

ECONOMIC STATUS REPORT SUMMARY:

BSAI CRAB FISHERIES, 2016

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## ECONOMIC STATUS REPORT SUMMARY: BSAI CRAB FISHERIES, 2016

The Bering Sea/Aleutian Islands (BSAI) crab fisheries managed under the North Pacific Fishery Management Council's Fishery Management Plan (FMP) are currently prosecuted by an active fleet of 115 catcher vessels and two catcher processors, and landed and processed at 14 processing facilities throughout the region. Of the 10 crab stocks and 11 fisheries managed under the FMP<sup>1</sup>, eight fisheries are currently open to targeted fishing. The Bering Sea Tanner (BST) crab fisheries reopened for targeted fishing for the 2013/14 season<sup>2</sup> after being closed since the 2010/11 season. Pribilof Islands red and blue king, and Western Aleutian red king crab stocks are currently designated overfished, as detailed in the assessments for these stocks. The Saint Matthew blue king (SMB) crab fishery was closed for the 2013/14 season under the State of Alaska's management strategy, and reopened for the 2014/15 and 2015/16 seasons.

This report provides a brief summary of key indicators of economic status and performance of BSAI crab fisheries for the 2011 through 2015 calendar year operations. The full Economic Status Report for BSAI Crab Fisheries, 2016 (Crab Economic SAFE, currently being updated for annual release in February, 2017) provides detailed information regarding production, sales, revenue, and price indices in the harvesting and processing sectors, income, employment, and demographics of labor in both sectors, capital and operating expenditures in the fishery, quota share lease and sale market activity, changes in distribution of quota holdings, productivity in the harvesting sector, U.S. imports and exports of king and Tanner crab, price forecasts, performance metrics for catch share programs, and other information regarding data collection and ongoing economic and social science research related the BSAI crab fisheries and related communities. The following document summarizes three sets of primary indicators describing aggregate changes in gross volume and value of production, labor earnings and employment in the crab processing and harvesting sectors, and crab harvest quota leasing activity. Note that results presented below for 2015 calendar year fisheries are preliminary pending completion of data validation and additional analyses, and may be revised in the final update of the full Economic Status Report.

### *Fishery production and economic value*

Harvest- and processing sector production statistics by crab fishery, including ex-vessel and first wholesale output, estimated revenue, and average prices are shown in Table 1 for calendar years

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<sup>1</sup>There are currently 11 distinctly managed fisheries on the 10 crab stocks managed under the FMP; catch allocations and other management elements are administered separately for the Eastern and Western components of the Bering Sea Tanner crab stock, and for the Eastern and Western components of the Aleutian Islands golden king crab stock, and the Pribilof Island blue and red king crab stocks are managed collectively as a single fishery. For fisheries characterized by a small number of participating entities, individual statistics where indicated in Tables 1 - 3, and elsewhere in the report, are suppressed due to confidentiality restrictions; this includes most values for the Pribilof Island golden king (PIG) crab fishery and the Norton Sound red king (NSR) crab fisheries, and statistics for both Aleutian Islands golden king crab fisheries and both Bering Sea Tanner crab fisheries are reported in aggregate, respectively. Values that are indicated as suppressed for a specific fishery are also excluded from values reported in aggregate over multiple crab fisheries. Except where noted, the suppressed values are sufficiently small that they have minimal effect on the accuracy of aggregate information at the level of precision reported here.

<sup>2</sup>Although opened as of October, 2013, most activity in the reopened BST fisheries occurred during Spring of 2014.

2011-2015 and summarized in Figure 1. Across all fisheries managed under the BSAI Crab FMP, the total volume of ex-vessel landings commercially sold to processors during 2015 was 91.5 million pounds (41.5 thousand metric tons), a 13 percent increase from the previous year. Processing sector finished production volume during 2014 was 60.5 million pounds aggregated over all BSAI crab species and product forms, a 13.7 percent increase over the previous year. The combined effect of production and price changes over all fisheries produced a 7 percent increase in total gross revenues over all fisheries in 2015. Ex-vessel revenue increased to \$266.1<sup>3</sup> million for the year, and \$359.5 million first wholesale revenues.

As of 2015, allowable catch quantities in all BSAI crab fisheries currently open to targeted fishing are fully exploited (> 98% of total allocation landed), and recent inter-annual variation in commercial landings largely reflects the results of stock assessments and the State of Alaska's specified catch limits rather than changes in fishing capacity or exploitation rate. The increase in aggregate production during 2015 was driven largely by the 10 percent increase in volume landed in the Bering Sea snow crab (BSS) fishery compared to 2014, with total catch at 60.9 million pounds (27.6 thousand mt). Landings in the BST fisheries increased 66 percent over 2014 levels, to 15 million pounds (6.8 thousand mt), while landings of 9.7 million pounds in Bristol Bay red king (BBR) in 2015 decreased slightly from 2014 levels.

Similar to ex-vessel production, the proportional increase in processing sector output aggregated over all active crab fisheries was driven by the 39.9 million pounds (18.1 thousand mt) of BSS fishery production, increasing 10 percent in volume over the previous year, and the 68 percent increase in finished volume in the BST fisheries to 10.3 million pounds (4.7 thousand mt).

Average prices as reported in both sectors for crab produced in BSAI crab fisheries during 2015 reversed trends observed during the most recent three years, with prices increasing in AIG, Bristol Bay red king (BBR), and BST fisheries, while declining in the Bering Sea snow crab (BSS) fishery (Table 1). Average BBR ex-vessel price increased 19% per landed pound to \$8.00, and average first wholesale price increased 19 percent to \$14.36 per finished pound. Prices in the BST fishery increased to \$2.59 ex-vessel (+7%), but declined to \$5.33 (-9%) at first wholesale. More moderate increase occurred in Golden king crab ex-vessel price, to \$4.33 (+5%), and first wholesale to \$9.38 (+22%) per-pound. Snow crab prices declined sharply in both sectors, to \$2.04 average ex-vessel (-4.8%), and \$4.34 average first wholesale (-14.4%) per-pound. .

