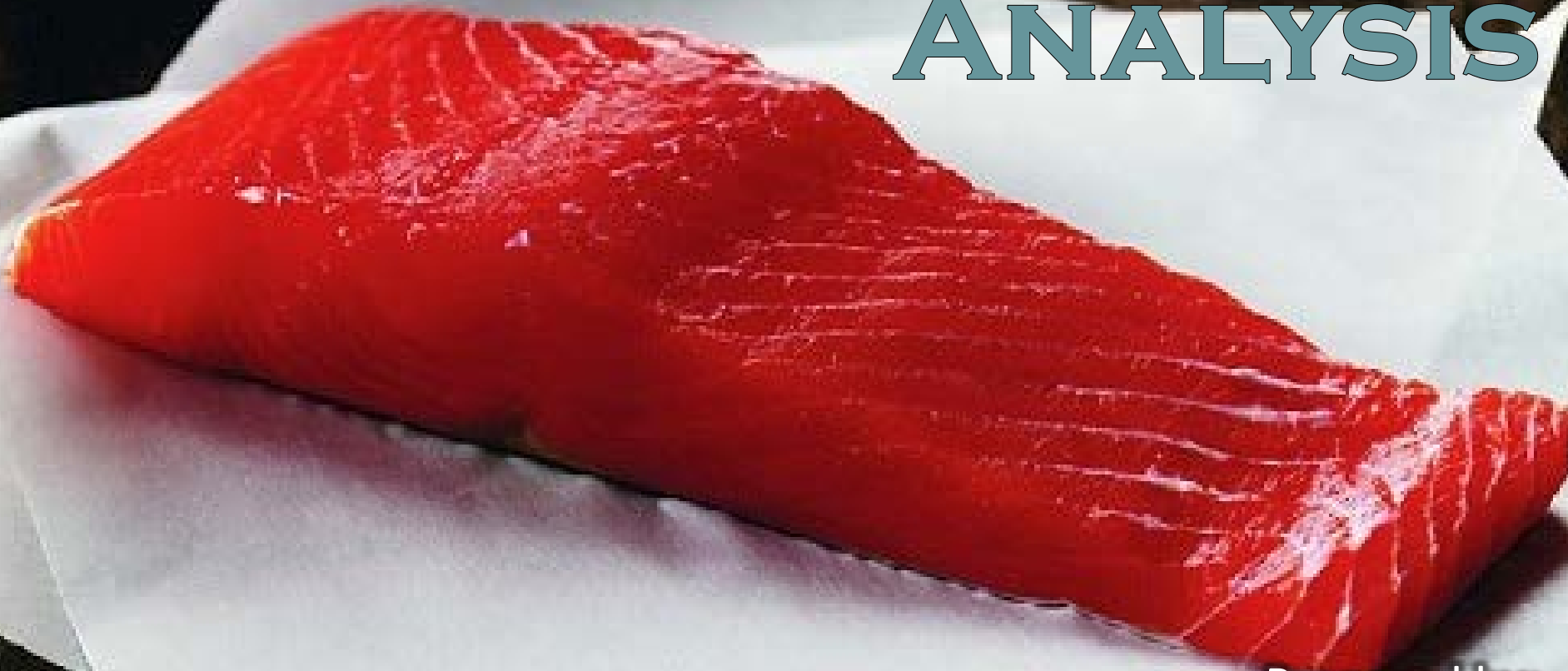


SOCKEYE MARKET ANALYSIS



Prepared by:

McDowell Group, Inc.

Presenter: Andy Wink

BBRSDA Member Meeting

11.18.16



BRISTOL BAY
Regional Seafood
Development Association

Fall 2016 Report Contents

- Sockeye Market Conditions
- Value of Improving Quality
- EV Price Relationship with Frozen H&G Prices
- Cash Flow and Resource Value Allocation
- Fishery Performance and Evaluation Tools
- Comparing Price/Value to Other AK fisheries
- Driftnet Permit Market

Sockeye Market Summary

- Wholesale prices trending up, but still low
- Major product forms selling faster this year
- Another big global sockeye harvest
- Farmed production down, subdued outlook
- Farmed prices near record highs, despite US\$
- Opportunity: fresh salmon market
- Opportunity: refreshed sockeye fillets

1st Wholesale Prices for Sockeye Products

<u>Year-Trimester</u>	<u>Frz. H&G</u>	<u>Frz. Fillet</u>	<u>Half Cans</u>
2014 - T2	\$3.14	\$7.09	\$5.14
2014 - T3	3.13	6.19	4.42
2015 - T1	2.84	6.25	3.97
2015 - T2	2.23	5.47	3.63
2015 - T3	2.40	5.73	3.07
2016 - T1	2.41	5.37	3.03
2016 - T2	2.82	5.73	3.11
YoY Change%	+26%	+5%	-14%

Source: ADOR (ASPR).

