Photo courtesy of Bob Waldrop

2012 Bristol Bay Processor Survey

Prepared for

Bristol Bay Regional Seafood Development Association

January 2013

Northern Economics

Wisdom • Trust • Relevance • Innovation

2012 Bristol Bay Processor Survey

Final Report

Prepared for the

Bristol Bay Regional Seafood Development Association

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Prepared by

Northern Economics

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Abbreviations

ADF&G	Alaska Department of Fish and Game
BBEDC	Bristol Bay Economic Development Corporation
BB-RSDA	Bristol Bay Regional Seafood Development Association
H&G	Head and Gut
Mlb	Million pounds
RSW	Refrigerated Sea Water

1 Introduction and Summary Conclusions

The Bristol Bay Regional Seafood Development Association (BB-RSDA) contracted with Northern Economics, Inc. to conduct a survey of processors who operated in the 2012 Bristol Bay salmon fishery. This report summarizes the results of the study.

As with the 2008–2011 surveys, the survey instrument consisted of a series of questions about processor operations in Bristol Bay. The 2012 survey captured raw product data, fleet information, current and expected ice production volumes, and respondents' opinions of trends and priorities within the fishery. The operational questions focused on processors' purchase of chilled product and the distribution of their production among the four major product forms (i.e., canned, Head and Gut (H&G) frozen, H&G fresh, and fillet).[1] All of the processors that we contacted responded to the survey.

The 2012 Bristol Bay sockeye run was 28 percent below the average run over the last 20 years, and 7 percent below the Alaska Department of Fish and Game (ADF&G) preseason forecast. ADF&G estimates the total Bristol Bay commercial salmon harvest at 126 million pounds (Mlb) for 2012 (ADF&G 2012). This amount is 15 Mlb less than in 2011 (ADF&G 2011). Respondent processors reported processing almost 131 Mlb of raw (round weight) product from all sources (drift and set permits) in 2012. This amount is 2 Mlb more than in 2011. We note that this year is the first time that reported raw product purchases exceed the ADF&G season summary. We believe that rounding error could account for the difference.

Last year the study found the Bristol Bay drift net fleet chilled 53 percent of its harvest, marking the first year the fleet chilled more than 50 percent of its harvest prior to delivery to processors. This year the portion of drift harvest that permit holders chilled increased to 59 percent. Remarkably, the fleet has moved from chilling 24 percent of its harvest in 2008 to 59 percent in 2012; in short, the fleet more than doubled the portion they chilled in just four seasons. Also notable this year is the fact that the entire Bristol Bay fishery (i.e., set and drift) is now majority chilled; the combined fleets chilled 52 percent of the total harvest.

In addition to this survey result, we detail below some of the notable changes in the Bristol Bay fishery from 2011 to 2012:

- Total volume of fish purchased by surveyed processors increased 2.4 percent, from 129 Mlb in 2011 to 131 Mlb in 2012 (see Table 1). Total purchases from the drift fleet dropped by 0.7 percent, from 110.1 Mlb in 2011 to 109.4 Mlb in 2012 (see Table 2).
- Although the total raw product amount increased just 2.4 percent, the total volume of chilled product purchases increased 10 percent (see Table 2). Processor purchases of chilled product from just the drift fleet accounted for nearly 95 percent of total chilled product purchases from the fishery.
- Since 2008, the drift fleet reduced its portion of unchilled product from 76 percent of the harvest to 41 percent of the harvest. This change represents a nearly 54 percent reduction in the portion of the harvest represented by dry, unchilled product (see Table 2).
- As with 2011, this year 80 percent of the drift net chilled product was chilled by permit holders using Refrigerated Sea Water (RSW) systems. Slush ice accounted for the other 20 percent of chilled product (see Table 6). We heard from multiple processors that the easy RSW conversions have taken place and that they are increasingly seeing RSW systems fitted to

[1] The full survey instrument is contained in an appendix to this report.

smaller boats. The smaller boats take smaller systems which are generally less efficient than larger systems.

- The amount of product processed outside the Bay nearly doubled this year to 1.9 Mlb, but this amount is a very small portion of the Bay's total production (1.4 percent) and a small portion of the total amount canned this year (3 percent of all canned volume) (see Table 5).
- The volume of raw product used for canning increased markedly this year on the relative strength of the canned market and the relative weakness of the H&G market. For the first time in the survey's history, more than 50 percent of raw product went to cans. This change reverses (at least temporarily) a multi-year slide in the portion of raw product going to cans. The increase in canned production came mostly at the cost of H&G frozen production (see Table 3 and Table 4).
- For the first time in the survey's history, fillet production fell both in terms of total volume and percent of harvest. Fillet production is still 25 percent greater than in 2008, but lower than 2009, 2010, and 2011 (see Table 4). At the same time, H&G fresh production grew from 1.3 Mlb to 4.1 Mlb.
- Total ice production capacity of processors and ice barges in Bristol Bay was 918 tons per day. The amount of ice available to permit holders per day was 300 tons, 202 tons of which came from processors and 98 tons of which came from ice barges (see Table 11). The study notes that capacity and usage are not the same. Early data indicate that the ice barges sold just over 500 tons during the season.

