

SOCKEYE MARKET ANALYSIS



Prepared by:
McDowell Group, Inc.
Presenter: Andy Wink
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Spring 2017 Report Contents

- Sockeye market outlook
- Ex-vessel price outlook & analyses
- Importance & progress of improving quality
- See report for more information, including:
 - Comparing price/value to other AK fisheries
 - Driftnet permit market

Sockeye Market Summary

- Sockeye supply expected to decline in 2017
 - Bay forecast down 27%, close to 10-yr. avg.
- Farmed market is tight, lower growth expected
 - Farmed prices near record highs, despite USD
- Wholesale sockeye prices for trending up
- Strong demand in domestic market
- Less emphasis on cans this year

Sockeye Supply in Millions lbs. vs. Price

<u>Year</u>	<u>Global</u>	<u>BBay</u>	<u>Base BB Price/lb.</u>
2008	308	160	\$0.68
2009	332	182	0.70
2010	384	170	0.95
2011	351	135	1.00
2012	335	119	1.00
2013	305	92	1.50
2014	411	161	1.20
2015	405	185	0.50
2016	406	202	0.76
2017-F	335	148	???

Source: FAO, ADF&G, and McDowell Group estimates.

SUPPLY usually has the largest impact on ex-vessel prices for Bristol Bay sockeye



Bristol Bay Sockeye Forecast by District

Category	Total Run (Millions fish)	Harvest (Millions fish)	Age-3	Age-4	Age-5
Naknek-Kvichak	16.07	8.29	37%	57%	7%
Egegik	10.65	8.56	7%	75%	18%
Ugashik	5.46	4.09	31%	61%	9%
Nushagak	8.62	6.06	41%	57%	1%
Togiak	0.66	0.48	18%	77%	3%
Bristol Bay Total	41.47	27.47	29%	62%	8%

Source: ADF&G.

Farmed Atlantic Production & Price

<u>Year</u>	<u>Supply (MMT)</u>	<u>UB Salmon Index</u>
2010	1.44	\$4.42/lb.
2011	1.74	\$4.24
2012	2.07	\$3.76
2013	2.10	\$4.53
2014	2.33	\$4.51
2015E	2.31	\$3.61
2016F	2.14	\$4.72
2017F	2.24	\$5.54
2018F	2.27	-
2019F	2.34	-
2020F	2.45	-

Note: 2017 Salmon index values = YTD average through mid-May.

Source: FAO, Groundfish Forum, Bank Nordea, and Urner Barry.