Farmed Atlantic Production & Price

<u>Year</u>	<u>Supply (MMT)</u>	<u>UB Salmon Index</u>
2010	1.44	\$4.42
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	-
2018F	2.27	-
2019F	2.34	-
2020F	2.45	-

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

A fantastic opportunity is developing in the U.S. market... but it's going to require top notch **QUALITY**



Fresh Sockeye Premium & Context

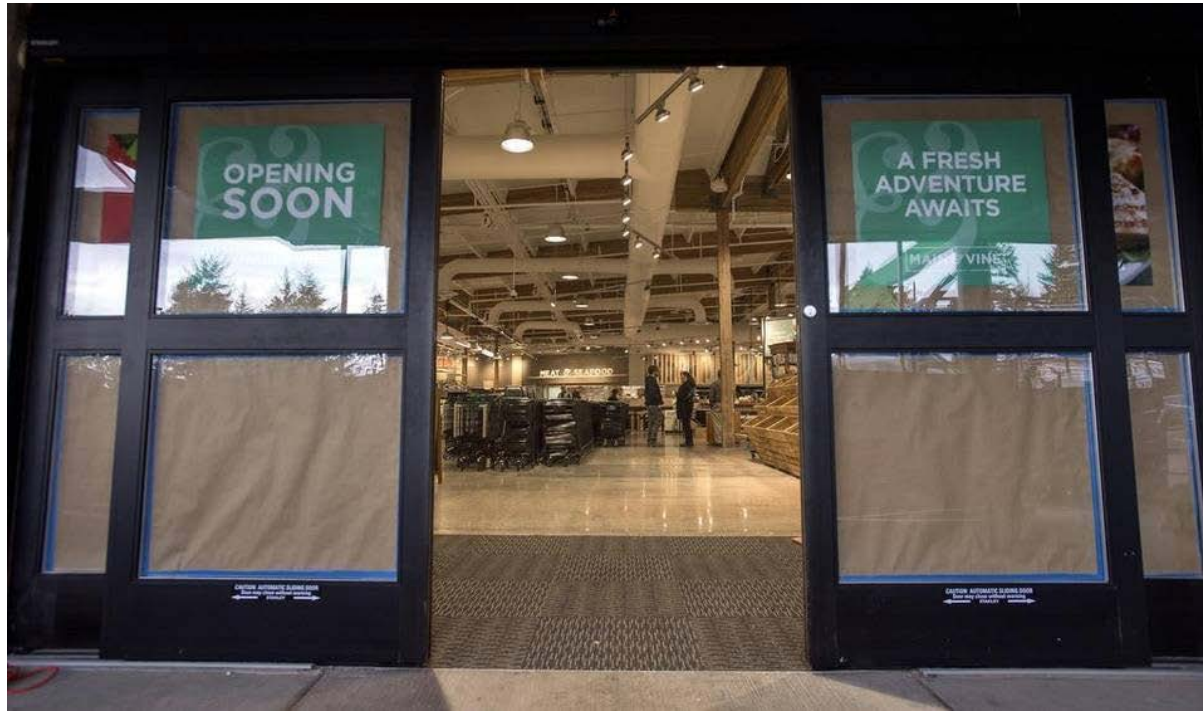
<u>Year</u>	<u>Frozen H&G</u>	<u>Fresh H&G</u>	<u>Premium/Round lb.</u>
2012	\$2.81	\$3.67	\$0.94
2013	4.12	5.09	0.89
2014	3.14	4.43	1.02
2015	2.23	3.53	1.14
2016	2.82	3.70	0.95

- Bay Fresh H&G Sales
 - 2015: 374K lbs. (63.3M lbs. of frozen H&G)
 - 2016: 2.26M lbs.
- Lower PWS/CI harvests & high Atlantic prices

Note: Prices refer to May-August sales.

