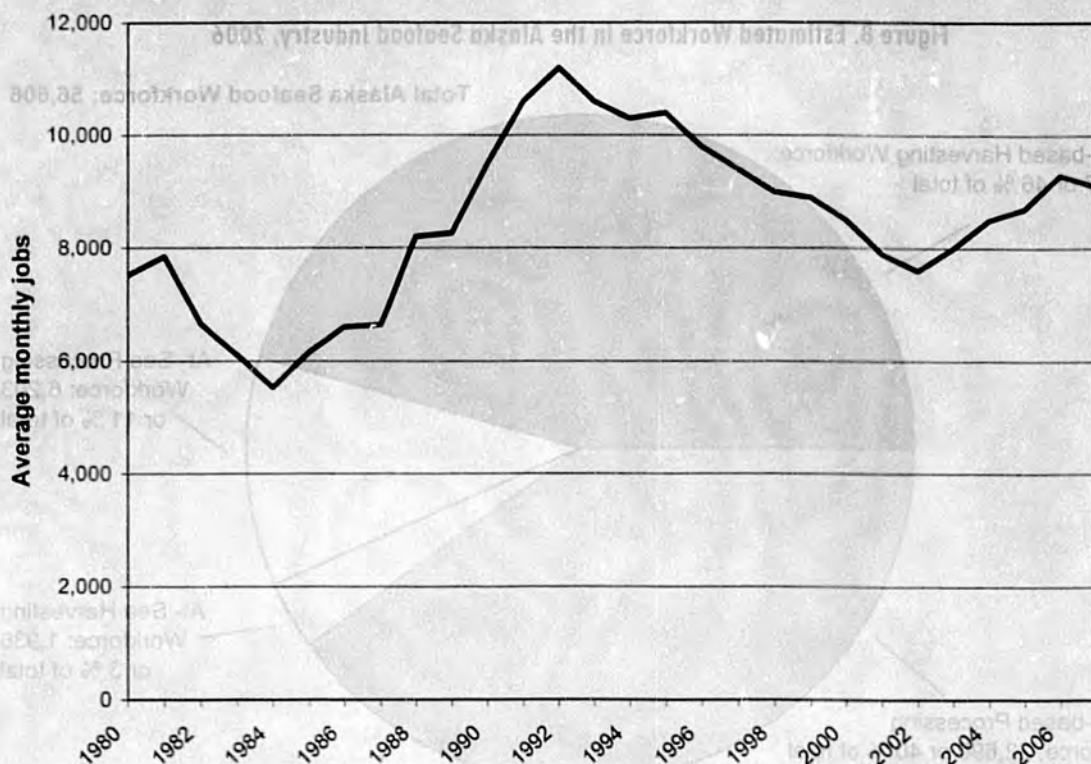
While there are no official time-series data reporting fish harvesting employment, nor at-sea processing employment, it is possible to estimate these data on an *ad hoc* basis for a given year, using assumptions of the number of crew members on various types of fishing operations. Using data from ADOLWD (2007c) and Hiatt (2008a) it is estimated that between 2003 and 2007 the annual average of monthly employment in the harvesting sector ranges from 7,500 to 8,500, with an

⁸ The "Americanization" of the groundfish industry is described in greater detail in Section 2.2.

⁹ The State of Alaska has recognized the need to collect employment data for fish harvesters, and the FY 2008 budget includes funds to investigate means to collect fish harvesting employment data on an ongoing basis.

additional monthly average of 1,700 to 1,900 processing workers in the at-sea sector. Adding all of these estimates together, the total annual average monthly employment in Alaska's seafood industry has been between 16,000 and 20,000 from 2003 to 2007.

Figure 7. Alaska Seafood Shore-side Processing Annual Average of Monthly Employment, 1980-2007



Note: Annual average employment refers to the average number of monthly jobs over the full calendar year.

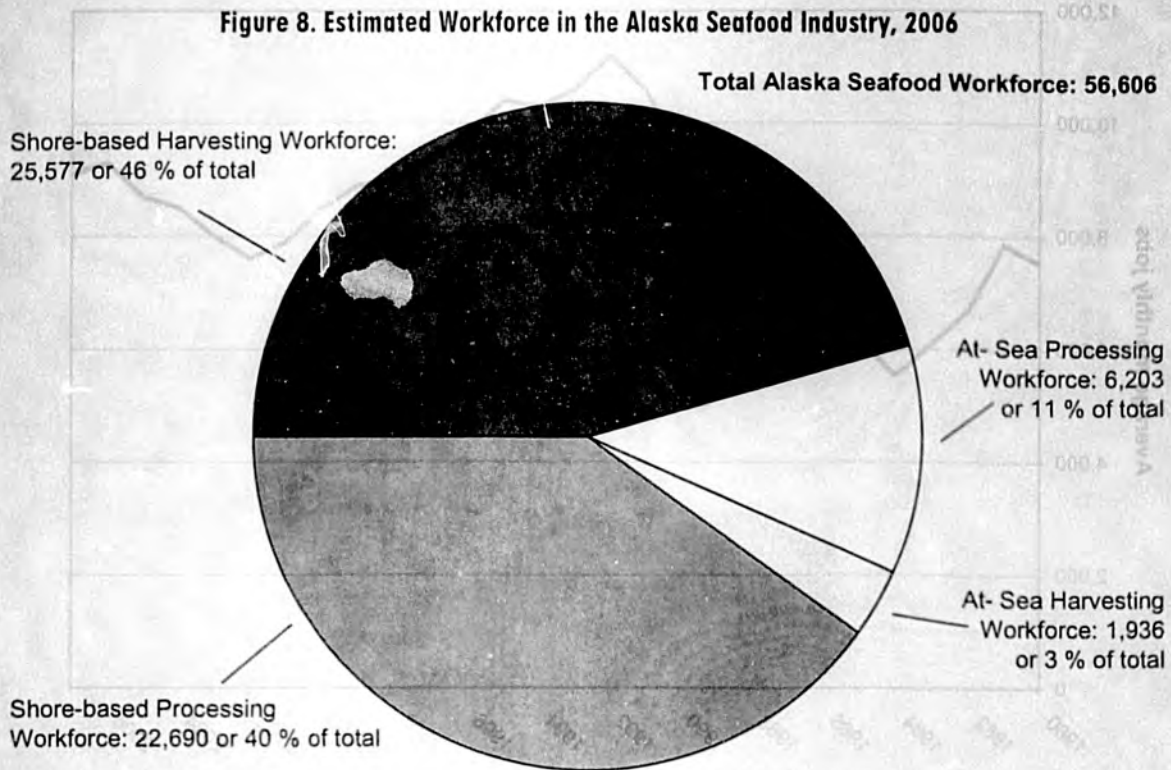
Source: Developed by Northern Economics based on data from ADOLWD 2008b.

Jobs in the Alaska seafood industry are highly seasonal and in most cases relatively short term. For example, one of the biggest fisheries in the state, the sockeye salmon fishery in Bristol Bay typically lasts for only 45 days with the majority of the activity in a two-week period around July 4th. In 2007 there were 2,328 active permit holders in the fishery. Assuming each permit holder had a crew of two, an estimated 6,984 worker participated in the fishery. In addition, ADOLWD (2008c) estimate there were 4,480 processing workers in Bristol Bay during the peak of the run. In total it is estimated that there were 11,464 individuals employed in the Bristol Bay salmon fishery. Because none of these persons were likely to have been both a harvester and a processor, the workforce in the Bristol Bay sockeye salmon fishery is estimated to be 11,464. However, since most worked no more than 1.5 months, the calculated annual average monthly employment would be 1/6th of this number or 1,911 annual jobs.

Based on the example above, it is clear that the workforce in the Alaska seafood industry is significantly larger than the annual average of monthly employment. Figure 8 shows the estimated workforce in Alaska's seafood industry for 2006.¹⁰ The figure shows estimates for four sectors: Shore-based processing and harvesting, and at-sea processing and harvesting. With the exception of the

¹⁰ At the time publication, workforce estimates for 2007 shore-based processors were unavailable.