We save two of the most interesting conclusions from the survey for last:

- The number of permit holders in processor fleets increased 12 percent this year. At the same time, the portion of permit holders who chill consistently increased while the portion of those who chill inconsistently continued to fall. We find this result fascinating, as we had some prior expectations that a large increase in fleet size would be caused by latent boats who might be less equipped to chill. If the increase in fleet size came from latent boats, then the boats either arrived ready to chill or a large portion of the boats that were last year's non-chillers made the conversion to chilling consistently.
- Lastly we note that processors (at least those that responded to the question) seem united in their support of the concept that the single most important project that BB-RSDA can pursue is to support increased chilling. Processors differ on whether it is more important for BB-RSDA to support ice production or RSW system installation, but the call for continued progress in installing chilling capacity is clear.

The following sections discuss the results of the survey by topic area and provide a comparison to past survey results. The last section provides additional insights and author conclusions.

2 Raw Product Purchases and Chilling

The volume of total raw product purchased by Bristol Bay processors from both drift and set net permit holders increased slightly in 2012 to 131.5 Mlb, up 2.5 Mlb, or roughly 2 percent, from the previous year. Chilled product purchases rebounded this year to 69 Mlb, while purchases of unchilled product fell 4.8 Mlb to 62.4 Mlb. Total chilled raw product is now 52 percent of total product purchases. As we noted last year:

> The return of fish to the Egegik system (which is served by an ice barge) and/or continued investment by permit holders in RSW systems could easily push the total fishery chilled product portion above the 50 percent mark…The analysis projects that if the current trend line persists, the fishery as a whole will be "majority chilled" in the 2012 season.

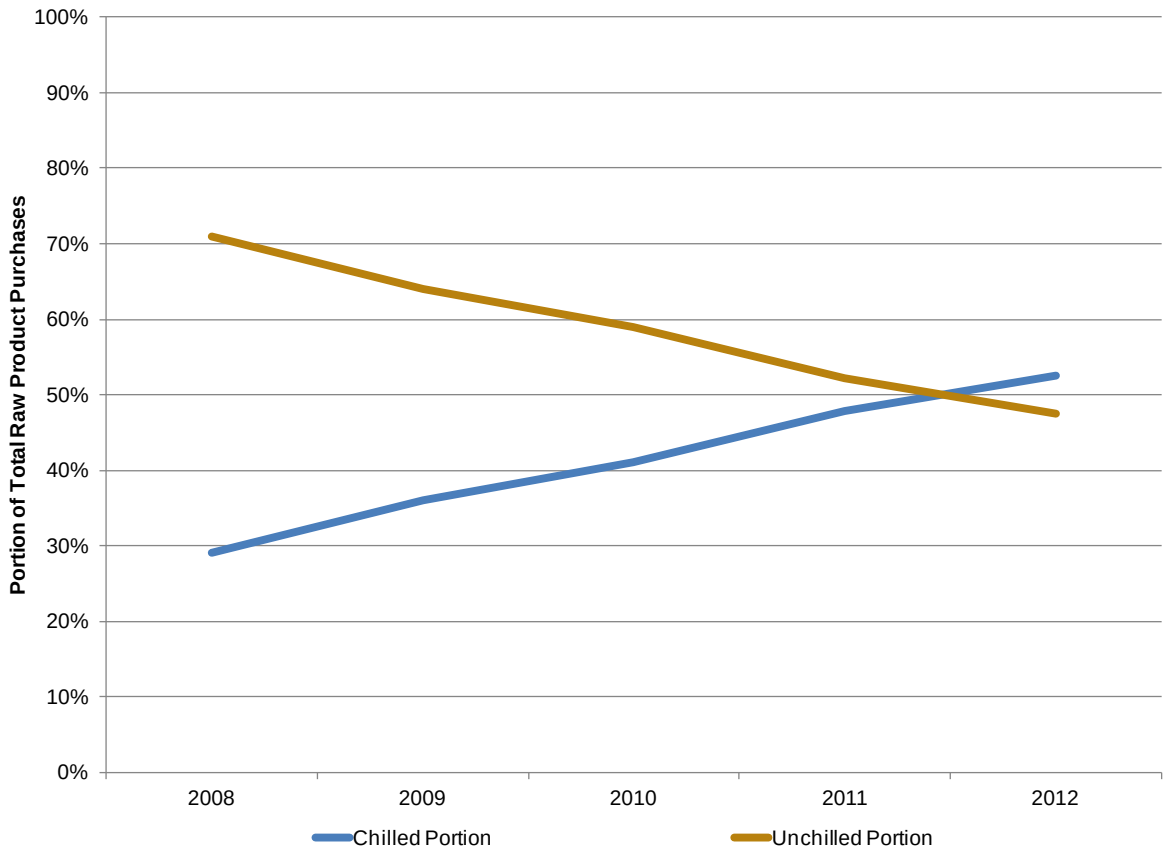
Indeed, this year marks the first year in the history of the survey (and likely Bristol Bay) where the combined drift and set net fleets delivered more than half of their raw product harvest in chilled form. The volume of unchilled product purchases has fallen by nearly half since the survey began in 2008. In fact, the raw volume of unchilled product has fallen every year since the survey began in 2008 regardless of overall run size (see Table 1).

Table 1.Total Raw Product (Drift and Set) Purchases, 2008– 2011

	2008		2009		2010		2011		2012		Year over Year Change	
Product	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%
Chilled	46.7	29%	63.4	36%	67.2	41%	61.7	48%	69.0	52%	7.3	10%
Unchilled	116.7	71%	113.9	64%	98.7	59%	67.3	52%	62.4	48%	-4.8	-9%
Total	163.5	100%	177.3	100%	165.9	100%	129.0	100%	131.5	100%	1.9	

Source: Northern Economics, Inc. 2012.
Note: Column totals do not sum due to rounding.