Source: ADOR (ASPR) and McDowell Group estimates.

Implications & Appeal of Refreshed Sockeye



- Low premium for canned product, so freeze
- Refreshed sockeye fillets offer nice margins
- Wild, attractive, and good for store image
- Forecast = More demand & higher prices

U.S. fresh & refreshed
sockeye markets offer the
best chance for **GROWTH**.

Fishermen who provide
high **QUALITY** fish to these
channels will be in the best
position to benefit.

Value of Improving Quality

- Premiums of 30% to 50% over base... bonuses
- Attractive payback period... link to BBRSDA tool
- Vessel upgrade assistance/financing programs
- Chilling mandates & residual impacts
- Branding requires QUALITY!

Value of Chilling Bonuses

<u>Year</u>	<u>Base Avg.</u>	<u>Chilling Premium</u>	<u>Diff(%)</u>
2013	\$77,595	\$7,760 (\$0.15/lb.)	+10%
2015	\$50,952	\$15,286 (\$0.15/lb.)	+30%

- Larger bonus in bigger years, bigger premium% with lower base prices
- Attractive payback on \$30-\$40K investment
- Other quality bonuses could have pushed 2015 premiums up to 50% of base price
- Increases vessel resale value

*Note: Base average = average harvest volume /permit * base price*

Source: McDowell Group estimates.

A Brand Requires QUALITY!

- BBRSDA is rolling out a branding program
- Quality standards are an important part of branding success
- Success of Branding efforts depends on a sufficient supply of high quality fish



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ALASKA'S SOCKEYE SALMON

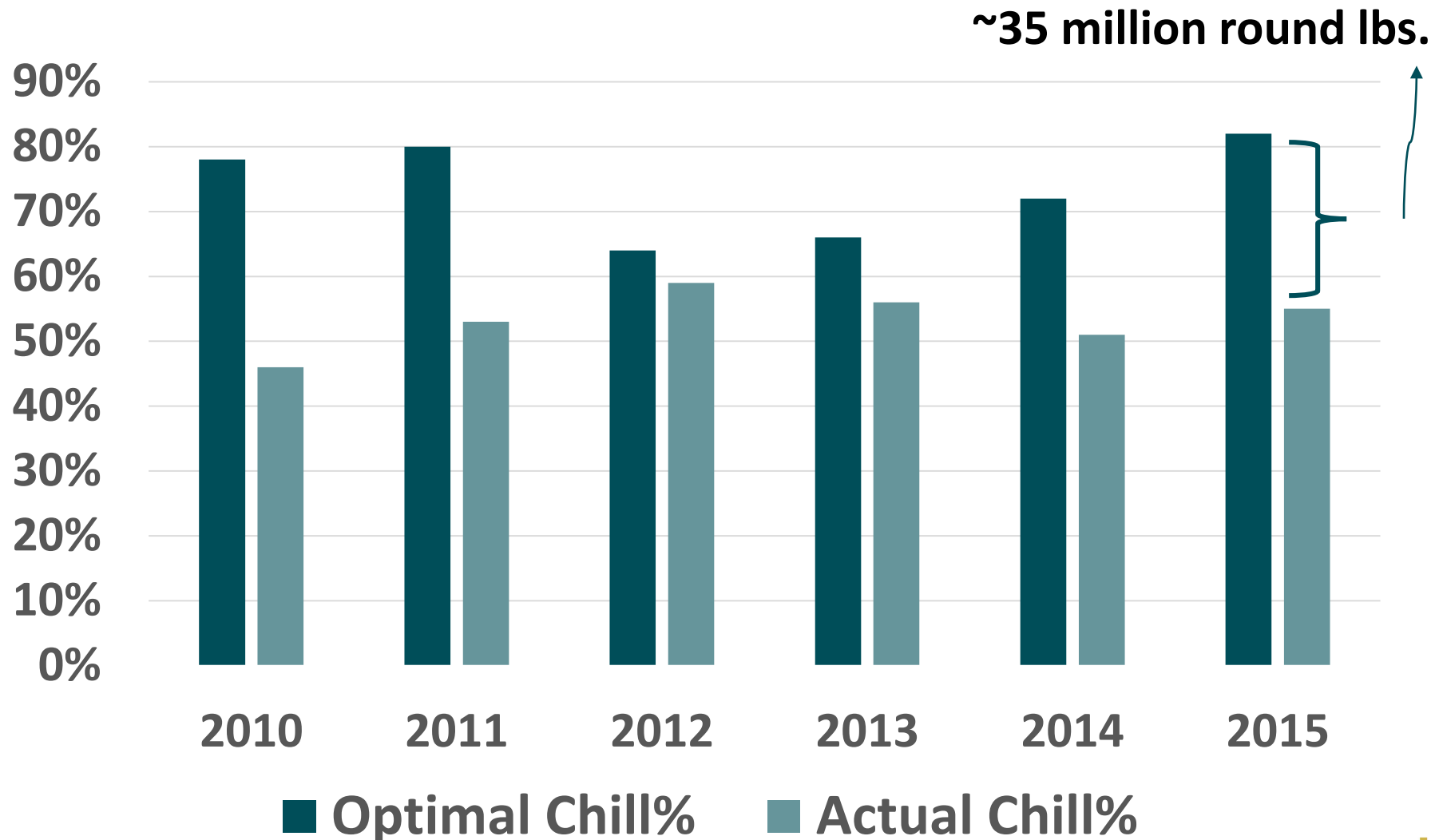
Optimal Chilling Percentage of Drift Fleet