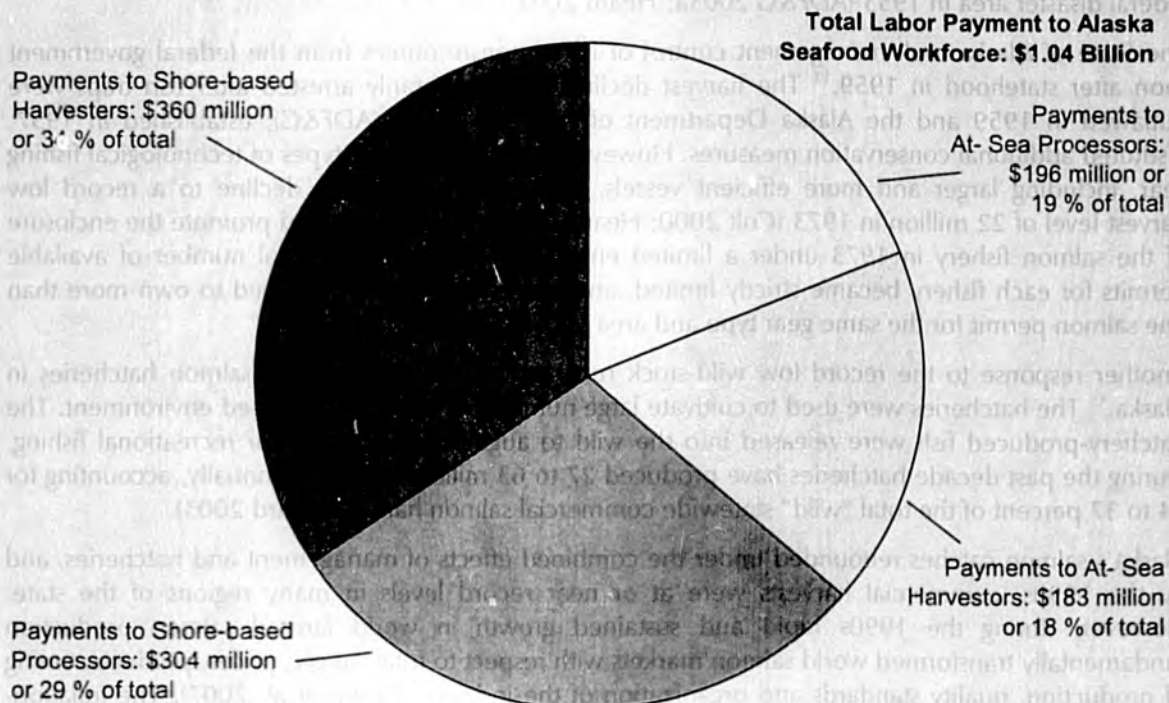
workforce for shore-based processing—which relies on monthly data collected quarterly by the ADOLWD, the numbers are estimates developed by Northern Economics using data from CFEC (2008) and Hiatt (2008a). Overall, the size of the Alaska seafood industry workforce is estimated at 56,606 workers. Of these 86 percent worked in shore-based operations. There were a total of 27,713 harvesters and 28,893 processors.



Source: Estimated by Northern Economics using from ADOLWD (2008a), CFEC (2008), and Hiatt (2008a)

This document refers to the earnings of processors and harvesters as payments to labor. As with employment and workforce, official data on payments to labor in the seafood industry are incomplete. Because shore-based processing workers are “regular” employees whose employers pay unemployment taxes, monthly data on payments to labor for shore-based processors are collected on a quarterly basis by ADOLWD. As discussed earlier, data for shore-based harvesters and both harvesters and processors on at-sea processing operations are not collected on a regular and formal basis, and therefore payments to labor for these components of the seafood industry must be estimated on an *ad hoc* basis, using information from the industry source on the share of either ex-vessel or wholesale value that is typically paid to workers.

Figure 9 shows the estimated payment to labor in the Alaska seafood industry for 2007. Overall it is estimated that workers earned a total of \$1.04 billion from the harvesting and processing efforts. Of this, harvesters (shore-based and at-sea combined) received \$543 million or 52 percent of the total, while processing workers were estimated to have been paid \$501 million or 48 percent of the total.

Figure 9. Estimated Payments to Labor in the Alaska Seafood Industry, 2007

Source: Estimated by Northern Economics using data from ADOLWD (2008b) and Hiatt (2008a)

2.2 Historical Overview of the Salmon Fishery

Five types of salmon (chinook, coho, sockeye, pink, and chum) are harvested commercially in Alaska waters. These species have been the basis for one of Alaska's most important industries for nearly 130 years, with the first salmon canneries being built in Alaska in 1878 (Woodby et al. 2005; NMFS 2004). With the rising demand and depleted runs along the U.S. West Coast, American business operators were quick to recognize the value of Alaska salmon, and the technology of canning allowed them to preserve the fish in large quantities for transport by ship to markets in the United States and Europe (Sisk 2007). By 1890, large corporate salmon canneries, owned primarily by West Coast-based companies, began to appear in Alaska, and the salmon catch grew rapidly with the expansion of cannery capacity (Alaska State Library 2006; Colt 2000).¹¹ The salmon industry soon dominated Alaska's economy—by the 1920s, a tax on each case of salmon packed in the Territory accounted for 70 percent of general fund revenue (Fried 1996).¹²

The federal government had jurisdiction over the Alaska salmon fisheries, but management was weak, poorly funded and ineffectively enforced (Woodby et al. 2005). About half of the salmon catch was taken in a relatively small number of large and very efficient fish traps that were directly owned by the processors (Kruse et al. 2000). After reaching record high harvest levels of over 100 million salmon

¹¹ Manpower and materials were scarce, and each spring the companies would ship to Alaska all the cans and other production inputs needed for the salmon packing season—even about 75 percent of the workforce was imported (Fried 1996; Tremaine 1989).

¹² In 1913, the First Territorial Legislature adopted the "salmon pack" tax which applied to salmon canneries based on canned salmon (7¢ per case) (ADOR 2006a)

caught annually during the 1940s, stocks dropped so low that President Eisenhower declared Alaska a federal disaster area in 1953 (ADF&G 2003a; Heard 2003).

The State of Alaska took management control of its salmon resources from the federal government soon after statehood in 1959.¹³ The harvest decline was temporarily arrested after fish traps were outlawed in 1959 and the Alaska Department of Fish and Game (ADF&G), established in 1957, instituted additional conservation measures. However, the entry of other types of technological fishing gear, including larger and more efficient vessels, coincided with further decline to a record low harvest level of 22 million in 1973 (Colt 2000; Heard 2003). This crisis helped promote the enclosure of the salmon fishery in 1973 under a limited entry permit system. The total number of available permits for each fishery became strictly limited, and harvesters were not allowed to own more than one salmon permit for the same gear type and area (ADF&G 2003b).¹⁴

Another response to the record low wild-stock runs was the development of salmon hatcheries in Alaska.¹⁵ The hatcheries were used to cultivate large numbers of fish in an enclosed environment. The hatchery-produced fish were released into the wild to augment commercial or recreational fishing. During the past decade hatcheries have produced 27 to 63 million adult fish annually, accounting for 14 to 37 percent of the total "wild" statewide commercial salmon harvest (Heard 2003).

Alaska's salmon catches rebounded under the combined effects of management and hatcheries, and by the 1990s, commercial harvests were at or near record levels in many regions of the state. However, during the 1990s rapid and sustained growth in world farmed salmon production fundamentally transformed world salmon markets with respect to total supply, prices, products, timing of production, quality standards and organization of the industry (Knapp et al. 2007). The inflation-adjusted ex-vessel value of annual Alaska salmon catches dropped from more than \$800 million in the late 1980s to less than \$300 million for the 2000-2004 period. Most of this decline in value was due to a decline in prices (rather than catches), and much of the decline in prices was due to competition from farmed salmon (Knapp et al. 2007).

The economic condition of the salmon fisheries has shown some improvement in recent years. The 2007 salmon harvest value was more than double the 2002 figure (Figure 3). This increase was a combination of a large harvest of over 221 million salmon, the largest commercial harvest in history and modest increases in salmon prices, particularly for sockeye salmon (AGF&G undated). With the increase in harvests and prices there has been a gradual increase in the value of Alaska salmon permits, particularly those for the Bristol Bay sockeye fishery, although permit prices are still a fraction of what they were in the 1980s (Welch 2007a).

¹³ Alaska was the only U.S. territory never to exercise control over its fishery resources (Gilbertsen 2004). Acquiring control of salmon fisheries was a primary incentive of the statehood movement (Woodby et al. 2005). Alaska is the only state with a constitutional mandate that requires sustainability of its fish and wildlife resources—Article 8 of the State of Alaska Constitution reads: "Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses."