Figure 1. Total Chilled and Unchilled Product



Source: Northern Economics, Inc. 2012.

Table 2 summarizes the raw product purchases from just the drift net fleet, excluding the contributions to the fishery made by set net permit holders. The total purchases processors made from the drift fleet fell by roughly 0.7 Mlb this year to the lowest level since the survey began in 2008. However, purchases are a function of run strength and do not represent a significant loss of market share by drift net permit holders. While total raw product purchases declined, chilled raw product purchases actually increased this year by 6.0 Mlb to 64.8 Mlb. As discussed in more detail in Section 4, chilled product purchases now account for nearly 60 percent of all purchases made by processors from the drift net fleet. This number stands in sharp contrast to the 24 percent share held by chilled raw product in 2008.

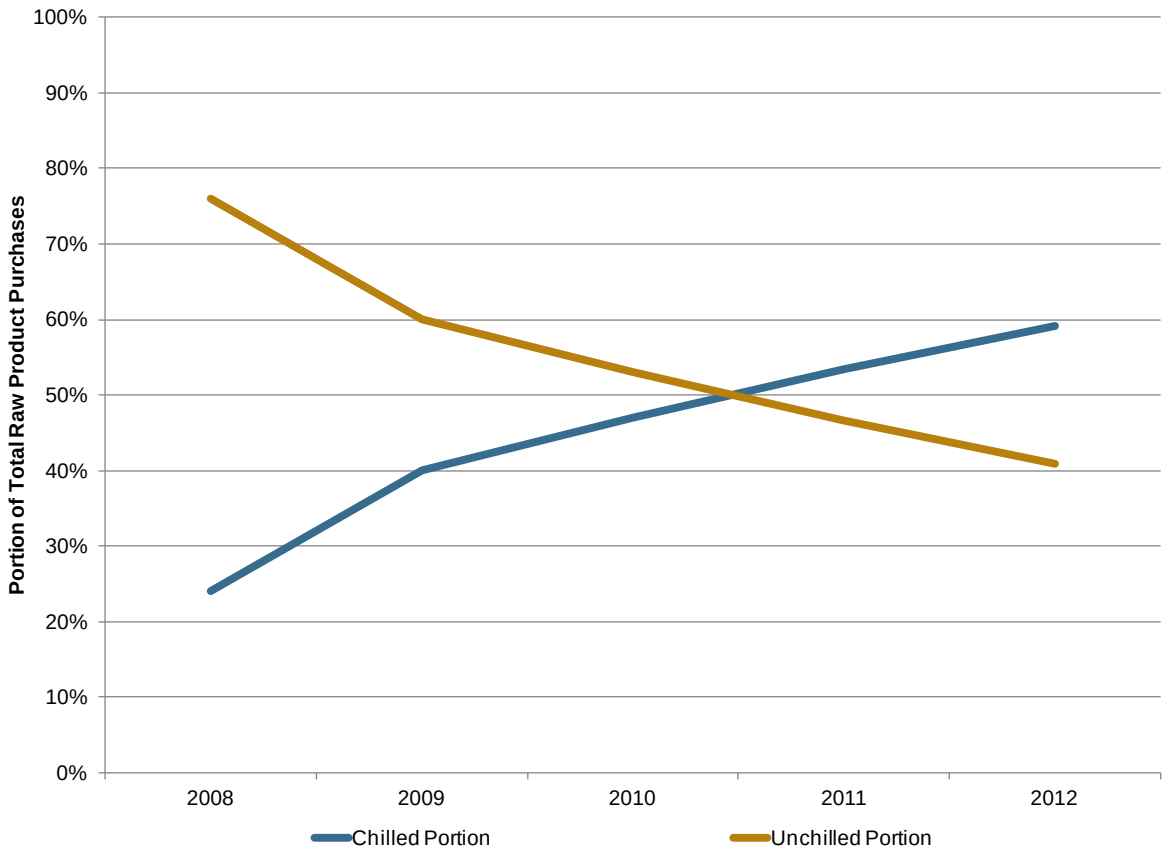
Table 2.Drift Fleet Raw Product Purchases, 2008– 2012

	2008		2009		2010		2011		2012		Year over Year Change	
Product	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%
Chilled	32.5	24%	60.0	40%	63.4	47%	58.8	53%	64.8	59%	6.0	
Unchilled	102.2	76%	91.7	60%	72.6	53%	51.4	47%	44.6	41%	-6.8	
Total	134.7	100%	151.7	100%	136	100%	110.1	100%	109.4	100%	0.7	

Source: Northern Economics, Inc. 2012.
Note: column totals may not sum due to rounding.

Figure 2 shows the portion of the chilled and unchilled product over time from 2008 to 2012. Over the last four years the drift fleet has made substantial gains in chilling raw product. While the current trend is strong, future gains in the portion of chilled raw product will require continued investment (and investment recovery) on the part of permit holders, processors, BBEDC, and other interested parties. We note that one item we heard from processors this year is that RSW conversion going forward will increasingly be limited to smaller and older vessels. In short, the easier conversions to RSW are complete or nearly complete, and future conversions will be more sensitive to market conditions and the personal finances of more marginal fishermen.