- Chilled fish in fillet and H&G markets creates higher value
- Need chilling/RSW on at least additional ~345 avg. boats to reach optimal%
- Goal: provide enough chilled fish for fillet and H&G production, plus a buffer



Optimal Fleet Chill Percentage vs. Actual

2010 - 2015



Note: Data refers to driftnet boats only.

Source: NE Processor Survey and McDowell Group estimates.



Cash Flow Analysis

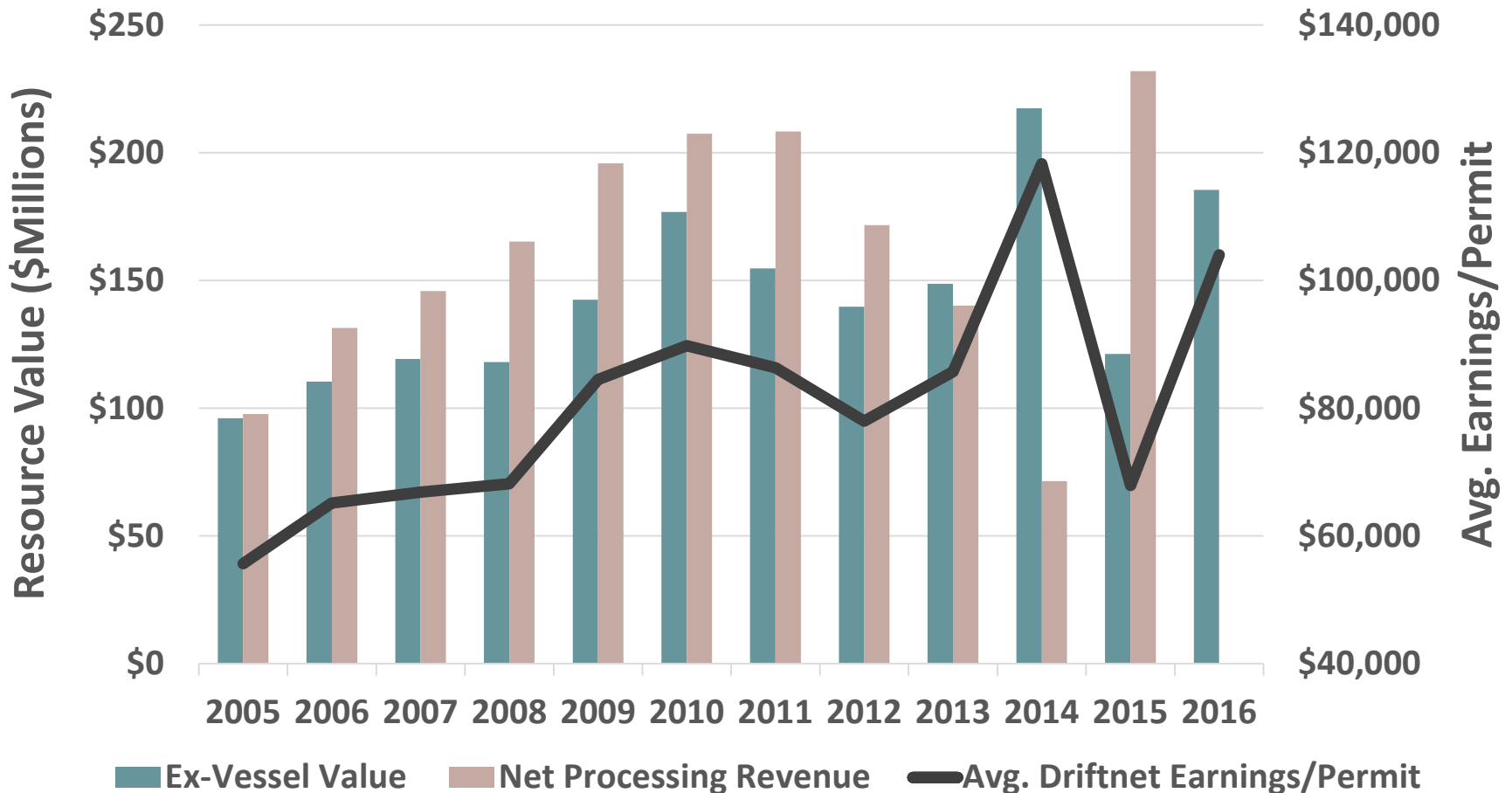
+First Wholesale Sales (May-April)
–Ex-Vessel payments to Fishermen