¹⁴ Gilbertsen (2004:4) notes that the limited entry program was intended to transfer economic benefits from out-of-state processors to Alaska fishermen as well as regulate fishing effort: "the limited entry program... conveyed the right of fishery access to the gear operator rather than to the vessel owner. This provision ultimately resulted in salmon canneries' divesting themselves of their corporate owned fishing fleets, and provided fishermen increased bargaining power."

¹⁵ Salmon hatcheries have existed in Alaska as far back as the late 1800s, but the success of these early facilities was limited. The federal government started several research stations as well as territorial hatcheries in the 1930s and 1950s. Hatchery production increased when enhancement planning in the early to mid-1970s called for significant capital construction under a newly formed division (Fisheries Rehabilitation, Enhancement and Development Division) within ADF&G (Kruse et al. 2000).

2.3 Historical Overview of the Herring Fishery

One of Alaska's oldest commercial fisheries, the herring industry began in Alaska in 1878 (Woodby et al. 2005). Salted and pickled herring production peaked after World War I, when about 12,700 mt were harvested annually. During the 1920s, herring became increasingly valued for oil and meal. Reduction plants to "reduce" herring to meal and oil sprang up along the Gulf of Alaska from Craig to Kodiak. When harvests in the 1920s and 1930s reached as high as 113,400 mt stocks began to decline. Moreover, during the 1950s, lower cost Peruvian anchoveta severely impacted the oil and meal markets. The last Alaska herring reduction plant closed in 1966 (Woodby et al. 2005).

A Japanese and Russian trawl fishery for herring began in the Bering Sea in the late 1950s, reaching a peak harvest of 146,000 mt in 1970. Japanese longliners also fished for herring with gillnets in the 1960s and early '70s near Togiak and Hagemester Strait. These high harvests were likely not sustainable and the foreign fishery declined until it was phased out following the establishment of the 200-mile Fishery Conservation Zone in 1976 (Woodby et al. 2005).

When Japan's herring stocks declined during the 1960s, the Japanese fishing fleet began importing herring roe from other countries. A lucrative market for herring eggs and eggs on kelp prompted the development of Alaska's roe herring fisheries. When inshore domestic fisheries began to fully utilize Bering Sea herring around 1980, foreign harvests were eliminated, but roe (harvested as sac roe or spawn-on-kelp) remained the principle utilization of herring (ADF&G 2006c).

In recent years, herring roe markets have begun to deteriorate as the consumption of salted herring roe declines in Japan. Mainly because of lower prices, the average value of Alaska herring catches has fallen dramatically. By way of comparison, total herring harvest values (in real dollars) in the early 1990s exceeded \$35 million; during the 2001-2005 period, total ex-vessel value averaged about \$12 million (Figure 3). With the weak market and lower prices, participation in herring fisheries has also been declining (ADF&G 2007e). In response to the falling demand, herring processors have been increasingly concerned about product quality. Harvesters, ADF&G, and the seafood processing sector have renewed efforts to increase roe percentages and reduce the length of time herring are held before processing (ADF&G 2006c). While the herring fishery is much smaller in terms of value than the other Alaska fisheries, it continues to be an important source of supplementary income for participants in other fisheries.

The commercial catch of herring for bait in Alaska began around 1900 and remained relatively stable, typically 1,800-2,700 mt per year, in spite of large fluctuations in the herring catch for the reduction, foreign, and sac roe fisheries. The development of extensive crab fisheries in the 1970s greatly increased the demand for herring bait (Woodby et al. 2005).

2.4 Historical Overview of the Halibut Fishery

In the 1880s, a commercial fishery began for Pacific halibut in the inside waters of Southeast Alaska, with sablefish targeted as a secondary fishery (Woodby et al. 2005). The first shipment of fresh halibut was sent south from Juneau in 1897 (Alaska State Library 2006). The market demand for halibut grew as the development of ice makers enabled harvesters to preserve the halibut long enough to make it available to markets throughout the United States (NMFS 2004). Most of the halibut fishing in Alaska waters was conducted by halibut schooners built in Seattle and based in that port (Federal Fisheries Investment Task Force 1999).

Concerns about the increasing amounts of gear and decreasing catch per unit of gear in the Pacific halibut fishery from northern California through Alaska led Canada and the United States to negotiate

the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean in 1923.¹⁶ The treaty established a bilateral commission (later named the International Pacific Halibut Commission or IPHC) that was granted regulatory powers (IPHC undated).

In 1995, an IFQ program was established for the fixed gear halibut fishery in both the GOA and BSAI, whereby harvest quota shares are allocated to individuals or companies within separate IPHC regulatory areas and for specific vessel size classes. The extended fishing made possible by the IFQ system has allowed harvesters to increase their production of higher-value fresh fish and time their catch to receive the best prices (Hartley and Fina 2001). As shown in Figure 3, the halibut fishery increased in ex-vessel value after it changed from a derby fishery to an IFQ fishery and delivery patterns shifted. The average 2006 dockside price paid to commercial halibut fishermen was \$3.71 per pound, up \$0.70 cents from 2005 and almost a dollar from 2004 (ADCCED 2007). The high prices in most major Alaska ports took the halibut harvest to its highest ex-vessel value on record (Figure 3). The strong market for halibut has also resulted in record-high halibut quota share prices (Welch 2007a).

2.5 Historical Overview of the Crab Fishery

The history of crab fisheries in Alaska waters extends back to 1930, but substantial domestic commercial efforts were not undertaken until the 1950s when the king crab fisheries began to develop in the Bering Sea (Woodby et al. 2005).¹⁷ King crab are Alaska's most valuable crab per pound and are generally sold at the highest prices of any crabs in U.S. fisheries (NMFS and NPFMC 2004). Commercial fishing for red king crab in the Bering Sea started with Japanese harvests in 1930 (Bowers et al. 2005). Canned crab was popular in the U.S. in the pre-World War II years; the U.S. imported about ten million pounds per year (NMFS and NPFMC 2004). The Japanese fishery ended in 1940 with the onset of World War II, but resumed in Bristol Bay from 1953 until 1974. The Russian fleet also fished for red king crab in Bristol Bay from 1959 through 1971. U.S. harvesters entered the eastern Bering Sea fishery with trawl gear in 1947. The domestic fishery in Bristol Bay expanded to full-scale in the late 1970s and peaked in 1980 with a catch of 59,000 mt, worth an estimated \$115.3 million in nominal dollars.¹⁸ Since 1980, king crab stocks throughout Alaska, including Bristol Bay, have declined sharply and show no signs of recovering to pre-1980 levels (Bowers et al. 2005).

Since the early 1980s, the Bering Sea snow (*Chionoecetes opilio*) crab fishery has been the largest shellfish fishery in Alaska. Snow crab was harvested in the Bering Sea by the Japanese from the 1960s until 1980 when foreign fishing was prohibited (Turnock and Rugolo 2007). The first domestic commercial landings of snow crab from the Bering Sea were recorded in 1977, incidental to the

¹⁶ The treaty of 1923 was especially noteworthy in that it was the first international treaty to be concluded for the conservation of a depleted deep-sea fishery (IPHC undated).

¹⁷ The domestic deepwater crab fisheries developed later than some other Alaska fisheries because of their distance from markets and their capital requirements: large vessels, expensive gear and sophisticated freezing equipment or live-holding tanks (NMFS and NPFMC 2004).