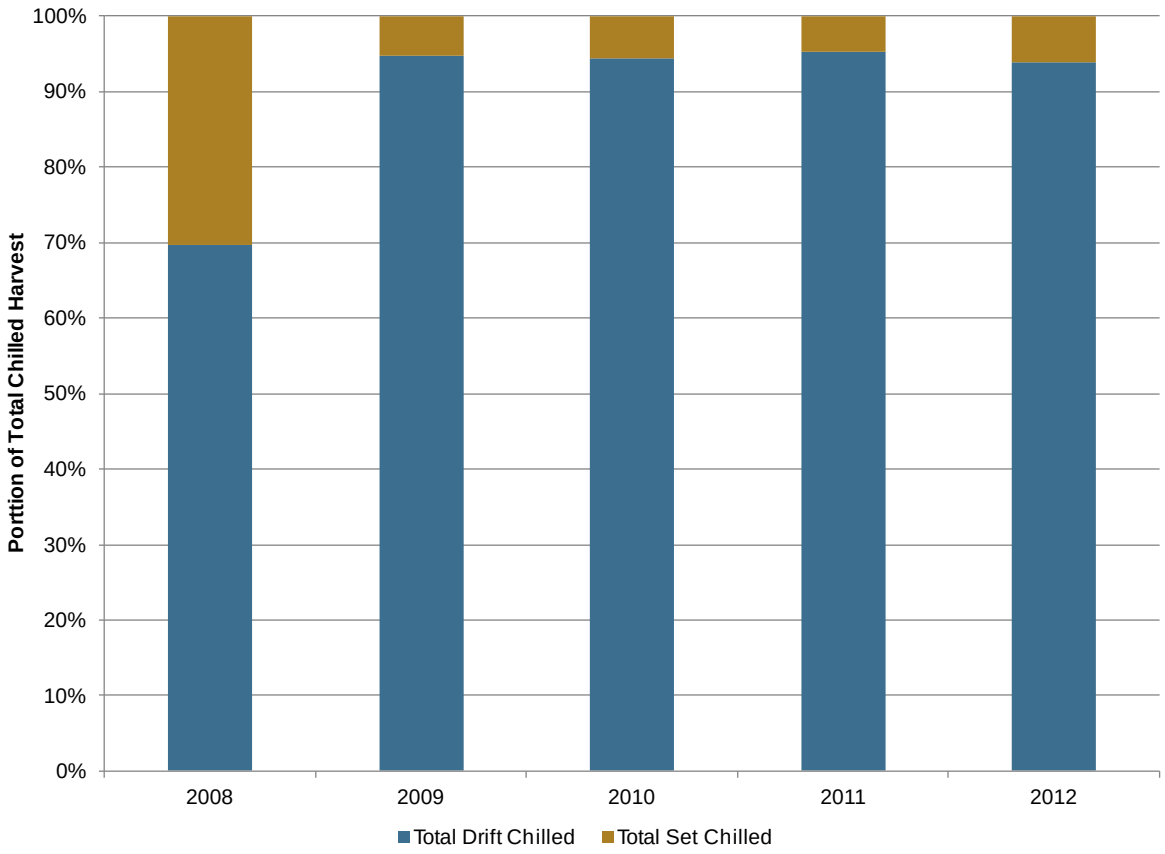
Figure 2. Drift Fleet Chilled and Unchilled Product



Source: Northern Economics, Inc. 2012.

In any given year, the drift net fleet accounts for 80 to 85 percent of the total raw product purchases in the Bristol Bay salmon fishery. At the same time, the drift fleet accounts for a disproportionate amount of chilled raw product purchases. While the set net fleet delivered a higher share of chilled product than last year, the drift fleet continues to deliver nearly 95 percent of all chilled product. Figure 3 emphasizes the dominant role that drift net chilled purchases play relative to total raw product chilled purchases.

Figure 3. Chilled Product Purchases in Bristol Bay (Mlb), 2011



Source: Northern Economics, Inc. 2012.

3 Finished Product Forms

This year saw a rebound in the portion of raw product going to the canned product forms. In fact, the portion of raw product sent to the canning line was, at 50 percent, the highest that the survey has ever recorded. However, because of this year's substantially smaller run size, the total amount being canned, 66 Mlb, is still several million pounds less than the amount processors canned in 2008 and 2009.