=Net Processing Revenue

- ◆ Net processing revenue does not equal profit
- ◆ Does not account for the value of carryover inventory
- ◆ Good proxy for financial health and temperament in processing sector
- ◆ Analyzes the ALLOCATION and SCALE of resource value

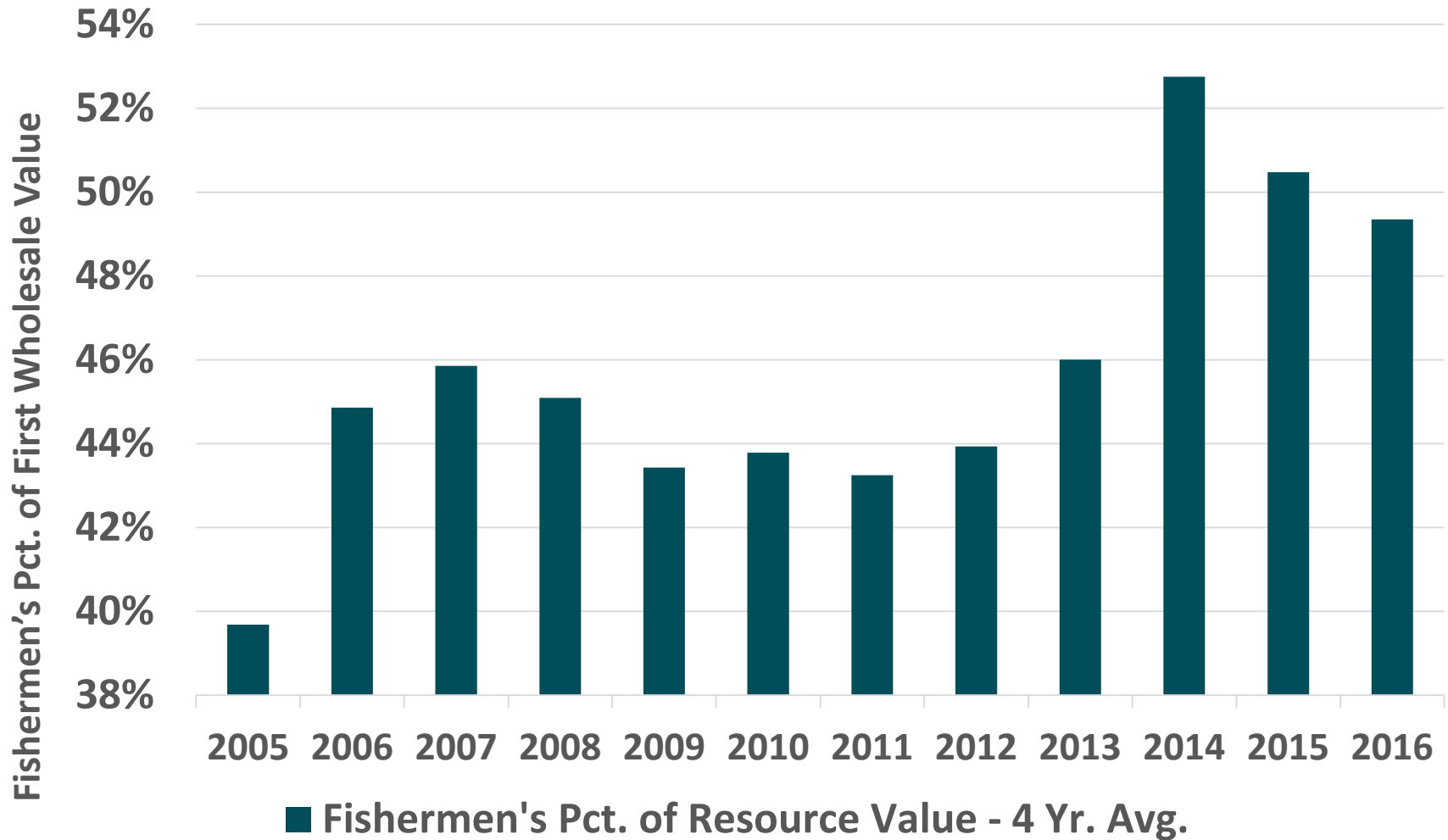
Resource Value Allocation