The decline in production volume in the BSS fishery, combined with the decline in price, reduced gross revenue compared to 2014, to \$124 million in the harvest sector (-6.8%) and \$173 million in the processing sector (-5.7%). Earnings increased by 18% in the BBR fishery, with ex-vessel revenue of \$78.2 million and wholesale revenue of \$94.7 million. Exvessel revenues in the AIG fisheries increased very slightly to \$25.2 million ex-vessel, declining by 6 percent wholesale to \$30.7 million. The reopened BST fishery produced gross revenue of \$22 million ex-vessel, and by 16% to 36.2 million wholesale. The proportional inter-annual variation in gross revenue from 2014 to 2015 was somewhat less than the average degree of variation over the last 15 years in the historically volatile crab fisheries; longer time series for these and other measures of crab fishery performance are available in the data tables section of the full report.

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<sup>3</sup>All prices are inflation-adjusted to 2015 dollars.

## *Employment and Income*

A summary of selected indicators from the most recent employment data available for Crab Rationalization (CR) program fisheries is provided in Table 2<sup>4</sup> and depicted graphically in Figure 2.

The number of vessels operating in one or more of the CR fisheries in 2015 increased from 76 to 82, and from 109 to 117 across all BSAI FMP crab fisheries. The BST fishery included 86 additional vessels fishing during 2014 over the previous year. Based on the average (mean) number of crew onboard (as reported in eLandings catch accounting records for crab vessels), there were an estimated 1332 crew positions across all 82 vessels in CR fisheries in 2015<sup>5</sup>.

Revenue-share payments to crab vessel crew members as a group totaled approximately \$37.9 million in 2015, with an additional \$16.7 million paid to vessel captains<sup>6</sup>. Over both groups, incomes increased 18 percent in 2015, reflecting the overall increase in ex-vessel revenue described above. Aggregate crew and captain earnings in the BSS fishery increased by 3 percent to \$18.4 million and decreased by 4 percent to \$7.7 million, respectively. Aggregate crew and captain earnings in the BBR fisheries increased to \$13.1 million. Crew and captain earnings in the BST fishery totaled \$5.9 million and \$2.86 million, respectively, nearly doubling the level of earnings in 2014.

Crab processing labor input at processing plants that received IFQ and CDQ crab landings in 2015 is estimated at nearly 1105 thousand labor hours, 31 percent over 2014, and with the number of active plants stable at nine. Aggregate processing labor income generated across all CR fisheries during 2015 was \$12.7 million, increased by 39 percent from the previous year. The increase in processing labor pay compared reflects an increase in hourly processing wage rates across all fisheries, with median plant-level hourly wage rate increased from \$9.58 in 2014 to \$10.67 in 2015 for processors in the BBR fishery, with similar but more moderate changes indicated for other fisheries, following an increase in Alaska state minimum wage requirements.

## *IFQ Leasing*

This report provides results from the BSAI Crab Rationalization Economic Data Report (EDR) program collection of crab harvest quota allocation lease data associated with 2012 through 2015 calendar year crab fishing activity. Table 3 and Figure 3 shows aggregated results for crab fishing quota lease volume (in pounds) and cost reported for crab vessels active during the last four calendar year CR fisheries,<sup>7</sup> by fishing quota type category, including total quantities summed over all

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<sup>4</sup>BSAI Crab Economic Data Report (EDR) data are collected for CR fisheries only. The NSR and Pribilof Island golden king (PIG) crab fisheries are managed by the State of Alaska under the FMP, but are not included in the CR program.

<sup>5</sup>Note that the aggregate count of vessels indicates the total number of distinct vessels, while the count of crew positions counts positions separately by fishery and vessel, such that individual crew members are counted more than once.

<sup>6</sup>In addition to revenue-share payments, income is derived by some crew and many captains from royalties for harvesting quota shares held by either the captain or crew. While this may become an increasingly important source of income as opportunities for investment in QS ownership are advanced, there is no evidence to date that the proportion of CR fishery quota share pools held by crab crew members has changed in recent years, following a small amount of consolidation occurring during the initial years of the program (see NMFS Alaska Region, Restricted Access Management Program, Bering Sea and Aleutian Islands Crab Rationalization Program Report, Fishing Year 2011/12 for information on quota allocation and transfer activity, and other current CR program administration details).

<sup>7</sup>Note that CR crab fisheries are managed on a July-June seasonal calendar, 2014 calendar year fisheries include the 2013/2014 BSS season and 2014/2015 BBR season.

reporting vessels, and average values (both median and mean) for volume and cost of leased quota per vessel, and average lease price paid (\$US per pound) and average lease rate (lease price as percentage of ex-vessel price) per vessel. Both median and arithmetic mean average value metrics are presented to provide information on the variation in reported values within each stratum, with the higher mean values shown indicating the presence of a subset of high-value data points in these data. Harvest quota types are categorized as the following: catcher vessel owner (CVO) Class A IFQ; catcher vessel owner Class B IFQ and catcher/processor owner (CPO) IFQ; catcher vessel crew IFQ and catcher/processor crew IFQ, and community development quota (CDQ).

The number of vessels reporting quota leases in the 2015 BBR fishery range from 50 vessels leasing CVO Class A shares to 7 vessels leasing CDQ shares (out of 63 crab vessels active during the 2011-2015 BBR fishery), and from 57 vessels leasing CVO Class A BSS IFQ allocation to 10 vessels leasing CDQ allocation (out of 69 active vessels) in the BSS fishery. Total volume and cost over all vessels leasing the respective quota types during 2011-2015 range from 5.23 million pounds and \$22.3 million for BBR CVO Class A IFQ, to 213 thousand pounds and \$928 thousand for BBR CVO and CPC crew IFQ allocation; BSS lease volume and cost ranged from 29.7 million pounds and \$32.4 million for CVO Class A IFQ to 1.3 million pounds and \$1.5 million for crew share IFQ allocation.