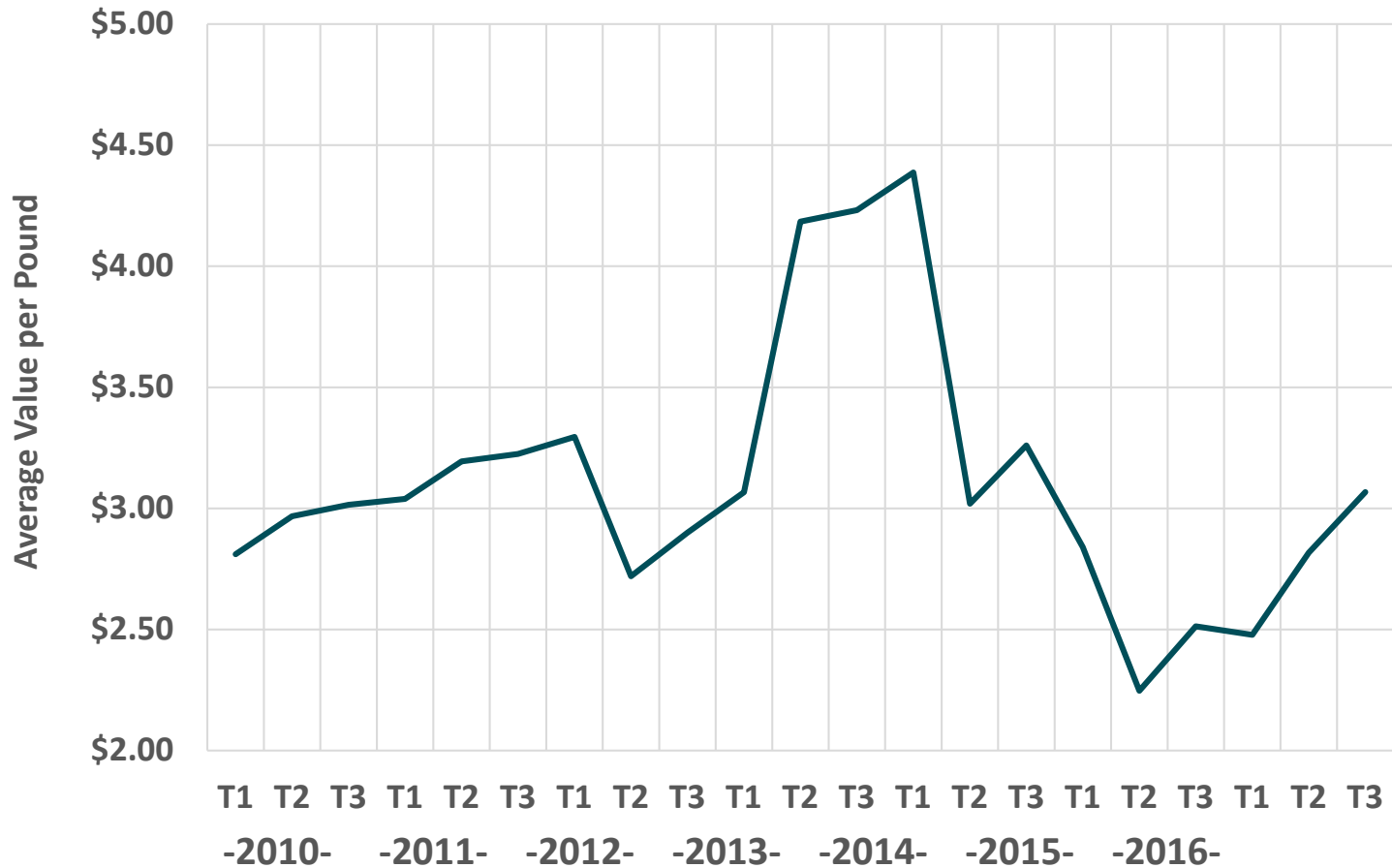
Atlantic Salmon Price in Producers' Terms

<u>Year</u>	<u>UB Salmon Index</u>	<u>Chile\$</u>	<u>Norway\$</u>
2010	\$4.42/lb.	2,295	27
2011	\$4.24	2,057	24
2012	\$3.76	1,834	22
2013	\$4.53	2,246	27
2014	\$4.51	2,574	28
2015	\$3.61	2,362	29
2016	\$4.72	3,220	40
2017	\$5.54	3,662	47

Note: 2017 = YTD averages through mid-May.

Source: Urner Barry and McDowell Group estimates.