Bristol Bay Sockeye



Note: 2016 data is preliminary/estimated. Figures are in nominal terms.
 Source: ADOR (ASPR), ADF&G, CFEC, and McDowell Group estimates.

Resource Value Allocation Avg.



Note: 2016 pct. is estimated.

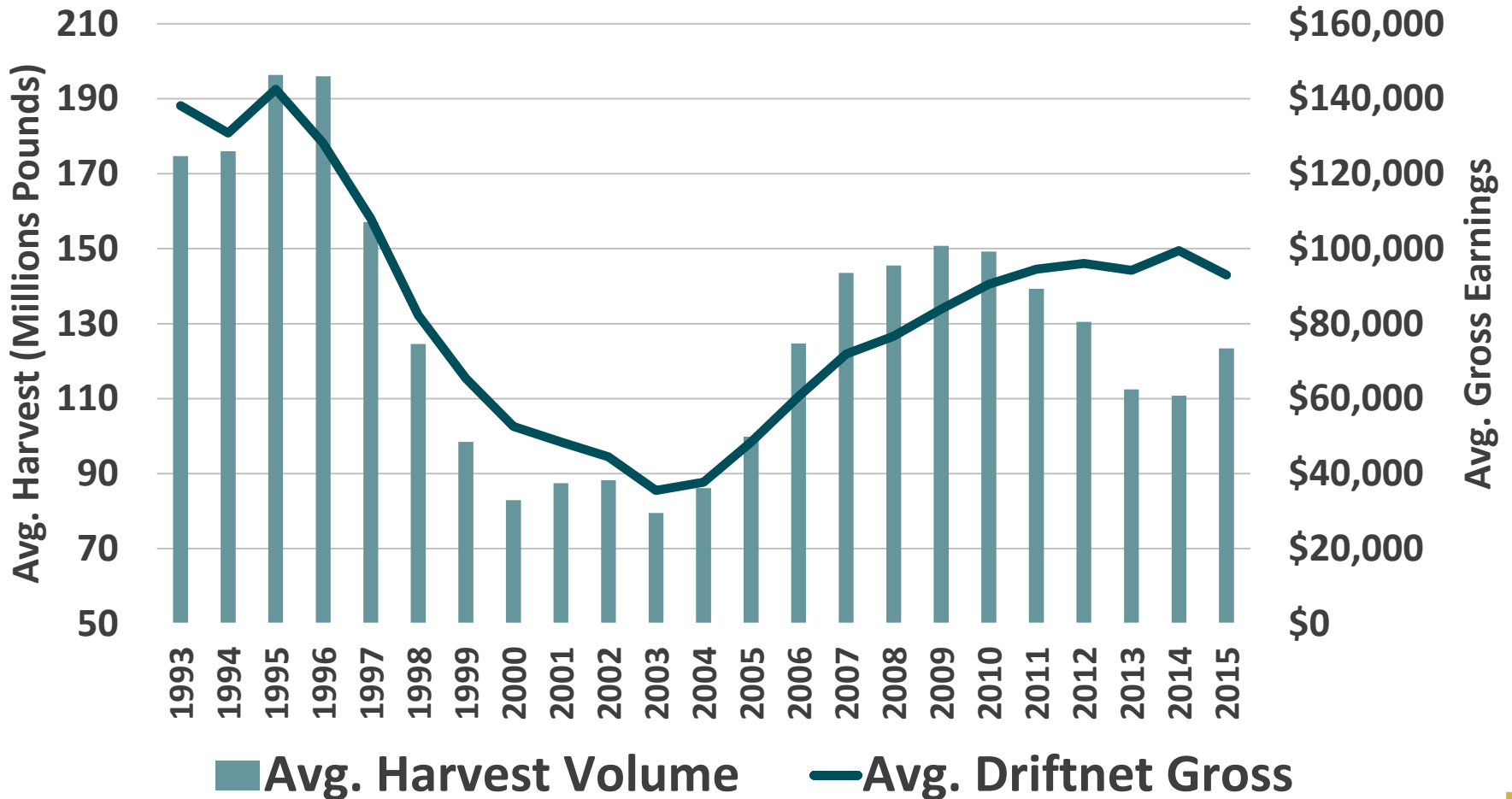
Source: ADOR (ASPR), ADF&G, and McDowell Group estimates.