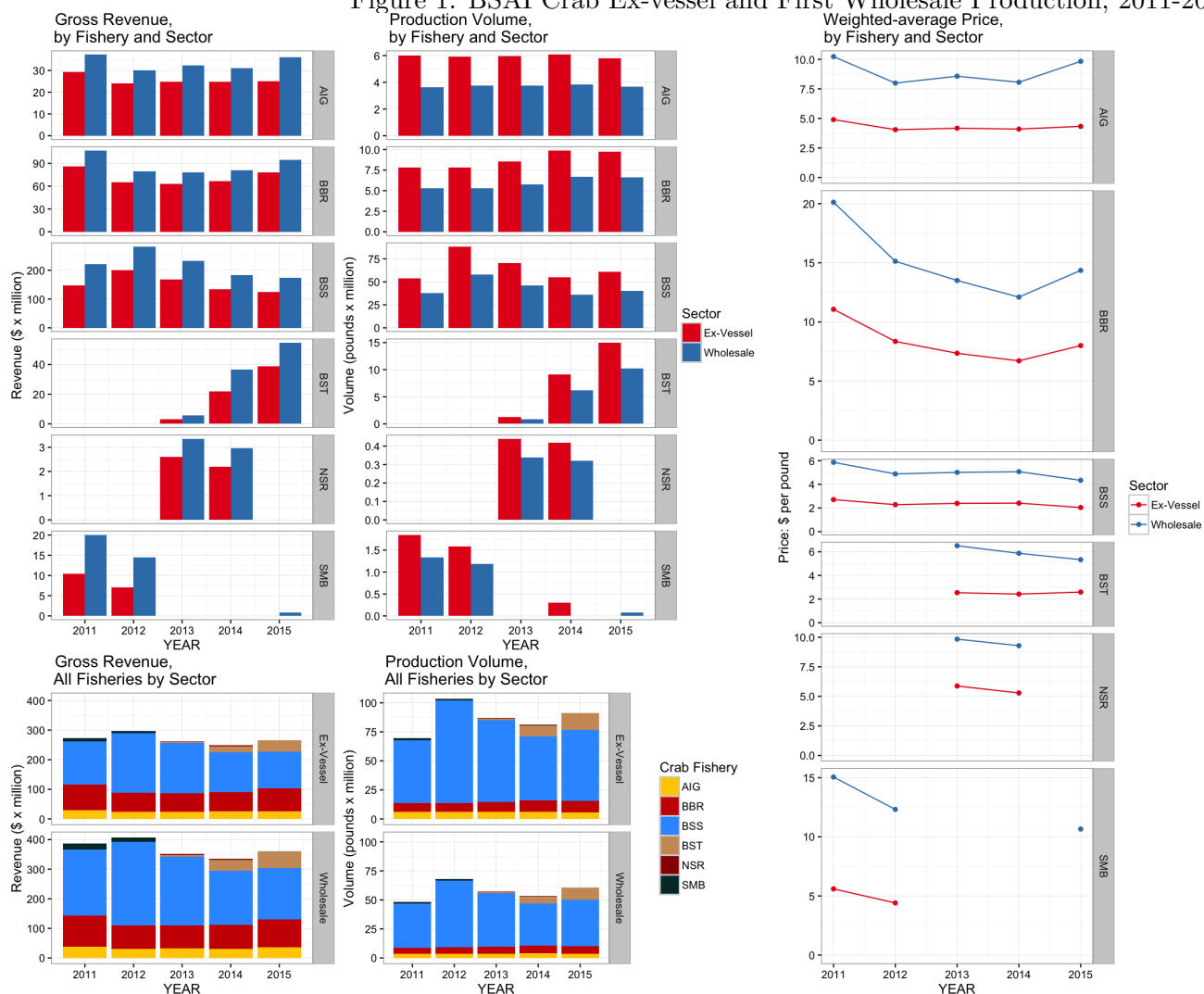
Median vessel-level values<sup>8</sup> for 2015 BBR quota leased volume and cost ranged from 118 thousand pounds and \$503 thousand per vessel for the seven vessels leasing BBR CDQ allocation, 89 thousand pounds and \$373 thousand for BBR CVO-A shares, and 7 thousand pounds and \$23 thousand for BBR CVO and CPO crew IFQ. BSS per-vessel averages ranged from 442 thousand pounds and \$489 thousand per vessel for BSS CVO- Class A allocation to 29 thousand pounds and \$38 thousand for BSS crew share allocation.

Average (median) lease prices and lease rates in the BBR fishery shown in Table 3 have remained quite stable over the three years for which data are available, varying slightly year-to-year and by quota type within fishery, and with interannual variation in price per pound corresponding to changes in ex-vessel prices. In the 2011-2015 BBR fishery, median lease price ranged from \$4.21 per pound for BBR CVO Class A allocation (62% of ex-vessel value) to \$4.47 per pound (63% of ex-vessel value) for CDQ allocation. Median lease price and rate in the 2011-2015 BSS fishery were least for CVO Class A IFQ at \$1.12 (46% of ex-vessel value), and \$1.21-\$1.23 for other allocation types (46-49% of ex-vessel price).

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<sup>8</sup>Differences between median and mean average values shown in Table 3 are most pronounced in the per-vessel pounds and cost statistics; this primarily reflects the relative concentration of high-volume quota leasing activity by a small number of vessels within each quota type category.