¹⁸ Different king crab fishery areas in Alaska have seen different peaks and declines. The domestic fishery was concentrated at first in the eastern Bering Sea but shifted to the Kodiak area in 1954. During the 1960s, the Kodiak area was a major producer of king crab with a peak in 1965 of 43,180 mt., close to 70 percent of the total domestic Alaska king crab harvest. This record high harvest was followed by a precipitous decline in the late 1960s. The Kodiak fishery continued at low levels until 1982 when the fishery was closed. It has remained closed ever since. Following the collapse of the Kodiak fishery in the late 1960s, fishing effort migrated into the Bristol Bay king crab fishery and Bering Sea Tanner crab fishery (NMFS and NPFMC 2004).

harvest of Tanner (*C. bairidi*) crab.¹⁹ In 1981, a reduction in the Tanner crab harvest resulted in increased snow crab harvest (Bowers et al. 2005). Retained catch in the domestic fishery increased in the late 1980s to a high of about 149,073 mt in 1991 (Turnock and Rugolo 2007). Ex-vessel value increased from \$8 million in 1984 to a peak in 1994 of nearly \$200 million in nominal dollars. In just 15 years, snow crab, which was earlier considered of no commercial value, became the most valuable commercial crab fishery in the United States and the new economic foundation of the Alaska crab fleet (Herrmann and Greenberg 2006).²⁰ However, the catch declined to 29,500 mt in 1996, increased to 110,400 mt in 1998, then declined to 15,200 mt in the 2000 fishery. Due largely to the precipitous drop in Bering Sea snow crab landings in 2000, the ex-vessel value of Alaska's shellfish harvest fell by half despite a substantial increase in crab prices (Figure 3). As a result of low abundance and a reduced harvest rate, snow crab catches have remained low and were 11,800 mt in the 2005 fishery and 16,800 mt in 2006 and 2007 (Turnock and Rugolo 2007). In summary, commercial harvests in all major crab fisheries in Alaska have fluctuated over the years perhaps due to overfishing and environmental causes. Some crab stocks have collapsed and shown no signs of recovery (e.g., Kodiak red king crab), while others have declined to relatively low levels (Kruse et al. 2000).

In August of 2005, fishing in the BSAI crab fisheries began under a new share-based management program (the "Crab Rationalization Program"). The program allocates BSAI crab resources among harvesters, processors and coastal communities. Share allocations to harvesters and processors, together with incentives to participate in crab harvesting cooperatives, are intended to improve safety and conservation, increase efficiencies, provide economic stability and facilitate compensated reduction of excess capacities in the harvesting and processing sectors (Plan Team for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands 2007).

Shrimp once supported large and historically important commercial fisheries in the late 1950s through the early 1980s, particularly in the central and western Gulf of Alaska (Woodby et al. 2005). A beam trawl fishery for northern shrimp began in the Petersburg area in 1915. Alaska's largest shrimp fishery targeted northern shrimp with otter trawls in the Kodiak area beginning in 1958, extending west to the Alaska Peninsula in the Chignik and South Peninsula districts in 1968. Statewide shrimp catches, mainly with trawl gear, averaged 52,200 mt annually at the peak from 1973 to 1977 (ADF&G 2007c). The shrimp populations in the western and central Gulf crashed in the late 1970s and early 1980s, due in part to a climate regime shift (Woodby et al. 2005). Recent commercial harvests are much smaller in volume and are predominantly from Southeast Alaska. Statewide catches averaged 900 mt valued at \$4.2 million for the 2000–2004 period (ADF&G 2007c).

The commercial scallop fishery began in Alaska in the Kodiak area in 1967 and the Yakutat area in 1968 (Woodby et al. 2005). The fishery expanded to the Alaska Peninsula in 1975, Southeast Alaska in 1980, Cook Inlet in 1983, the Bering Sea in 1987, and Prince William Sound in 1992. Since the early 1990s, scallop harvests have shown a declining trend. Harvests in the 2001–2005 period averaged 214 mt of shucked meats, with an ex-vessel value of slightly over \$2.4 million (ADF&G 2007d). In 2000, six of the licensed scallop vessel owners formed a voluntary, self-regulatory fishing cooperative, allocating harvest shares based on prior fishing history (Woodby et al. 2005).

¹⁹ Prior to the early 1970s, harvest of Tanner crabs from the Bering Sea was, in general, incidental to the directed red king crab fishery in that area. Development of the fishery was slow due to a number of reasons, the most important being low consumer acceptance. As market conditions improved, a directed fishery began in 1974, and commercial harvest reached a high of about 30,232 mt during the 1977/1978 season. However, by 1985 catches had fallen to 1,430 mt., and further stock declines led to a fishery closure during the 1986 and 1987 seasons. Since then, commercial harvest of Tanner crabs in the Bering Sea has occurred at relatively low levels and with periodic closures (Kruse et al. 2000; NMFS and NPFMC 2004).

²⁰ The success of the snow crab fishery was due in part to the development of new markets in Japan and the United States, including the domestic "all you can eat" seafood buffet restaurants (Gay 1992).

2.6 Historical Overview of the Groundfish²¹

Among Alaska's commercial fisheries, the groundfish fishery has targeted the greatest diversity of species, including pollock, Pacific cod, sablefish, Atka mackerel, lingcod and numerous rockfish and flatfish species (ADF&G 2006a). The majority of groundfish are harvested in federal waters.

A robust foreign groundfish fishery operated off Alaska prior to WWII and then picked up after the war to record levels in the 1960s and '70s, long before a modern domestic fishery developed. An American sail and dory Pacific cod fishery operated in Alaska waters near Unimak Pass and the Shumagin Islands from May 1, 1865 till the 1950s (Shields 2001). Harvests in Bering Sea foreign groundfish fisheries reached a record 2.2 million metric tons (mt) in 1972, but thereafter catches dropped sharply (ADF&G 2006b). In general, the period of foreign fishing is characterized by unregulated overfishing of groundfish resources off Alaska and gear conflicts between foreign trawl fisheries and domestic pot fisheries for crab and longliner fisheries for halibut.

Establishment of the 200-mile Fishery Conservation Zone (later called the U.S. Exclusive Economic Zone or EEZ) in 1976 was followed by a variety of federal laws and programs developed to promote the "Americanization" of fisheries inside the U.S. EEZ, especially the rich groundfish resources of the Bering Sea.²² The "Americanization" process began in the late 1970s and early 1980s with the advent of the "Fish-and-Chips" policy and enactment of the American Fisheries Promotion Act. These strategies increased the number of criteria upon which foreign fishing privileges in the U.S. EEZ were based to include the removal of trade barriers, the commitment to purchase the products of the U.S. seafood industry, the minimization of gear conflicts, and the transfer of fishing and processing technology. A parallel program sponsored by NMFS, the Fisheries Obligation Guarantee Program, guaranteed over \$150 million worth of loans between 1977 and 1996 for the construction of U.S. factory trawlers and stationary floating processors. The financial assistance offered under the program was extended to U.S. shore-side processing plants in 1983.

Under these incentives, the Alaska groundfish fishery moved from almost entirely foreign to joint ventures to a completely domestic fishery in 1991. U.S. harvests were minimal in 1980 compared to salmon and crab, accounting for less than 6,000 of the 262,000 mt harvested in the domestic Alaska fisheries. The value of these harvests represented only around 0.2 percent of the total value of domestic fisheries in Alaska. By 1991, the amount of groundfish handled by domestic processors was nearly ten times greater than the amount of salmon, crab, halibut, and other species combined, and accounted for about 39 percent of the ex-vessel value of all Alaska fishery resources. Since 2001, groundfish has accounted for over half of the total ex-vessel value (Figure 3).

While the fishery management and development policies for the Bering Sea/Aleutian Islands (BSAI) and GOA groundfish fisheries have resulted in high levels of catch, revenues, and employment, the race for fish as a principal mechanism for managing the groundfish quotas and prohibited species catch limits among competing fishing operations has adversely affected at least some aspects of the economic performance of the fisheries. The individual fishing quota (IFQ) program for the fixed gear sablefish and halibut fisheries, the Community Development Quota (CDQ) program for BSAI groundfish, the American Fisheries Act (AFA) cooperatives for the BSAI pollock fishery, and newly implemented crab rationalization program, and GOA Rockfish Pilot Program have all demonstrated that eliminating the race for fish and replacing it with a market-based system can reduce excess fishing capacity, decrease harvesting and processing costs and increase the value of the groundfish catch.

²¹ All the information presented in this section is from NMFS (2004) unless cited otherwise.

²² Beginning with the Presidential Proclamation of a U.S. EEZ in 1983, and culminating in 1986 with PL 99-659, the EEZ superseded the Fisheries Conservation Zone as the coastal area within which the United States exerts the right to control marine fishing activity.