Cash Flow Analysis

- Net processing revenue has increased substantially since 2014 harvest year
- Net processing revenue probably strong in 2016
- Good conditions for ex-vessel value in 2017
- Only drawback is poor performance elsewhere in Alaska... Bay might absorb these losses

S03T Fishery Performance

Bristol Bay Driftnet Fishermen - 4 Yr. Avg.



Note: Dollar figures are adjusted for inflation.

Source: CFEC, compiled by McDowell Group.

S03T Gross Earnings by Percentile

<u>Percentile</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Top 10%	\$143,984	\$160,199	\$213,243	\$128,709
20%	117,741	127,191	175,330	101,864
30%	100,681	107,474	150,921	86,382
40%	86,717	94,191	131,369	73,897
50%	74,356	82,742	115,173	63,145
60%	64,437	71,589	100,472	54,632
70%	56,326	59,825	85,526	45,931
80%	43,657	48,657	72,414	36,782
90%	32,456	35,718	48,399	22,085
Avg. Vessel	\$82,305	\$90,556	\$124,549	\$70,250

*Note: Figures represent approximate cutoff points for gross earnings by percentile.
Source: CFEC, compiled by McDowell Group.*

Sockeye Price Comparison

<u>Region</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016P</u>
PWS	\$2.45	\$2.42	\$1.98	\$2.24
Cook Inlet	\$2.18	\$2.11	\$1.54	\$1.53
Kodiak	\$1.82	\$1.83	\$0.93	\$0.99
AK Peninsula	\$1.66	\$1.41	\$0.75	\$0.74
Bristol Bay	\$1.61	\$1.35	\$0.64	\$0.76

Note: 2016 data is preliminary, does not include bonuses/supplements.

Source: ADF&G.