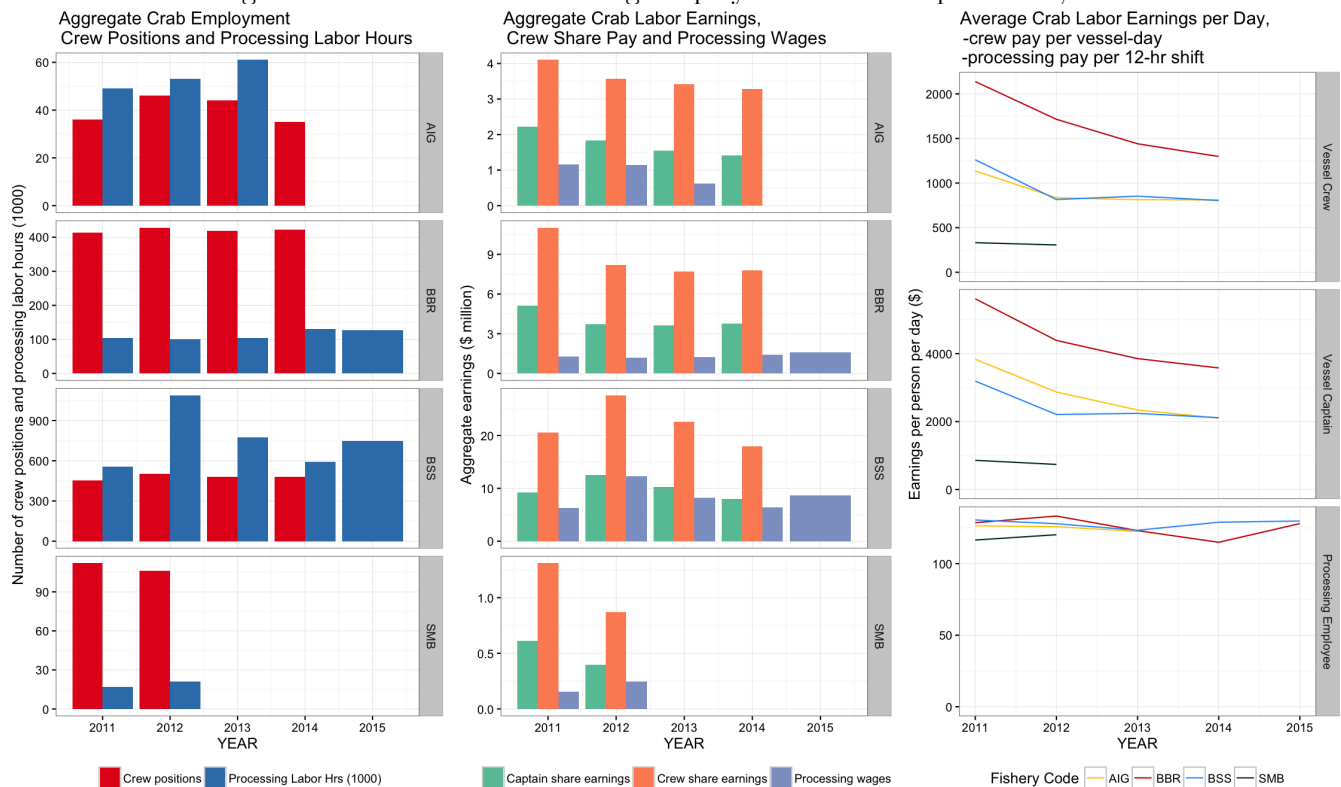
Figure 1: BSAI Crab Ex-vessel and First Wholesale Production, 2011-2015



**Source:** ADF&G fish tickets, eLandings, CFEC pricing, ADF&G Commercial Operator's Annual Report, NMFS AFSC BSAI Crab Economic Data Report (EDR) database. See Table 1 footnotes for details.

(a) Revenue, (b) Volume, and (c) Weighted Average Price, 2011-2015; gross revenue and production volume by sector are presented in the upper pair of panels by individual crab fishery for comparison of within-fishery variation over time, and summarized over all fisheries in the lower panels to illustrate the variation in aggregate values and relative contribution of each fishery over time. Figure does not display information for PIG fishery due to confidentiality. See Table 1 footnotes for data sources and details.

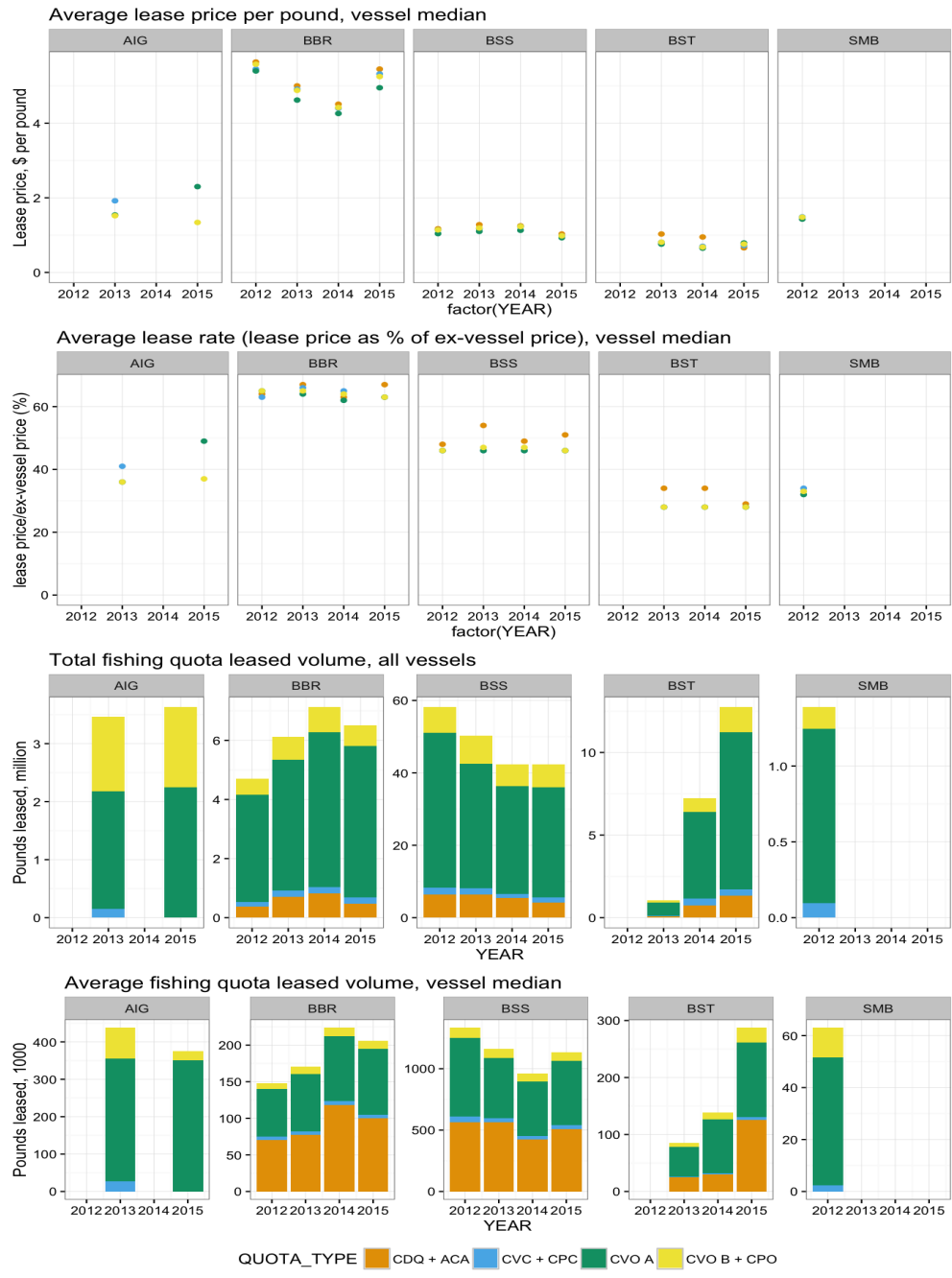
Figure 2: Harvest and Processing Employment and Compensation, Selected Crab Fisheries, 2011-2015