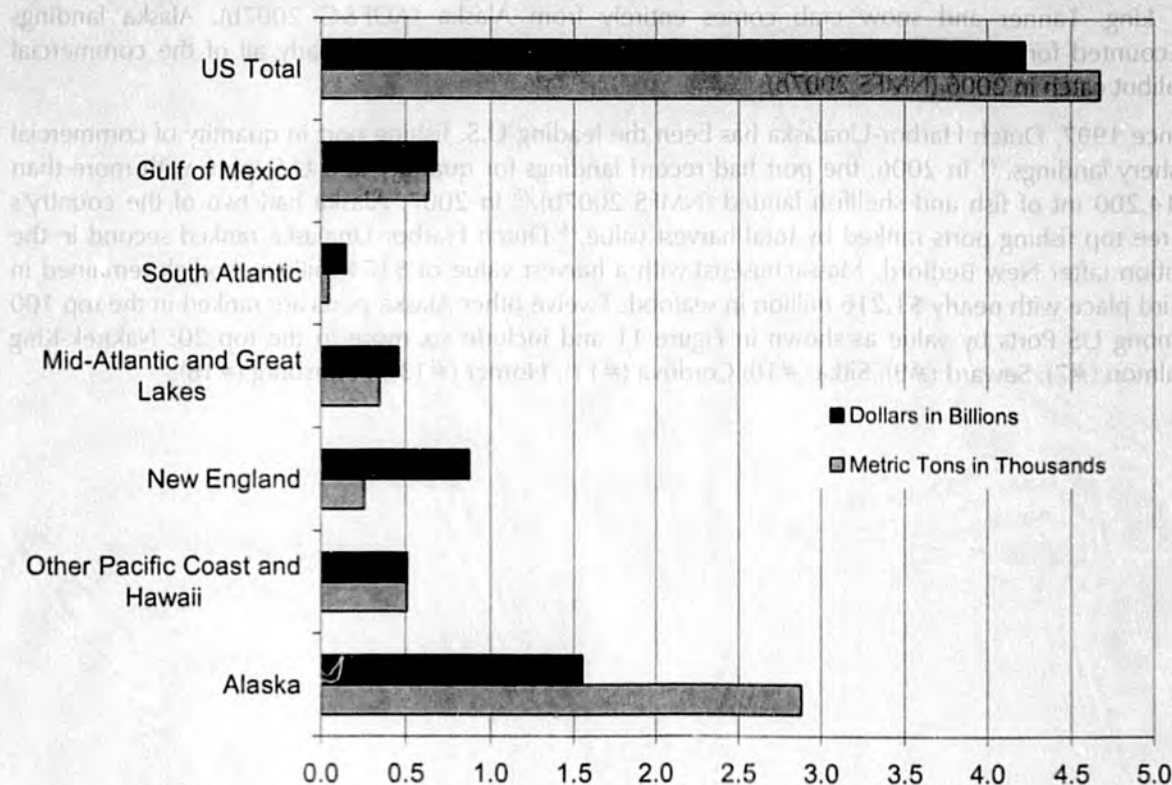
3 Alaska's Seafood Industry in the U.S. and Global Markets

The purpose of this chapter is to demonstrate the importance of Alaska's seafood industry in the U.S. and global seafood industries in terms of volume and value of landings.

3.1 National Importance of Alaska Seafood Industry

In 2007, Alaska led all regions in seafood harvest volume, with landings of 2.88 million mt (Hiatt, 2008a), followed by the Gulf of Mexico with 0.63 million mt (NMFS 2008). Alaska also led all regions in ex-vessel value, with \$1.55 billion,²³ followed by the New England Region with \$872 million and the Gulf of Mexico with \$681 million. Figure 10 shows seafood product and ex-vessel value by region as well as total US volume and value.

Figure 10. Comparison of Alaska and US Volume and Ex-Vessel Value of Commercial Fishery Landings, 2007



Source: Developed by Northern Economics based on data from Hiatt (2008b) and NMFS (2008b).

All of Alaska fisheries combined accounted for 62 percent of the volume and 37 percent of the ex-vessel value of the commercial seafood harvested in the United States as reported in NMFS (2008a). The groundfish fishery off Alaska is an especially important segment of the U.S. fishing industry. With landings of 2.4 million mt in 2007, Alaska groundfish accounted 51 percent of U.S. commercial fishery landings by volume.

²³ Includes an imputed \$310 million in ex-vessel value from harvests of catcher processors.

As discussed earlier, pollock is the most dominant species in the commercial groundfish catch off Alaska. With the exception of *de minimus* harvests off of the coast of Washington, all of the pollock landed in the United States is harvested in the fishery off the coast of Alaska. This fishery is the largest U.S. fishery by volume, accounting for more than one-third of total U.S. fisheries landings (Knapp 2006a). Pacific cod is the second most dominant groundfish species harvested off Alaska. Pacific cod now accounts for more than 95 percent of the U.S. domestic cod harvest, and more than 99 percent of this harvest is from Alaska waters (Knapp 2006b). The yellowfin sole and rock sole fisheries off Alaska are the largest flatfish fisheries in the United States. The two flatfish species account for approximately half of U.S. flatfish landings from the Pacific and Atlantic Oceans combined. Yellowfin sole is landed only in Alaska, and rock sole almost entirely so (West Coast landings comprise less than one percent of total U.S. landings for the species) (Roberts and Stevens 2006). Alaska landings accounted for 71 percent of the commercial sablefish catch in 2006 (NMFS 2007b).

With respect to non-groundfish species, Alaska accounted for 96 percent of total U.S. commercial landings of salmon in 2006 (NMFS 2007b). The BSAI and GOA together produce approximately one-third or more of total U.S. crab catches on average (Woodby et al. 2005). U.S. domestic production of king, Tanner and snow crab comes entirely from Alaska (ADF&G 2007b). Alaska landings accounted for 97 percent of the U.S. Pacific sea herring harvest and nearly all of the commercial halibut catch in 2006 (NMFS 2007b).

Since 1997, Dutch Harbor-Unalaska has been the leading U.S. fishing port in quantity of commercial fishery landings.²⁴ In 2006, the port had record landings for quantity at a U.S. port, with more than 414,200 mt of fish and shellfish landed (NMFS 2007b).²⁵ In 2007, Alaska had two of the country's three top fishing ports ranked by total harvest value.²⁶ Dutch Harbor-Unalaska ranked second in the nation (after New Bedford, Massachusetts) with a harvest value of \$174 million; Kodiak remained in third place with nearly \$1,216 million in seafood. Twelve other Alaska ports are ranked in the top 100 among US Ports by value as shown in Figure 11 and include six more in the top 20: Naknek-King Salmon (#7), Seward (#9), Sitka (#10) Cordova (#11), Homer (#13), Petersburg (#16).

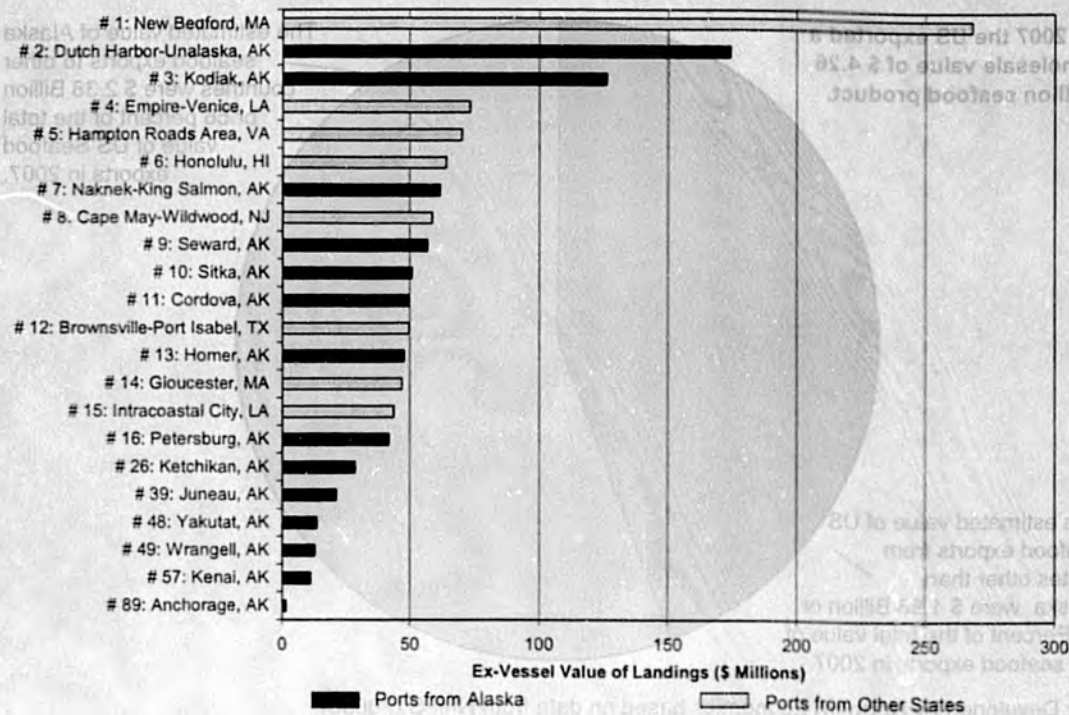


²⁴ To protect the confidentiality of proprietary data, NMFS (2007b) does not include certain leading ports. The ports of Akutan, King Cove and Sand Point are typically not listed among the top U.S. ports because each has only one fish processor/buyer; therefore, data regarding total landed weight and value at these ports are confidential. However, the American Fisheries Act of 1998 opened data associated with BSAI pollock fisheries to public scrutiny, and based on Bering Sea pollock data alone, the three communities would all be in the top 50 in terms of landed weight, with Akutan ranking in the top ten.