Sockeye Value Comparison

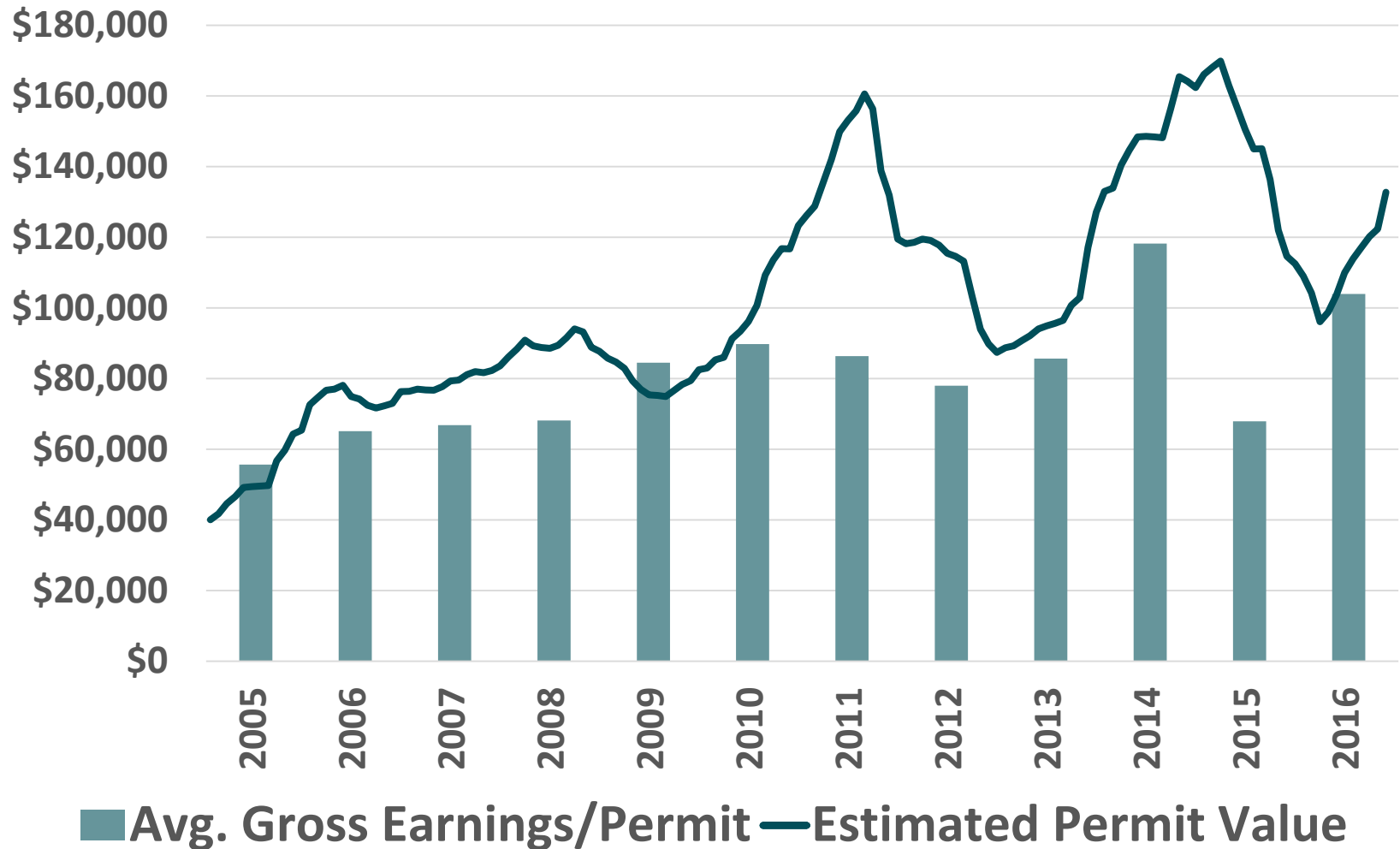
<u>Region</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016P</u>
PWS	\$34.0	\$47.5	\$35.5	\$23.1
Cook Inlet	\$37.4	\$32.8	\$22.9	\$23.0
Kodiak	\$26.9	\$31.1	\$13.9	\$10.6
AK Peninsula	\$28.4	\$26.8	\$23.5	\$25.2
Bristol Bay	\$148.7	\$209.6	\$121.2	\$153.2

Figures in \$Millions

Note: 2016 data is preliminary, does not include bonuses/supplements.

Source: ADF&G.

Bristol Bay Driftnet Permits



*Note: 2016 gross earnings/permit is estimated.
Source: CFEC and McDowell Group estimates.*

Key Findings

- Outlook is favorable, unlike 2014/2015
- Improving processor income
- Currency markets remain very challenging
- U.S. fresh & refreshed markets = growth
- Quality insulates against lower base prices
- Very strong case for improving quality
 - Chilling mandates, canned weakness, U.S. market growth, performance analysis

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