Source: NMFS AFSC BSAI Crab Economic Data Report (EDR) database; ADF&G Shellfish Observer Program, Confidential Interview Form (CIF) database. See Table 2 footnotes for details.



Figure 3: Crab Harvest Quota Lease Activity; Lease Volume, Price, and Rate, Selected Crab Fisheries, 2012-2011-2015



Source: NMFS AFSC BSAI Crab Economic Data Report (EDR) database; ADF&G Shellfish Observer Program, Confidential Interview Form (CIF) database. See Table 3 footnotes for details.

Table 1: BSAI Crab Harvesting and Processing Sector Output – Production Volume, Gross Revenue, and Average Price<sup>a</sup>

	Harvesting Sector: Ex-Vessel Statistics <sup>a</sup>							Processing Sector:First Wholesale Statistics <sup>b</sup>					
	Year	Vessels	CFEC permits	Landed volume 1000t	Landed volume million lbs	Buyers	Gross revenue \$million	Average price \$/lb	Plants	Finished volume, 1000t	Finished volume, million lbs	Gross revenue \$million	Average price \$/lb
All	2011	102	235	31.61	69.68	27	\$272.62	-	18	21.85	48.17	\$386.09	-
	2012	113	284	46.97	103.55	26	\$297.27	-	20	30.84	68.00	\$406.14	-
	2013	115	238	39.39	86.85	29	\$262.22	-	22	25.87	57.03	\$350.98	-
	2014	109	256	36.73	80.97	25	\$248.31	-	17	24.15	53.24	\$334.62	-
	2015	117	270	41.49	91.47	22	\$266.10	-	14	27.45	60.51	\$359.49	-
AIG	2011	5	13	2.72	6.00	14	\$29.40	\$4.90	7	1.65	3.64	\$37.28	\$10.23
	2012	6	14	2.69	5.92	14	\$24.02	\$4.05	8	1.71	3.76	\$30.05	\$7.99
	2013	6	14	2.70	5.94	13	\$24.79	\$4.17	7	1.71	3.77	\$32.34	\$8.57
	2014	5	11	2.75	6.07	12	\$24.89	\$4.10	5	1.75	3.85	\$31.04	\$8.06
	2015	5	14	2.63	5.80	9	\$25.12	\$4.33	4	1.67	3.68	\$36.20	\$9.83
BBR	2011	62	71	3.53	7.79	18	\$86.21	\$11.07	14	2.41	5.30	\$106.70	\$20.12
	2012	64	74	3.54	7.80	17	\$65.19	\$8.35	12	2.39	5.27	\$79.71	\$15.13
	2013	63	73	3.86	8.52	17	\$62.65	\$7.35	11	2.61	5.75	\$77.74	\$13.51
	2014	63	72	4.48	9.87	17	\$66.22	\$6.71	9	3.02	6.66	\$80.62	\$12.10
	2015	64	71	4.43	9.77	15	\$78.21	\$8.00	10	2.99	6.60	\$94.77	\$14.36
BSS	2011	68	88	24.52	54.05	16	\$146.64	\$2.71	14	17.18	37.89	\$222.04	\$5.86
	2012	72	109	40.02	88.23	16	\$201.03	\$2.28	13	26.21	57.79	\$281.90	\$4.88
	2013	71	90	32.07	70.69	15	\$169.00	\$2.39	12	21.00	46.31	\$231.98	\$5.01
	2014	70	91	25.05	55.22	13	\$133.03	\$2.41	10	16.41	36.17	\$183.47	\$5.07
	2015	70	95	27.63	60.91	14	\$124.01	\$2.04	10	18.10	39.90	\$172.99	\$4.34
BST	2013	22	26	0.57	1.25	13	\$3.18	\$2.54	9	0.39	0.86	\$5.57	\$6.51
	2014	40	52	4.12	9.09	13	\$21.96	\$2.42	9	2.82	6.23	\$36.52	\$5.87
	2015	55	80	6.79	14.98	13	\$38.77	\$2.59	8	4.65	10.26	\$54.70	\$5.33
NSR	2011	25	38	*	*	2	*	*	2	*	*	*	*
	2012	30	64	*	*	3	*	*	3	*	*	*	*
	2013	34	52	0.20	0.44	5	\$2.61	\$5.88	5	0.15	0.34	\$3.35	\$9.84
	2014	34	65	0.19	0.42	4	\$2.20	\$5.29	4	0.15	0.32	\$2.97	\$9.29
	2015	37	72	*	*	3	*	*	2	*	*	*	*

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Table 1: Continued

		Harvesting Sector: Ex-Vessel Statistics <sup>a</sup>							Processing Sector:First Wholesale Statistics <sup>b</sup>				
	Year	Vessels	CFEC permits	Landed volume 1000t	Landed volume million lbs	Buyers	Gross revenue \$million	Average price \$/lb	Plants	Finished volume, 1000t	Finished volume, million lbs	Gross revenue \$million	Average price \$/lb
PIG	2011	2	2	*	*	1	*	*	1	*	*	*	*
	2012	1	1	*	*	1	*	*	1	*	*	*	*
	2013	1	1	*	*	1	*	*	1	*	*	*	*
	2014	1	1	*	*	1	*	*	1	*	*	*	*
SMB	2011	18	23	0.84	1.85	11	\$10.36	\$5.60	6	0.60	1.33	\$20.06	\$15.06
	2012	17	22	0.72	1.59	11	\$7.03	\$4.41	6	0.53	1.18	\$14.48	\$12.32
	2014	4	5	0.14	0.30	6	*	*	1	*	*	*	*
	2015	3	3	*	*	4	*	*	1	0.04	0.08	\$0.82	\$10.66

**Notes:** Data shown for all BSAI crab fisheries by calendar year. All dollar values are adjusted for inflation to 2014-equivalent value. Information suppressed for confidentiality where indicated by “\*”, and data not available where indicated by “-”.