Wholesale Frozen H&G BB Sockeye

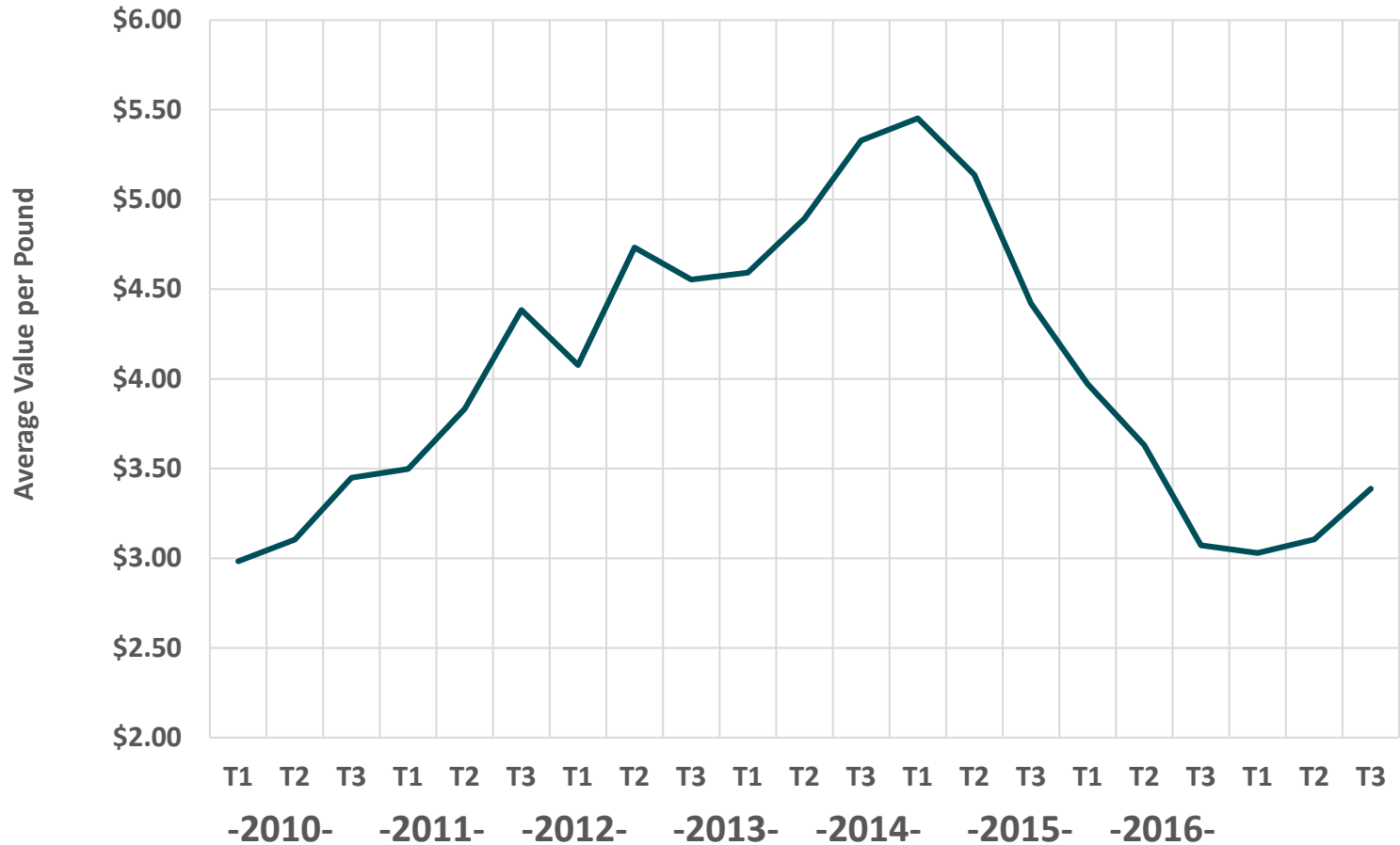


Final Ex-Vessel Price for Bristol Bay Sockeye (Average)

2010	2011	2012	2013	2014	2015	2016
\$1.07	\$1.17	\$1.18	\$1.61	\$1.34	\$0.63	\$0.93

Source: ADOR (ASPR).

Wholesale Canned Half Sockeye



Source: ADOR (ASPR).

Ex-Vessel Price Possibilities

- Price is more variable than average EV value
- About \$90K per active permit since 2010
 - \$118,241 in 2014, \$102,620 in 2016
- What is average EV value at various 2017 price points, assuming forecast harvest?

Expected Average Ex-Vessel Value at Various 2017 Prices

<u>2017 Base Price</u>	<u>Avg. Final EV per Active Permit</u>	
\$0.80	\$77,058	
\$0.90	84,922	
\$1.00	92,785	
\$1.10	100,648	<i>Need \$1.12/lb. base price to equal 2016 final EV avg.</i>
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\$1.20	108,511	
\$1.30	116,374	
\$1.40	124,237	

Assuming harvest = forecast, 1,540 active permits, \$0.18 base/final avg. adjustment
Source: McDowell Group estimates.

So Above or Below 2016?