²⁵ In 2002, Dutch Harbor-Unalaska surpassed the 32-year volume record of 385,500 mt. held by Los Angeles.

²⁶ Dutch Harbor-Unalaska was the leading U.S. port ranked by dollar value of landings for eight years, from 1992 through 1999, before being displaced by New Bedford.

Figure 11. Rankings of Selected US Ports by Ex-Vessel Value, 2007



Source: Developed by Northern Economics based on data from NMFS (2008c).

Alaska is also one of the primary sources of US exports of seafood product. As shown in Figure 12, it is estimated that Alaska exported seafood worth \$2.38 billion in wholesale value in 2007²⁷. This was 56 percent of the total export value of US seafood product (NMFS, 2008b). The export value of seafood from all other states combined was only 44 percent of the total.

As shown in Figure 13, Japan, China, and South Korea were the three leading importers of Alaska seafood products in 2007. Germany, the Netherlands and other countries in Europe have become increasingly more important for exporters of Alaska Seafood. For fisheries outside of Alaska, the leading importer is Canada.

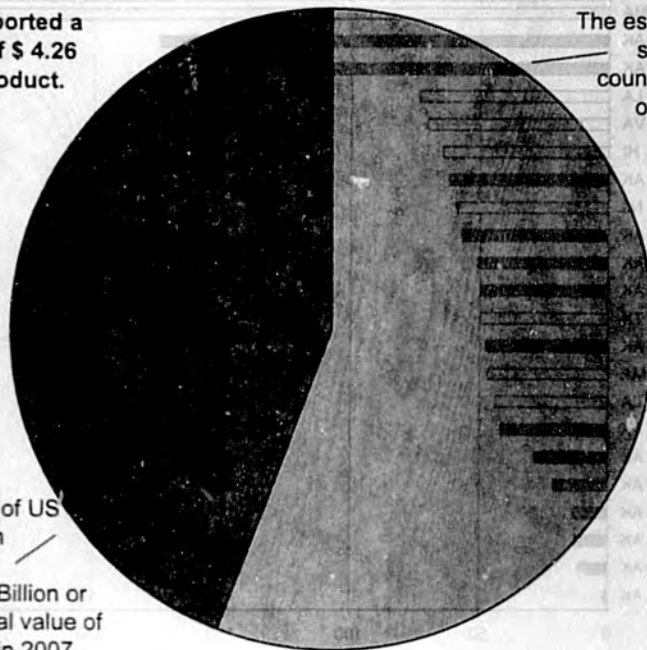
²⁷ Estimates of the value of exports from a particular state or region are somewhat imprecise because export data are reported by species, product, and the US Customs District from which the fish was exported. Because Seattle is a major export port for Alaska seafood, the possibility exists that some of the amounts attributed to Alaska may have originated from other fisheries, particularly where similar species and products are produced in different fisheries served by the same export district.

Figure 12. Alaska Seafood Exports as a Percent of Total US Seafood Export Value, 2007

In 2007 the US exported a wholesale value of \$ 4.26 Billion seafood product.

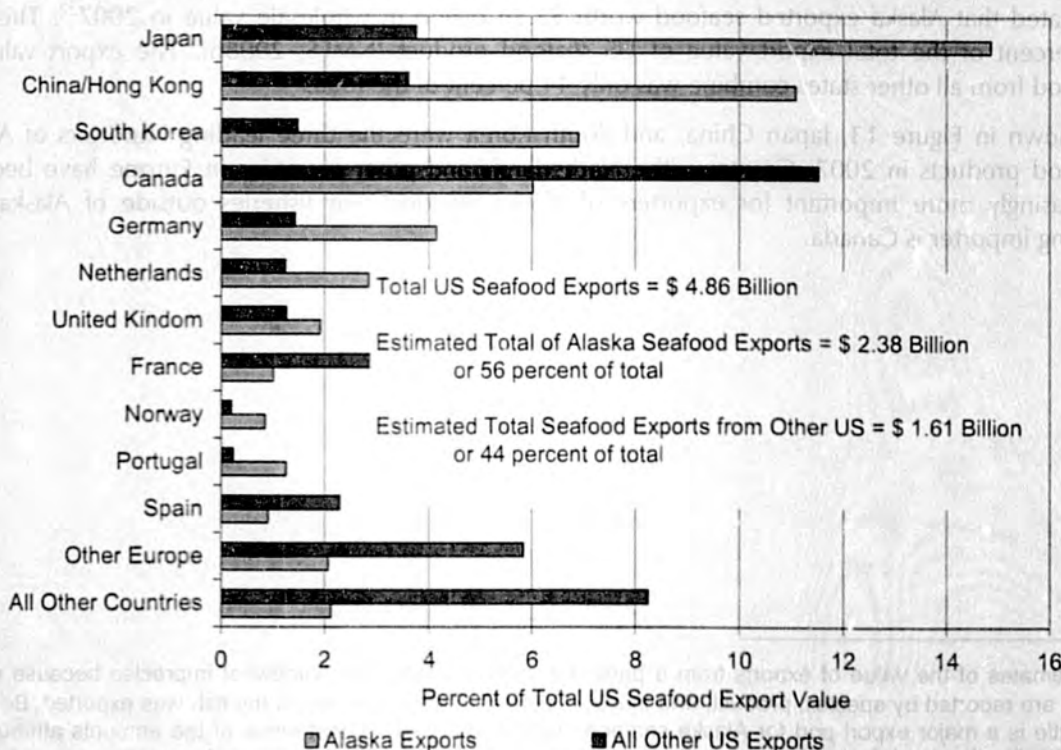
The estimated value of Alaska seafood exports to other countries were \$ 2.38 Billion or 56 percent of the total value of US Seafood exports in 2007.

The estimated value of US seafood exports from States other than Alaska were \$ 1.88 Billion or 44 Percent of the total value of US seafood exports in 2007.



Source: Developed by Northern Economics based on data from NMFS (2008b).