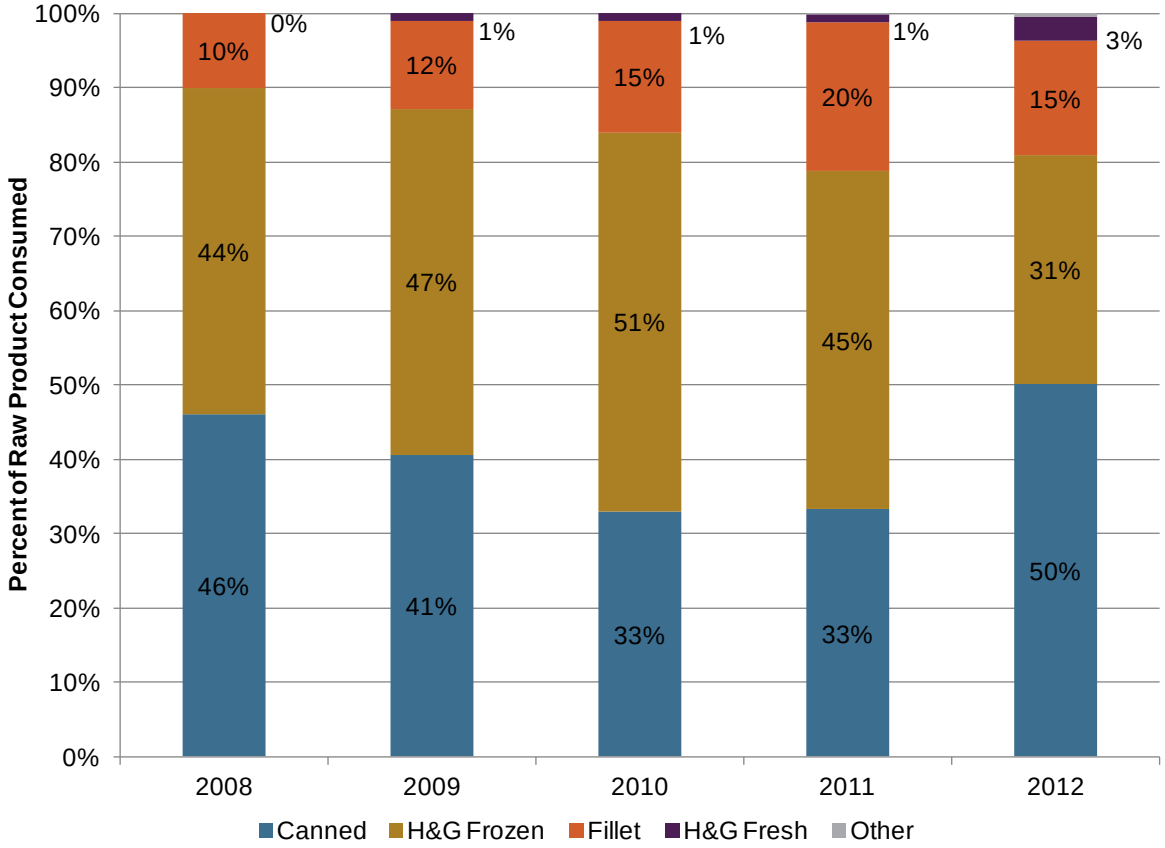
The survey data indicate that the lion's share of product that returned to the canning line came from the H&G Frozen product line (which saw a 33 percent/18.4 Mlb reduction) this year, and from the fillet line, which saw a 5.6 Mlb/23 percent reduction (see Table 3 and Figure 4). These numbers matched what we heard from processors, who indicated they reacted to the relative strength of the canned market and low canned inventories and the relative weaknesses in the H&G Frozen and Fillet markets. Surprisingly, the amount of product flowing to the H&G Fresh product form tripled this year in spite of the fact that the other major lines gave ground to canned product.

Table 3. Total Raw Product Consumed by Estimated First Wholesale Product Form, 2008– 2012

	2008		2009		2010		2011		2012		Year over Year Change	
Product Form	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%
Canned	74.6	46%	71.9	41%	55.0	33%	42.9	33%	66.0	50%	23.0	51%
H&G Frozen	71.2	44%	83.1	47%	84.5	51%	58.7	45%	40.3	31%	-18.4	-33%
H&G Fresh	0.8	0%	1.0	1%	1.3	1%	1.3	1%	4.1	3%	2.8	206%
Fillet	16.2	10%	20.7	12%	24.9	15%	25.9	20%	20.3	15%	-5.6	-23%
Other	0.7	0%	0.6	0%	0.1	0%	0.2	0%	0.7	1%	0.6	375%
Total	163.5	100%	177.3	100%	165.9	100%	129.0	100%	131.5	100%	2.4	N/A

Source: Northern Economics, Inc. 2012.
Note: column totals do not sum due to rounding.

Figure 4. Raw Product Forms of Product Processed in Bristol Bay, 2011



Source: Northern Economics, Inc. 2012.

Shifts in final product form, as shown in Table 4, are similar to those for raw product forms. The study estimates that the run produced 88.25 Mlb in first wholesale product forms excluding roe. Canned product saw a large increase in both total pounds and portion of the final product weight. Proportionally, the fillet product form also saw a large increase. We will be interested to see if the canned portion reverts to prior trends in 2013 in response to such a large swing this year, or if processors have discovered that the market needs more canned product than the 28.8 Mlb produced in 2011 and increased (or relatively stable) canned production might be here to stay.

Table 4. Estimated First Wholesale Product Form, 2008 – 2011

	2008		2009		2010		2011		2012		Year over Year Change	
Product Form	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%
Canned	50.0	44%	48.2	39%	36.9	32%	28.8	33%	44.2	50%	15.4	53%
H&G Frozen	52.7	47%	61.5	50%	62.5	55%	43.4	49%	29.8	34%	-13.6	-31%
H&G Fresh	0.6	1%	0.8	1%	1.0	1%	1.0	1%	3.1	3%	2.1	205%
Fillet	9.2	8%	11.8	10%	14.2	12%	14.8	17%	10.8	12%	-4.0	-27%
Other	0.7	1%	0.6	0%	0.1	0%	0.2	0%	0.4	0%	0.2	156%
Total	113.2	100%	122.8	100%	114.7	100%	88.2	100%	88.25	100%	0.1	N/A

Source: Northern Economics, Inc. 2012.
Note: Column totals do not sum due to rounding.

The amount of raw product sent outside the Bay for canning increased substantially this year from 1.1 Mlb in 2011 to 1.9 Mlb in 2012. While this increase is large in percentage terms, the amount of product processors are canning outside the Bay is a fraction of the amount canned outside the Bay in 2008 and 2009. It would appear from the data that the processors handled the vast majority of their increased canning this year utilizing Bristol Bay-based resources.