- **Rationale for Higher Average EV**
 - Higher competing farmed salmon prices
 - Growing demand base

- **Rationale for Lower Average EV**
 - Strong(er) U.S. dollar
 - Lower harvest/forecast

Historical Base Prices vs. Factors

Year	Base Price	BBS Forecast ¹	BBS Harvest ¹	Global Sockeye Harvest ²	Farmed Salmon Price ³	U.S. Dollar Index	BBS Frz. H&G Price ⁴
2007	\$0.62	26.3	29.7	366	\$4.10	82.3	\$2.02
2008	\$0.68	31.4	27.6	308	\$4.14	73.0	\$2.38
2009	\$0.70	24.0	30.8	332	\$4.23	79.4	\$2.54
2010	\$0.95	30.5	29.0	384	\$5.73	86.7	\$2.99
2011	\$1.00	28.5	22.1	351	\$5.74	74.7	\$3.21
2012	\$1.00	21.8	20.9	335	\$3.91	83.1	\$2.83
2013	\$1.50	16.6	15.4	305	\$5.45	83.4	\$4.22
2014	\$1.20	17.9	29.1	411	\$5.78	80.4	\$3.10
2015	\$0.50	40.5	36.2	405	\$4.11	96.8	\$2.41
2016	\$0.76	29.5	37.6	406	\$5.98	95.9	\$2.93
2017	???	27.5	???	335 (F)	\$6.05	98.7	???

¹ Figures in millions of sockeye.

² Figures in millions of pounds, 2017 = rough estimate of available forecasts

³ Average price for Atlantic salmon from Chile, D-trim fillets, 2-3lbs., FOB Los Angeles.

⁴ Average price of frozen H&G Bristol Bay sockeye during harvest year cycle. 2016 data is incomplete.

Source: ADF&G, Urner Barry, Investing.com, and ADOR.

Ex-Vessel BB Sockeye Price vs. Frozen H&G

Year	Avg. Base Price/lb.	Avg. Final Price/lb.	BB Sockeye Harvest ¹	BBS Frz. H&G Price ⁴ (HY)	Spread In Pct.	Spread In \$\$\$
2007	\$0.62	\$0.67	29.7	\$2.02	33%	\$1.35
2008	\$0.68	\$0.75	27.6	\$2.38	32%	\$1.63
2009	\$0.70	\$0.80	30.8	\$2.54	31%	\$1.74
2010	\$0.95	\$1.07	29.0	\$2.99	36%	\$1.92
2011	\$1.00	\$1.17	22.1	\$3.21	37%	\$2.04
2012	\$1.00	\$1.18	20.9	\$2.83	42%	\$1.65
2013	\$1.50	\$1.61	15.4	\$4.22	38%	\$2.61
2014	\$1.20	\$1.34	29.1	\$3.10	43%	\$1.76
2015	\$0.50	\$0.63	36.2	\$2.41	26%	\$1.78
2016	\$0.76	\$0.93	37.6	\$2.93*	32%	\$2.00

* Only includes two trimesters of annual sales cycle, will probably end up close to \$3.00/lb. average for 2016 cycle.