Figure 13. Primary Destinations of Alaska and Other US Seafood Exports, 2007

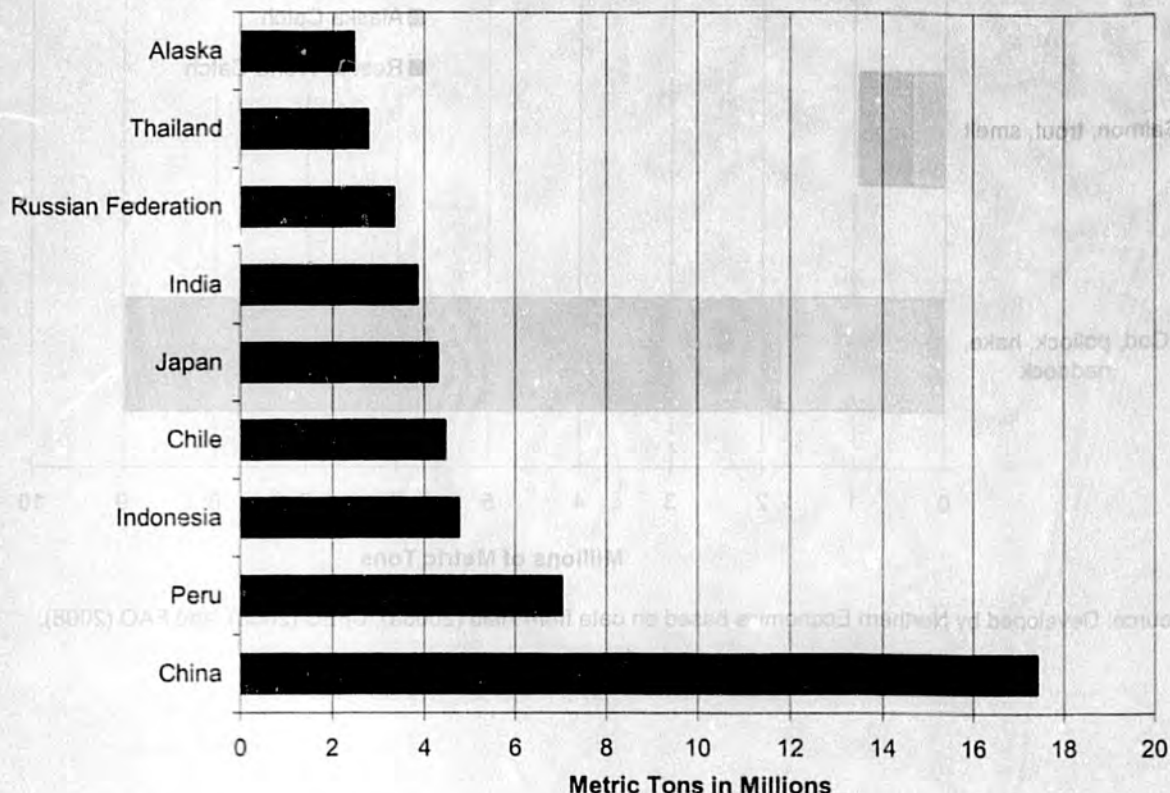


Source: Developed by Northern Economics based on data from NMFS (2008c).

3.2 International Importance of Alaska Seafood Industry

As described in the previous section, exports of Alaska enter markets around the world. Because seafood is one of the most internationally traded products in the world, it is also of interest to examine the Alaska seafood industry in the larger context of worldwide capture fish production. As shown in Figure 14, if Alaska were a nation, it would have placed 9th among seafood producing countries in 2006. (Hiatt, 2008a and FAO, 2008).

Figure 14. Top World Capture (Wild) Seafood Producers by Country plus Alaska, 2006

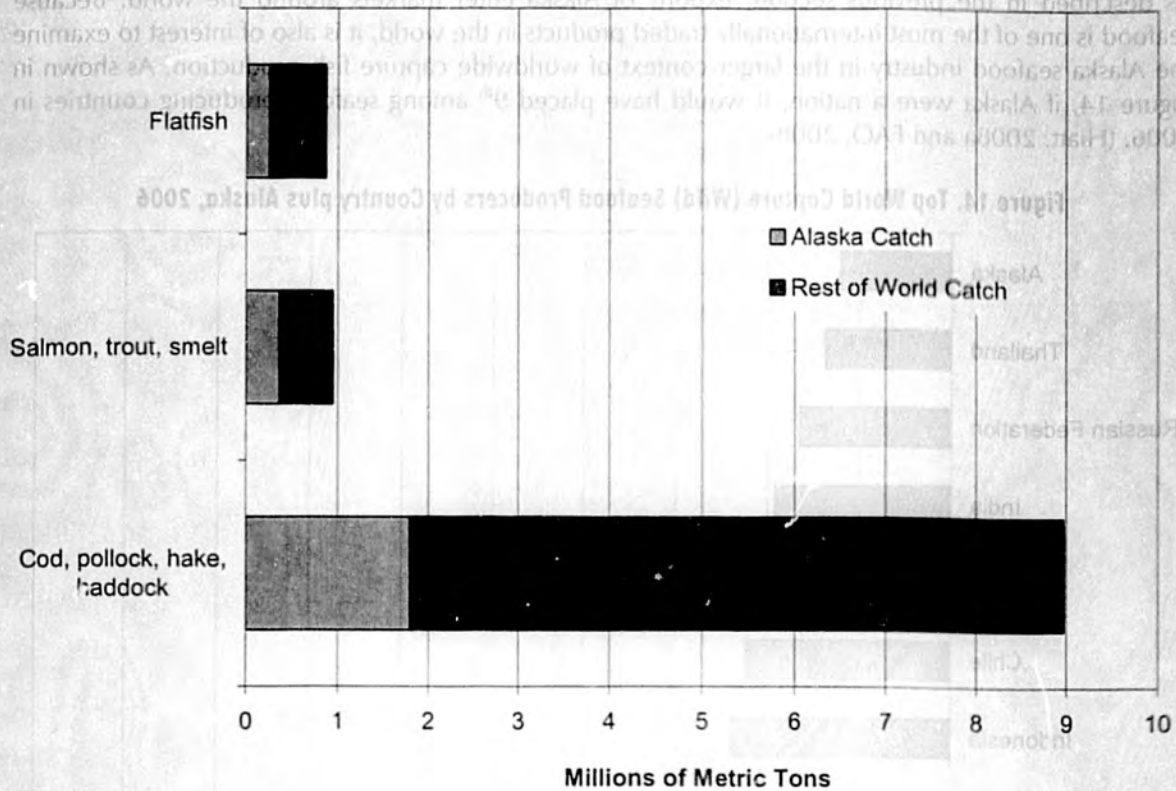


Note: Global harvest data for 2007 were not available at the time this report was prepared.

Source: Developed by Northern Economics based on data from Hiatt (2008a) and FAO (2008).

The global importance of Alaska fisheries increases if one focuses on the landings of certain species or species groups. The groundfish fishery in the waters off Alaska is among the largest fisheries from a global perspective. As shown in Figure 15, Alaska landings of traditional groundfish species (including cod, pollock, hake and haddock) and flatfish accounted for about one-fifth of the world harvest of these species groups in 2006. In the same year, around 42 percent of the world capture production of species in the "salmon, trout, smelt" group occurred in Alaska waters. Alaska is the top producer of wild, high-value salmon, producing nearly 80 percent of the world supply of wild king, sockeye and coho (ADF&G 2003b).

Figure 15. Comparison of Alaska and International Volume of Commercial Fishery Landings by Species Group, 2006



Source: Developed by Northern Economics based on data from Hiatt (2008a), CFEC (2008), and FAO (2008).

4 Current Role of the Seafood Industry in Alaska's Economy

This chapter demonstrates the economic importance of the seafood industry in the State of Alaska as a whole. Economic effects are measured in terms of the total employment and income generated, ex-vessel value and first wholesale value of commercial landings, amount of taxes and fees paid, and total output. In addition, the analysis differentiates the economic impacts by region, residency, fisheries jurisdiction and major species or species group. In general, information from 2007 is described. However, 2007 data on workforces and residency were not available at the time of this publication; therefore information for 2006 is reported.

This chapter also examines the economic effects of two commercial fisheries-related areas of interest: 1) in-state expenditures for commercial fisheries management and research by state and federal agencies and 2) the Community Development Quota Program, a federal fisheries program established in 1992 with the goal of promoting fisheries-related economic development in western Alaska

4.1 Statewide Economic Impacts

The total ex-vessel value of Alaska's commercial fish and shellfish harvest was \$1.55 billion in 2007. The value added by Alaska's seafood processing sector brought the total value of Alaska's commercial landings to over \$3.63 billion in 2007 (Hiatt 2008a).

In 2006, an estimated 56,606 individuals worked in Alaska's seafood industry. Of that total number of workers, about half (27,713) were employed in the seafood harvesting sector and half (28,893) had jobs in the seafood processing sector (ADOLWD, 2007d and Hiatt, 2008a).

The above employment estimates include individuals working in the at-sea processing sector. ADOLWD does not collect complete employment data for this sector because they do not submit (nor are they required to submit) standard employment forms (ES-202) to the agency. To account for these additional workers, Northern Economics collected crew capacity estimates for catcher processors; these estimates suggest that the at-sea processing sector creates about 3,102 processing jobs and 968 harvesting jobs. Counts of jobs are not directly comparable to counts of workers because employee turnover is not factored in. Based on discussions with seafood industry representatives, it was assumed that each processing and harvesting job in the at-sea sector is filled twice per year.