<sup>a</sup> Except where noted, ex-vessel results reflect total commercial sales volume and value across all management programs (LLP/open access, IFQ, CDQ, ACA), inclusive of all harvesting sector production (CV, CP, and catcher-sellers); ex-vessel value of CP and catcher-seller landings incorporated in revenue total by approximation using average CV ex-vessel sale price; ex-vessel average price results are sourced from CV sector EDR data where available (2008-2011 for CR program fisheries) and secondarily from CFEC gross earnings estimates (2012 for CR fisheries; all years for non-CR fisheries).

<sup>b</sup> Counts of buyers include CPs landing and processing their own crab, but exclude catcher sellers (NSR fishery only); processing sector results inclusive of all CP and shoreside processor output; finished volume sourced from crab processor EDR production reports where available (2008-2011), or eLandings ex-vessel sales volume adjusted by average product recovery rate (PRR) by fishery (2012). Wholesale price results are sourced from crab processor EDR gross earnings reports where available (2008-2011) and secondarily from COAR gross earnings estimates (2012); gross wholesale revenue estimates are derived from price and volume sourced or estimated as described.

<sup>c</sup> Statistics reported for “All BSAI Fisheries” reflect information aggregated over all FMP crab fisheries, excluding fishery-level confidential information suppressed where indicated by “\*”.

<sup>d</sup> Landings and ex-vessel revenue suppressed in years where CDQ fishery landings are confidential.

<sup>e</sup> Data for Norton Sound red king crab are aggregated over the summer and winter commercial fisheries.

**Source:** ADF&G fish ticket data; eLandings; CFEC ex-vessel pricing; ADF&G Commercial Operator’s Annual Report; NMFS AFSC BSAI Crab Economic Data Report (EDR) database

Table 2: CR program fisheries crew and processing sector employment and earnings

	Crew positions <sup>a</sup>			Crew share		Captain share		Processing labor hours			Processing labor payment			
	Year	Obs	Total	Vessel Mean	Total \$million	Vessel median	Total \$million	Vessel median \$1,000	Obs	Total 1,000 hrs	Plant median 1000 hrs	Total \$million	Plant median, \$1,000	Median \$/hour
All	2011	77	1,014	-	\$36.95	-	\$17.14	-	16	724.96	-	\$8.94	\$10.67	-
	2012	83	1,081	-	\$40.24	-	\$18.45	-	13	1,261.90	-	\$14.89	\$10.63	-
	2013	81	1,099	-	\$34.10	-	\$15.68	-	12	955.77	-	\$10.19	\$10.32	-
	2014	76	1,216	-	\$32.14	-	\$14.69	-	9	842.63	-	\$9.08	\$9.97	-
	2015	82	1,332	-	\$37.91	-	\$16.65	-	9	1,104.82	-	\$12.69	\$10.59	-
AIG	2011	5	36	7.20	\$4.10	\$694.17	\$2.23	\$369.26	6	48.97	4.79	\$1.17	\$79.23	\$10.54
	2012	6	46	7.67	\$3.57	\$650.94	\$1.84	\$326.11	7	53.16	2.60	\$1.14	\$61.03	\$10.49
	2013	6	44	7.33	\$3.41	\$549.26	\$1.55	\$280.33	6	61.09	5.96	\$0.62	\$63.05	\$10.21
	2014	5	*	*	*	*	*	*	4	*	*	*	*	*
	2015	5	*	*	*	*	*	*	3	*	*	*	*	*
BBR	2011	62	413	6.66	\$11.01	\$159.80	\$5.11	\$86.92	12	104.38	6.71	\$1.28	\$77.44	\$10.72
	2012	64	428	6.68	\$8.21	\$104.41	\$3.70	\$55.57	10	100.36	6.51	\$1.21	\$69.45	\$11.11
	2013	63	418	6.63	\$7.68	\$96.08	\$3.65	\$54.10	8	103.96	10.00	\$1.21	\$95.94	\$10.26
	2014	63	422	6.70	\$7.81	\$107.48	\$3.78	\$53.42	7	129.98	21.07	\$1.42	\$77.00	\$9.58
	2015	64	441	6.89	\$9.50	\$136.94	\$4.41	\$63.15	8	127.01	14.80	\$1.59	\$119.22	\$10.67
BSS	2011	68	453	6.66	\$20.54	\$289.73	\$9.19	\$134.45	12	554.86	45.69	\$6.34	\$367.30	\$10.88
	2012	72	502	6.97	\$27.58	\$382.45	\$12.51	\$179.57	11	1,087.26	77.94	\$12.29	\$627.20	\$10.66
	2013	71	481	6.77	\$22.56	\$290.26	\$10.27	\$144.83	10	774.12	63.55	\$8.19	\$493.61	\$10.28
	2014	70	480	6.86	\$17.92	\$239.54	\$8.04	\$111.02	8	590.39	76.01	\$6.42	\$463.97	\$10.75
	2015	70	491	7.01	\$18.42	\$240.84	\$7.72	\$112.63	8	747.40	95.42	\$8.63	\$802.84	\$10.82

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Table 2: Continued

Year	Crew positions <sup>a</sup>			Crew share		Captain share		Processing labor hours			Processing labor payment		
	Obs	Total	Vessel Mean	Total \$million	Vessel median	Total \$million	Vessel median \$1,000	Obs	Total 1,000 hrs	Plant median 1000 hrs	Total \$million	Plant median, \$1,000	Median \$/hour
2013	22	156	7.09	\$0.45	\$14.86	\$0.21	\$7.64	6	16.58	1.86	\$0.17	\$15.96	\$9.86
BST 2014	41	279	6.80	\$3.12	\$70.07	\$1.45	\$31.40	7	122.27	8.51	\$1.24	\$80.37	\$9.74
2015	55	365	6.63	\$5.92	\$113.21	\$2.86	\$46.24	7	230.41	21.84	\$2.47	\$207.99	\$10.47
2011	17	112	6.56	\$1.31	\$61.08	\$0.61	\$33.09	6	16.75	0.84	\$0.15	\$8.28	\$9.71
SMB 2012	17	106	6.24	\$0.87	\$45.07	\$0.40	\$22.97	6	21.12	0.76	\$0.25	\$7.49	\$10.02
2014	4	*	*	*	*	*	*	1	*	*	*	*	*
2015	3	*	*	*	*	*	*	1	*	*	*	*	*

**Notes:** Data shown for all BSAI crab fisheries by calendar year. All dollar values are adjusted for inflation to 2014-equivalent value. Information suppressed for confidentiality where indicated by “\*”, and data not available where indicated by “-”.