Table 5. Canning Location, 2008 – 2011

	Round Pounds					Percent of Total Production				
Product Form	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Reported Canned in the Bay	47	59.2	51.6	41.8	64.1	29%	33%	31%	32%	49%
Assumed Canned Outside the Bay	27.5	12.7	3.4	1.1	1.9	17%	7%	2%	1%	1%
Total	74.6	71.9	55	42.9	66.0	46%	41%	33%	33%	50%

Source: Northern Economics, Inc. 2012.
Note: Column totals do not sum due to rounding.

4 Product Chilled Prior to Delivery

As in previous years, the 2012 survey captured the differences in levels of use of RSW and slush ice systems within the drift net fleet. Processors were asked what percentage of chilled raw product from the drift net fleet were chilled by each of these methods, and also how likely a delivery was to be properly chilled before arriving at a first point of delivery. The data this year show no change in the market share attributable to RSW and slush ice chilling. As with last year, 80 percent of chilled raw product came from RSW systems while 20 percent came from slush ice chilled systems (see Table 6).

In 2012, drift net permit holders chilled 64.8 Mlb of raw product. This amount is equal to 59 percent of total drift fleet harvest. The volume of product slush ice systems chilled increased 14 percent to 13.2 Mlb. While this amount is double the amount that permit holders slush chilled in 2008, slush chilled raw product is still well below the peak amount of 17 Mlb of product permit holders chilled in 2010. In contrast, the amount of raw product chilled by RSW systems continues to increase. 2012 marked the fourth consecutive year of increases in the total volume of RSW chilled raw product. In 2008, the drift fleet chilled 26.5 Mlb using RSW systems. This year that number stands at 51.6 Mlb (see Table 7 and Figure 5).

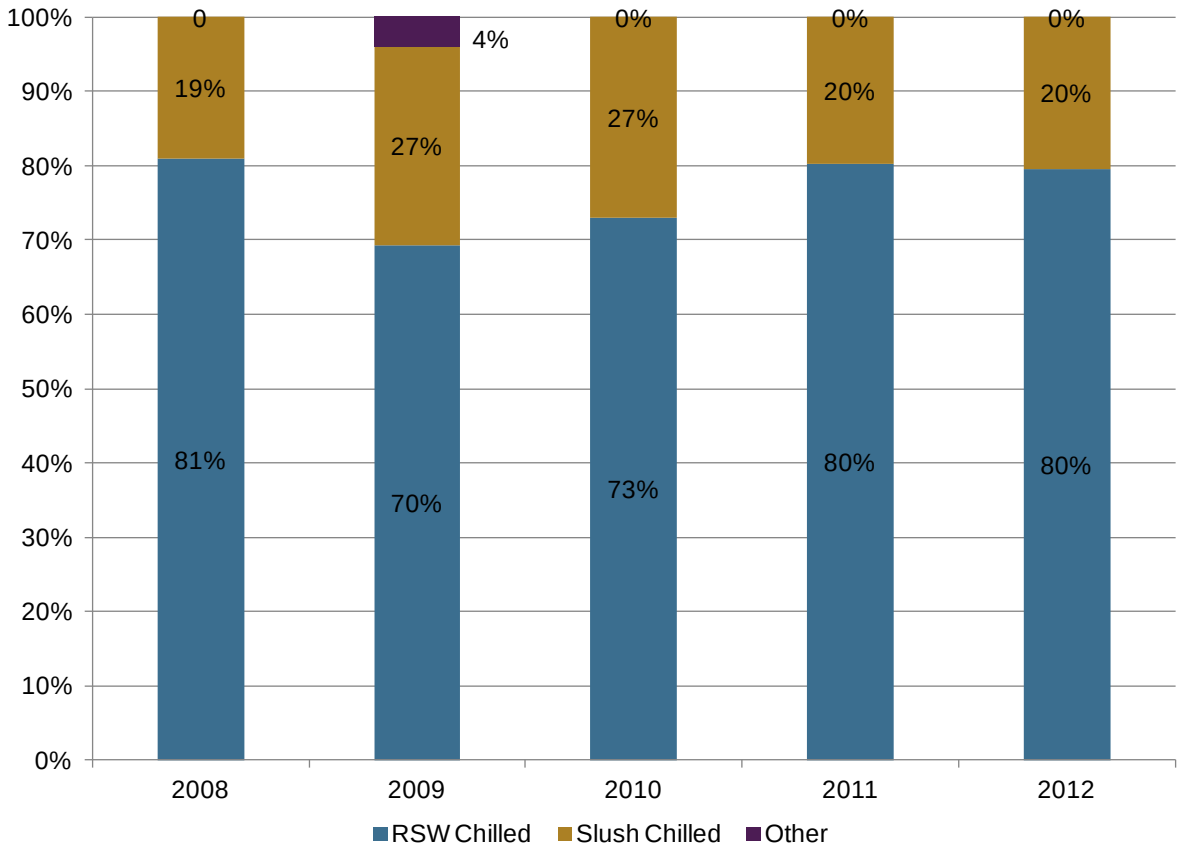
Table 6. Drift Fleet Chilling Methods 2008 – 2011

	2008		2009		2010		2011		2012		Year over Year Change	
Chilling Method	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%	Mlb	%
RSW Chilled	26.5	81%	41.7	70%	46.0	73%	47.2	80%	51.6	80%	4.4	9.3%
Slush Chilled	6.1	19%	16.1	27%	17.0	27%	11.6	20%	13.2	20%	1.6	13.9%
Other	N/A	N/A	2.2	4%	-	0%	-	0%	-	0%	-	0%
Total	32.5	100%	60	100%	63.4	100%	58.8	100%	64.8	100%	6.0	N/A

Source: Northern Economics, Inc. 2012.