The direct employment generated by the seafood industry creates income in the form of wages and salaries in the processing sector and crew and skipper shares in the harvesting sector. Data from ADOLWD only include gross earnings of the seafood harvesting workforce. Gross earnings are not directly comparable to wages because fishing expenses, such as fuel and oil, bait, ice, and food and stores, have not been deducted. Therefore, the income of harvesters was estimated using a rule of thumb previously developed by Northern Economics based on discussions with seafood industry representatives—in most cases payments to harvesting labor were assumed to be 35 percent of ex-vessel value²⁸. Payments to harvesting and processing labor for the at-sea sector are based on the assumption that employees receive 25 percent of the first wholesale value. Within the total paid to all at-sea employees, it is assumed that members of the harvesting crews receive 35 percent of an imputed ex-vessel value, had the fish been caught and harvested by independent catcher vessels.

²⁸ This is an across-the-board average that represents all fisheries as a whole.

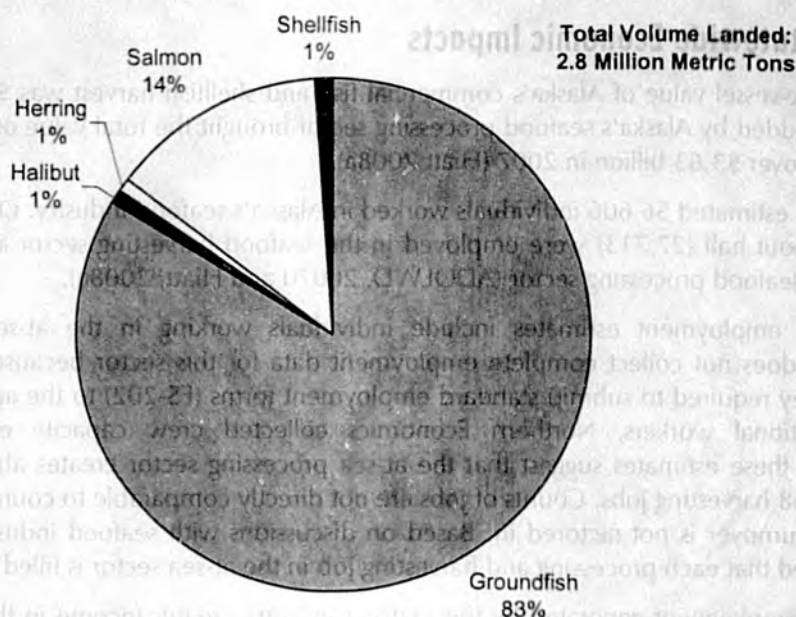
The total payments to labor by the seafood industry in 2007 were estimated to be \$1.04 billion. Of that total, and \$500 million (48 percent) were estimated to have been paid to the workers in the processing sector, and \$543 million (52 percent) were paid to workers in the harvesting sector.²⁹

4.2 Economic Impacts by Major Species

This section breaks down the economic impacts of Alaska's seafood industry in 2007 by major species or species group landed and processed in the state—primarily crab and other shellfish, flatfish, halibut, herring, Pacific cod, pollock, other groundfish (including Atka mackerel, rock fish, sablefish, and miscellaneous groundfish) and salmon.

In 2007, Alaska's fisheries landed a total of 2.8 million metric tons of seafood. Figure 16 shows that more than 83 percent of the seafood landed was groundfish, while 14 percent landed was salmon.

Figure 16. Percentage of Volume Landed by Species, 2007



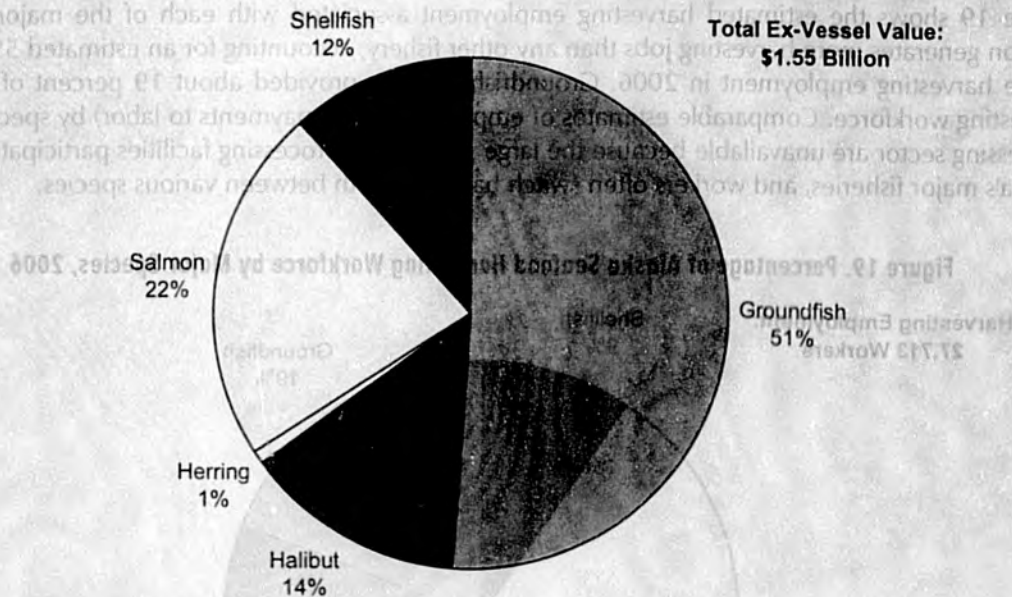
Source: Developed by Northern Economics based on data from Hiatt (2008a).

4.2.1 Ex-vessel Value

Figure 17 shows the distribution of the total ex-vessel value of \$1.55 billion in 2007 by major species, including an imputed value for fish harvested by catcher processors. Salmon generates more harvesting jobs than any other fishery, but in terms of both volume and value, the state's largest fishery is groundfish, where a relatively small number of large boats catch huge quantities of fish, predominantly pollock, without requiring proportionate increases in manpower (Robinson and Gilbertsen 2006). In 2007, groundfish fisheries accounted for about 51 percent of the overall ex-vessel value of Alaska's commercial fisheries, while salmon fisheries accounted for about 22 percent.

²⁹ Estimated by Northern Economics using data from ADOLWD (2008a), CFEC (2008), and Hiatt (2008a).

Figure 17. Percentage of Ex-vessel Value of Alaska Seafood Industry Harvest by Major Species, 2007

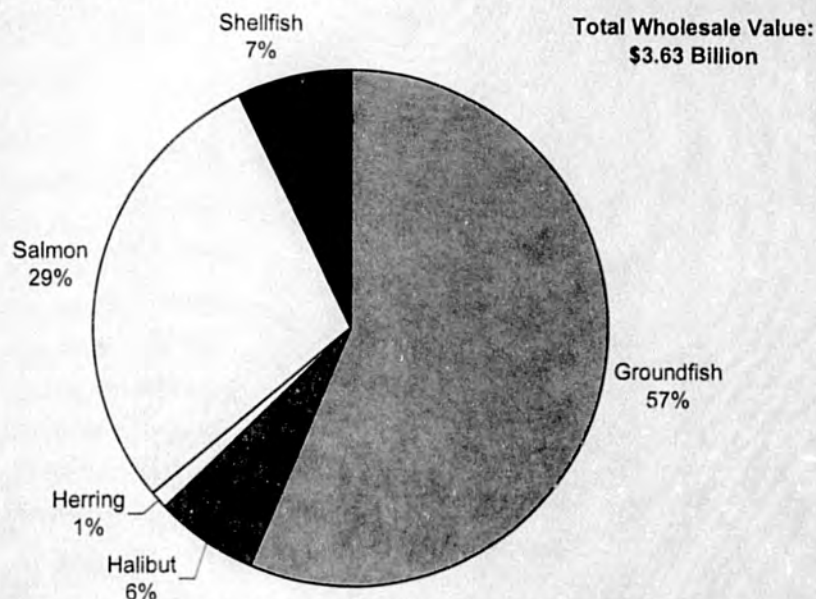


Source: Developed by Northern Economics based on data from Hiatt (2008a).

4.2.2 First Wholesale Value

Groundfish fisheries accounted for around 57 percent of the total first wholesale value of Alaska seafood products in 2007, and salmon fisheries accounted for 29 percent (Figure 18). Species-specific annual estimates of first wholesale value should not be directly compared to estimates of ex-vessel value, because the data are collected by different agencies and wholesale transactions may occur in different years than harvests.

Figure 18. Percentage of First Wholesale Value of Alaska Seafood Industry Harvest by Major Species, 2007



Source: Developed by Northern Economics based on data from Hiatt (2008a).