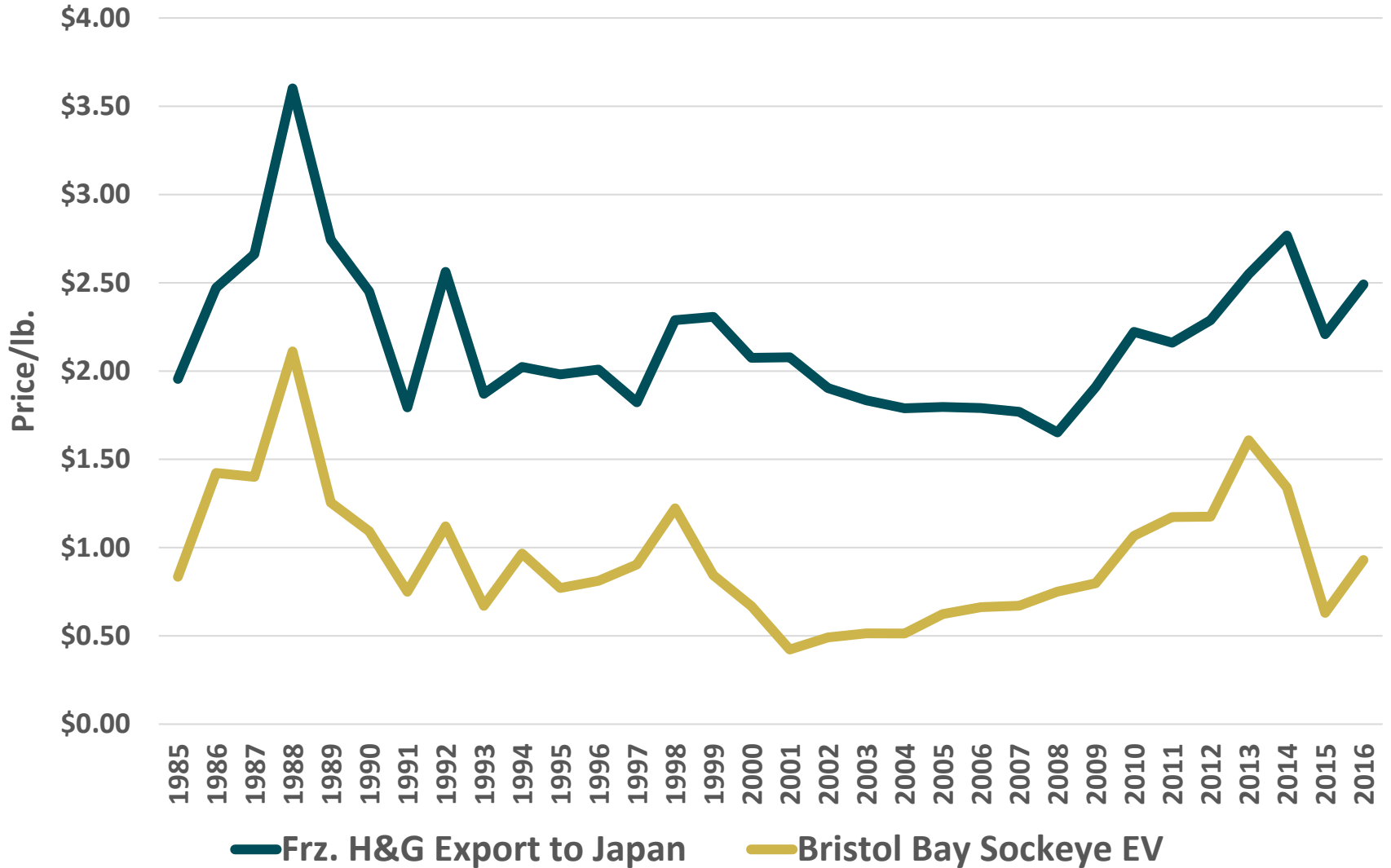
Source: ADF&G and ADOR, compiled by McDowell Group.

**One way to estimate the
base price...
subtract about \$2.00/lb.*
from the expected frozen
H&G price of Bristol Bay
sockeye, then subtract
\$0.17 for adjustments**

** Usually a higher spread in low-volume years, and a lower spread in high-volume years.*

**Regardless, price has to
work for fishermen and
processors, otherwise
it's a 2014-2015 situation**

Historical Bristol Bay Price vs. Japan Exports



Source: NMFS Trade Data and ADF&G.