Note: Not all processors could estimate the division of RSW vs. slush chilled product; 2010 round pounds by chilling method do not equal total chilled round pounds. Column totals do not sum due to rounding.

Figure 5. Chilling Methods in the Drift Fleet, 2008 – 2011



Source: Northern Economics, Inc. 2012.

Over the last four years, the drift fleet reduced the portion of unchilled product from 76 percent of the harvest to 41 percent of the harvest. This change represents a 47 percent reduction in the portion of the harvest represented by dry unchilled product.

Table 7. Drift Fleet Chilling Methods as a Percentage of Total Drift Chilled Product, 2008-2011

		RSW		Ice Chilled		Dry (Unchilled)	
Year	Total Round Pounds	Round Pounds	Percent of Total	Round Pounds	Percent of Total	Round Pounds	Percent of Total
2012	109.4	51.6	47%	13.2	12%	44.6	41%
2011	110.1	47.2	43%	11.6	10%	51.4	47%
2010	136.0	46.0	34%	17.0	12%	72.6	53%
2009	151.7	41.7	27%	16.1	11%	91.7	60%
2008	134.7	26.5	20%	6.1	5%	102.2	76%
Total	**422.5**	**114.2**	**27%**	**39.2**	**9%**	**266.5**	**63%**

Source: Northern Economics, Inc. 2012.

Note: Round pounds may not equal total pounds due to the exclusion of 'other' chilling methods.

Not all processors could estimate the division of RSW vs. slush chilled product; 2010 round pounds by chilling method do not equal total chilled round pounds.

The survey asked respondents what percentage of the total raw product purchased from the drift net fleet was chilled across the season, and within the first third, peak, and last third of the season. Using the results from this question, we derived an index, the results of which are shown in Table 8.

Table 8. Chilling Through the Season (Indexed)

Year	First Third of the Season (Before July 1)	Peak of the Season (July 1-July 15)	Last Third of the Season (After July 15)
2012	100	88	94
2011	100	99	61
2010	100	109	103
2009	100	81	77
2008	100	87	100

Source: Northern Economics, Inc. 2012.

The survey data indicate that 2012 was similar to 2008 in that the likelihood of a pound of raw product being chilled prior to delivery fell at the peak of the season by approximately 12 percent from the first third of the season before rebounding (partially) for the final third of the season. The study team has heard that this year's run strength was smaller than predicted and that the relatively steady flow encouraged icing through the season.

5 Processor Drift Fleets

The number of vessels prosecuting the Bristol Bay salmon run and considered to be part of a processor fleet increased 12 percent this year to 1,530 vessels. This year-over-year increase in fleet size is the largest recorded by the survey in absolute terms and the second largest in percentage terms. The increase follows on two year of modest increase in total fleet size. The survey asks processors to consider a boat to be part of their fleets if it was contractually obligated to deliver to them, or if they felt that it made more than 50 percent of its deliveries to the processor. Overall there are 31 percent more vessels in processor fleets now than in 2008, and the average fleet size increased 57 percent over the same period. Table 9 shows that both the average and median processor fleet numbers increased; as in the past, we surmise that this increase may be the result of latent permit holders returning to the fishery as ex-vessel value per pound has increased. We wonder if economic conditions in the Lower 48 could also be contributing to increasing fleets sizes.

Table 9. Number of Vessels in the Processor Fleet, 2008-2011

Year	Total	Percent Increase In Total	Average Vessels per Processor	Median Vessels per Processor
2012	1,530	12%	153	134
2011	1,358	1%	123	115
2010	1,343	3%	122	115
2009	1,309	13%	119	100
2008	1,162	N/A	97	98

Source: Northern Economics, Inc. 2012.

As in the past, the survey data show the drift fleet is splitting into two groups: those permit holders who chill more than 75 percent of their deliveries and those who chill less than 25 percent of the deliveries (see Table 10). The fleet is nearing the point where almost 50 percent of permit holders are considered by the survey to be "consistent chillers" (i.e., those that chill more than 50 percent of the time). The portion who chill "none of the time" is now at its lowest level since the survey began at just 38.5 percent of the fleet. We find the continuation of this trend somewhat remarkable given the large increase in fleet size this year. With nearly 200 boats joining processor fleets, we expected that there might be in uptick in the portion of boats that did not chill as the new fleet boats may have been latent for some time. Instead, the survey data show that the "do not chill" boats fell in both number and fleet portion. These data would seem to indicate that either new boats are joining fleet ready to chill, or existing boats are converting to RSW systems quickly enough to negate the effect of unprepared new boats.