<sup>a</sup> For catcher/processors, EDR reporting may be used to adjust eLandings crew size reporting in order to estimate the number of fishing crew positions.

<sup>b</sup> Crew and captain payments reflect amounts paid for labor during the crab fishery and include all post-season adjustments, bonuses, and deductions for shared expenses such as fuel, bait, and food and provisions; payments for IFQ royalties, labor outside of crab fishery, health/retirement or other benefits are excluded.

<sup>c</sup> Processing labor hours for catcher/processors are estimated by multiplying processing positions, number of days processing, and an assumed shift length of 12 hours per day.

<sup>d</sup> For all years, pay per hour statistics reflect only the shoreside and floating processing sectors.

**Source:** NMFS AFSC BSAI Crab Economic Data Report (EDR) database, and Crew positions from eLandings.

Table 3: Crab Harvest Quota Lease Activity, Volume, Cost, and Average Lease Prices and Rates; CR Program Fisheries

	Year	Vessels <sup>a</sup>	Pounds Leased (1000lbs)			Cost (\$1000)			Lease Price (\$/pound) <sup>b</sup>		Lease Rate (percent of ex-vessel price) <sup>c</sup>	
		Total	Median	Mean	Total	Median	Mean	Median	Mean	Median		
AIG	CVO A	2012	4	*	*	*	*	*	*	*	*	
		2013	5	2,026.23	327.87	405.25	3,690.27	589.62	\$738.05	\$1.54	\$1.70	36%
		2014	4	*	*	*	*	*	*	*	*	
		2015	5	2,252.00	351.05	450.40	5,206.39	924.38	\$1,041.28	\$2.30	\$1.88	49%
	CVO B + CPO	2012	4	*	*	*	*	*	*	*	*	
		2013	6	1,284.80	83.15	142.76	1,884.58	237.08	\$209.40	\$1.52	\$1.77	36%
		2014	4	*	*	*	*	*	*	*	*	
		2015	5	1,375.30	24.30	196.47	2,021.91	72.78	\$288.85	\$1.34	\$1.66	37%
	CVC + CPC	2012	4	*	*	*	*	*	*	*	*	
		2013	5	151.06	27.36	25.18	315.27	46.01	\$52.55	\$1.92	\$1.95	41%
		2014	4	*	*	*	*	*	*	*	*	
		2015	4	*	*	*	*	*	*	*	*	
CDQ + ACA	2012	4	*	*	*	*	*	*	*	*		
	2013	2	*	*	*	*	*	*	*	*		
	2014	3	*	*	*	*	*	*	*	*		
	2015	3	*	*	*	*	*	*	*	*		
BBR	CVO A	2012	50	3,618.97	65.48	72.38	18,617.71	319.23	\$372.35	\$5.40	\$5.54	65%
		2013	51	4,425.47	78.75	86.77	20,847.29	353.29	\$408.77	\$4.62	\$4.77	64%
		2014	50	5,229.07	88.41	104.58	22,500.26	377.56	\$450.01	\$4.26	\$4.29	62%
		2015	49	5,128.51	90.14	104.66	25,984.84	436.74	\$530.30	\$4.95	\$5.02	63%
	CVO B + CPO	2012	42	539.10	7.60	11.72	3,044.82	43.49	\$67.66	\$5.58	\$5.97	65%
		2013	45	777.86	10.07	15.56	3,806.97	48.60	\$76.14	\$4.88	\$4.78	65%
		2014	43	853.62	11.77	17.42	3,771.19	55.15	\$76.96	\$4.42	\$4.41	64%
		2015	42	696.51	10.89	14.82	3,817.58	59.34	\$81.23	\$5.25	\$5.43	63%
	CVC + CPC	2012	36	171.60	4.24	4.52	937.58	22.17	\$24.67	\$5.45	\$5.49	63%
		2013	37	198.96	4.52	4.85	1,001.48	22.24	\$24.43	\$4.91	\$5.06	66%
		2014	34	212.79	5.98	5.91	937.72	23.96	\$26.05	\$4.40	\$4.47	65%
		2015	40	222.10	5.04	5.29	1,209.16	28.86	\$28.79	\$5.32	\$5.49	63%
CDQ + ACA	2012	5	368.62	70.68	73.72	2,279.50	452.22	\$455.90	\$5.64	\$6.20	64%	
	2013	8	713.42	77.40	89.18	3,560.21	385.02	\$445.03	\$5.00	\$4.99	67%	
	2014	7	826.41	117.86	118.06	3,739.72	508.82	\$534.25	\$4.51	\$4.51	63%	
	2015	5	467.90	99.74	93.58	2,604.96	543.25	\$520.99	\$5.45	\$5.58	67%	