Quality

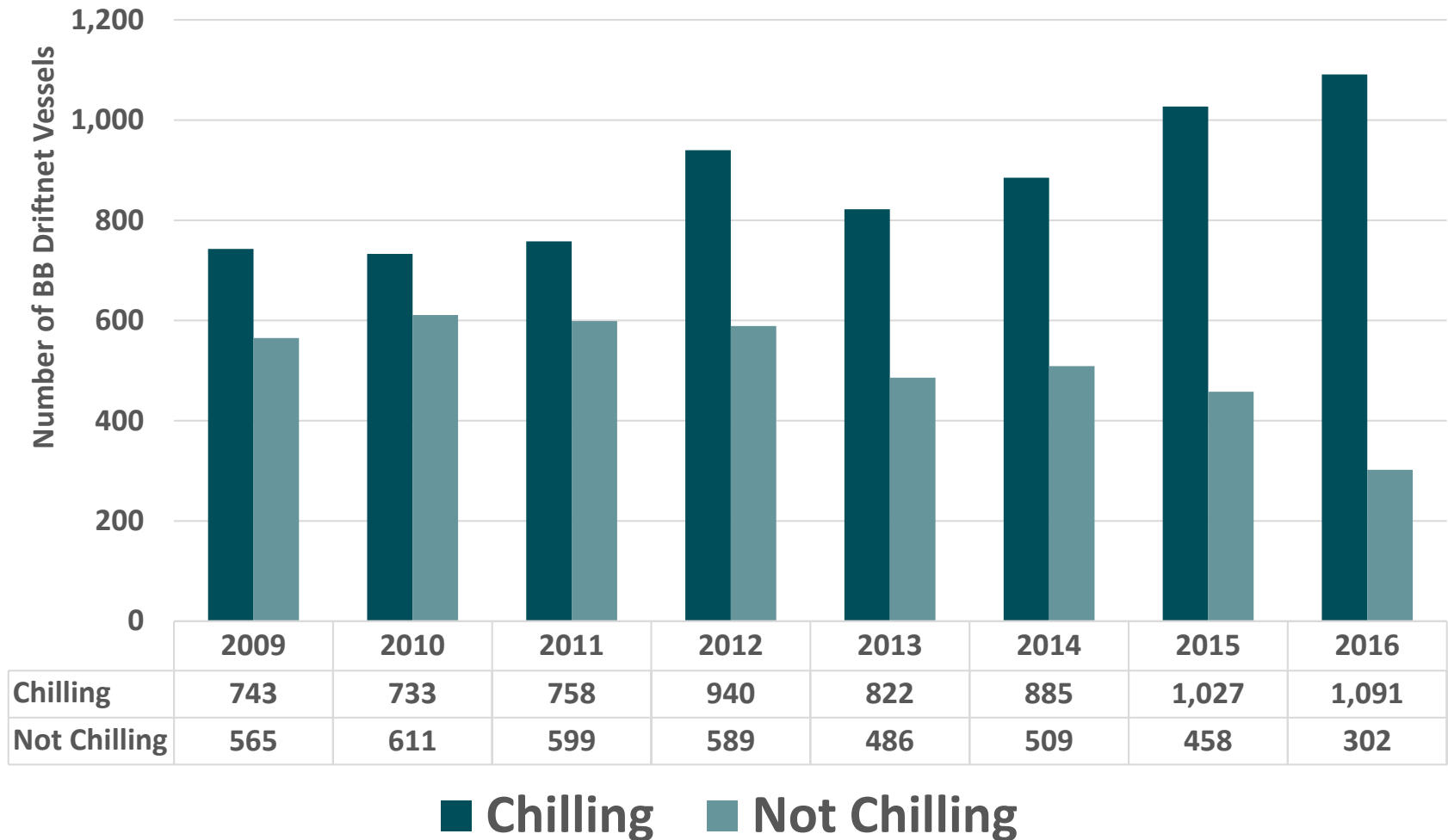


Matters

Quality = Higher Prices

- Quality yields better ex-vessel prices
 - \$0.75 base in 2016
 - Wet boats in top 50% = \$1.05 (+40%)
- Discounts and waste drags down wholesale value
- Residual effect on demand and customer loyalty
- Branding really requires quality product

Quality is Catching On



Source: 2017 BBRSDA Processors Survey (Northern Economics).

Key Findings

- Pricing outlook is more favorable than 2015-16
- BB Forecast is down, from high to average
- Global sockeye supply expected to fall ~18%
- Tight farmed salmon market, high prices
- Less emphasis on canned expected
- Even stronger case for improving quality
 - Bonuses, chilling mandates, canned weakness, U.S. market growth, branding

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