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Table 3: Continued

	Year	Vessels <sup>a</sup>	Pounds Leased (1000lbs)			Cost (\$1000)			Lease Price (\$/pound) <sup>b</sup>		Lease Rate (percent of ex-vessel price) <sup>c</sup>	
			Total	Median	Mean	Total	Median	Mean	Median	Mean	Median	
AX	CVO A	2012	55	42,796.16	640.32	778.11	44,474.16	685.95	\$808.62	\$1.04	\$1.04	46%
		2013	56	34,352.58	486.63	613.44	37,952.02	528.93	\$677.72	\$1.10	\$1.10	46%
		2014	57	29,682.64	442.04	520.75	32,707.45	494.37	\$573.82	\$1.13	\$1.09	46%
		2015	55	30,362.23	523.30	552.04	29,528.50	485.20	\$536.88	\$0.93	\$0.97	46%
	CVO B + CPO	2012	47	6,989.61	83.97	131.88	8,158.74	104.79	\$153.94	\$1.14	\$1.20	46%
		2013	50	7,740.91	78.48	133.46	9,811.61	97.31	\$169.17	\$1.19	\$1.21	47%
		2014	48	5,987.69	69.15	106.92	7,264.04	94.82	\$129.72	\$1.23	\$1.28	47%
		2015	47	6,288.75	69.80	118.66	6,470.70	74.99	\$122.09	\$0.98	\$1.01	46%
	CVC + CPC	2012	39	1,879.88	47.96	45.85	2,095.95	52.60	\$52.40	\$1.14	\$1.16	46%
		2013	41	1,767.02	35.03	40.16	2,140.03	41.05	\$48.64	\$1.17	\$1.26	46%
		2014	37	1,258.30	29.13	31.46	1,480.13	34.82	\$37.95	\$1.23	\$1.24	46%
		2015	37	1,515.74	32.75	36.97	1,556.94	36.96	\$38.92	\$0.98	\$1.07	46%
CDQ + ACA	2012	11	6,463.57	563.35	587.60	7,617.08	691.96	\$692.46	\$1.17	\$1.18	48%	
	2013	11	6,409.21	563.98	582.66	8,215.91	769.20	\$746.90	\$1.28	\$1.28	54%	
	2014	10	5,367.24	422.75	536.72	6,405.61	515.87	\$640.56	\$1.25	\$1.24	49%	
	2015	7	4,150.07	509.28	592.87	4,401.96	540.75	\$628.85	\$1.03	\$1.07	51%	
BST	CVO A	2013	16	776.65	52.73	48.54	559.52	25.96	\$34.97	\$0.76	\$0.68	28%
		2014	32	5,255.66	94.55	128.19	3,470.12	66.11	\$84.64	\$0.65	\$0.71	28%
		2015	43	9,486.94	130.54	163.57	7,184.58	89.39	\$123.87	\$0.79	\$0.83	28%
	CVO B + CPO	2013	13	130.35	6.21	8.15	122.75	4.63	\$7.67	\$0.81	\$0.87	28%
		2014	25	819.58	11.65	21.02	610.16	9.35	\$15.65	\$0.68	\$0.81	28%
		2015	27	1,527.35	26.10	33.20	1,199.96	19.27	\$26.09	\$0.76	\$0.77	28%
	CVC + CPC	2013	10	41.62	1.10	3.20	32.47	1.20	\$2.50	\$0.81	\$0.77	28%
		2014	24	427.60	2.64	11.25	184.23	2.03	\$4.85	\$0.70	\$0.81	28%
		2015	24	381.57	5.93	8.87	260.97	3.97	\$6.07	\$0.72	\$0.74	28%
	CDQ + ACA	2013	5	88.01	24.87	17.60	76.41	16.09	\$15.28	\$1.03	\$1.07	34%
		2014	6	728.51	29.61	80.95	590.38	31.57	\$65.60	\$0.95	\$0.90	34%
		2015	8	1,341.70	125.15	149.08	1,180.75	92.13	\$131.19	\$0.66	\$0.88	29%

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Table 3: Continued

	Year	Vessels <sup>a</sup>	Pounds Leased (1000lbs)			Cost (\$1000)			Lease Price (\$/pound) <sup>b</sup>		Lease Rate (percent of ex-vessel price) <sup>c</sup>	
			Total	Median	Mean	Total	Median	Mean	Median	Mean	Median	
SMB	CVO A	2012	17	1,149.28	49.07	67.61	1,701.54	69.11	\$100.09	\$1.43	\$1.67	32%
		2014	3	*	*	*	*	*	*	*	*	*
		2015	3	*	*	*	*	*	*	*	*	*
	CVO B + CPO	2012	10	143.73	11.56	11.06	216.86	18.74	\$16.68	\$1.48	\$1.54	33%
		2014	2	*	*	*	*	*	*	*	*	*
		2015	3	*	*	*	*	*	*	*	*	*
	CVC + CPC	2012	9	94.70	2.48	10.52	47.03	5.60	\$5.23	\$1.49	\$1.68	34%
		2014	2	*	*	*	*	*	*	*	*	*
		2015	2	*	*	*	*	*	*	*	*	*
CDQ + ACA	2012	3	*	*	*	*	*	*	*	*	*	
	2014	1	*	*	*	*	*	*	*	*	*	

**Notes:** Other fishery data is not shown due to insufficient observations. Lease data shown represent arms length lease transactions reported by quota purchasers in the EDR.

Harvest quota types are categorized in this report as the following: CVO A (catcher vessel owner Class A IFQ), CVO B + CPO (catcher vessel owner Class B IFQ and catcher/processor owner IFQ), and CVC + CPC (catcher vessel crew IFQ and catcher/processor crew IFQ). Statistics reported represent results pooled over all quota types and/or regional designations within each category.

<sup>a</sup> Vessels column shows total count of vessel-level observations for fishery-year where both pounds and cost of quota leased were reported as non-zero values; in a small number of observations where leased pounds was reported for a given fishery/quota type but lease cost was missing, the mean price over all complete observations was used to impute the missing data in computing the total aggregate lease cost over all vessels.

<sup>b</sup> Average lease price statistics by fishery and quota type are calculated as the median and arithmetic mean, respectively, over all observations where both pounds and cost for one or more quota type within the respective category were reported as non-zero values.

<sup>c</sup> Average lease rate statistics by fishery and quota type are calculated as the median and mean, respectively, of the ratio of lease price to ex-vessel price, over all observations where both ex-vessel and lease pounds, and ex-vessel revenue and lease cost, were reported as non-zero values. Lease rate for each quota type is calculated with respect to ex-vessel value of crab sold using the same quota type. As such, variation in lease price and lease rate in a given fishery may not be consistent between different quota types.

**Source:** NMFS AFSC BSAI Crab Economic Data Report (EDR) database