Table 10. Consistency of Chilling, 2008-2011

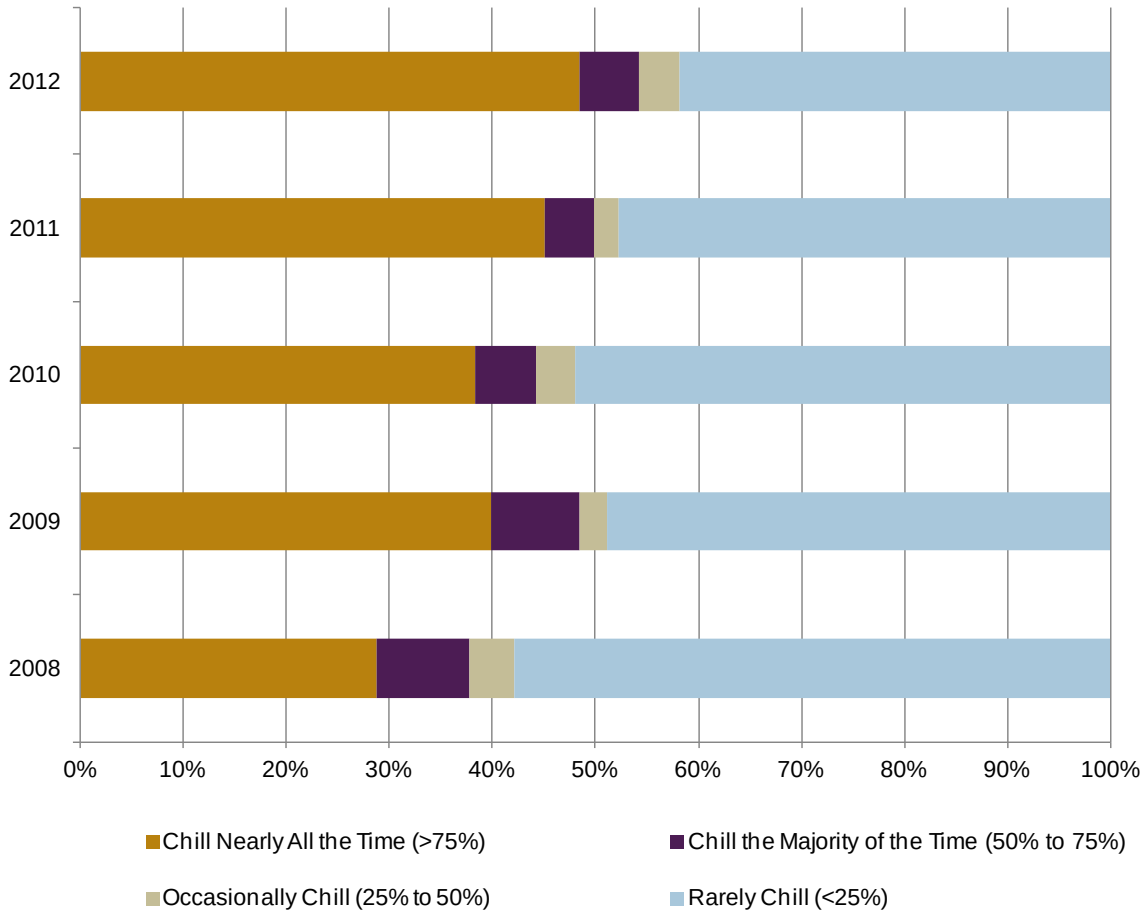
Year	Percent of Deliveries that Were Chilled				
	>75% of the Time	50 to 75% of the Time	25 to 50% of the Time	<25% of the Time	None of the Time
Number of Vessels					
2012	741	87	61	51	589
2011	612	66	32	48	599
2010	514	81	51	87	611
2009	522	112	35	74	565
2008	335	104	51	672	N/A
Percent of Vessels					
2012	48.5	5.7	4.0	3.3	38.5
2011	45.1	4.9	2.4	3.6	44.1
2010	38.3	6.0	3.8	6.4	45.5
2009	39.9	8.5	2.7	5.7	43.2
2008	28.8	8.9	4.4	57.8	N/A

Source: Northern Economics, Inc. 2012.

Note: Totals do not match the table above because of rounding.

Figure 6 shows the distribution of how consistently groups of vessels chilled their raw product from 2008 through 2011. As noted above, the group which consistently chills more than 75 percent of the time is growing, but it appears to be coming out of a shrinking middle, while the group which rarely chills[2] shrank this year.

Figure 6. Consistency of Chilling, 2008-2011



[2] More than 90 percent of this group does not chill at all.

6 Processor Ice-Making Capability

The survey data indicate that total daily ice production from respondent processors stands at 820 tons per day. This number is the largest seen in the survey's history and the total amount of ice available to permit holders from processors increased to 202 tons per day. Since the survey began in 2008, processors have more than doubled the portion of their ice production that is available to permit holders and increased the actual amount of ice available by 140 percent. The study team finds this result interesting as processors consistently report that they foresee only marginally more ice available to permit holders from processor sources. Last year 90 percent of respondents expected marginally more ice to be available to permit holders from processors, while in 2010 73 percent of respondents expected to see marginally more ice available from processors. This year processors were evenly split between saying that "only marginally more ice" would be available from processors and "no more ice would be available from processors."

Table 11. Ice Production in Tons per Day, 2008- 2010

	2008	2009	2010	2011	2012
Total Ice Production Capacity	760	750	680	735	820
Available to permit holders from processors	85	89	155	130	202
Percent available to permit holders from processors	11%	12%	23%	18%	25%
Barge Ice		98	98	98	98
Total ice available to permit holders		187	253	228	300

Source: Northern Economics, Inc. 2012.

Note: 2008 numbers do not agree with the 2009 numbers because these results are 'unadjusted.' Figures have not been adjusted to reflect the absence or addition of processers in the survey.

7 Quality and Chilling

As with 2009 and 2010, BB-RSDA and Northern Economics asked respondents about the relationship between chilling and product quality. The questions were designed to help determine the value of improved handling practices. The survey asked respondents to tell us the proportional value of fillets and frozen H&G product made from #2 grade fish compared the same products made from #1 grade fish. In other words, if product from a #1 grade fish receives a score of 100 from the wholesale market, what grade does product from a #2 fish receive?

The 2012 discount range for H&G of 5 percent to 85 percent is similar to the ranges seen in prior years. Both of these ranges are much larger than the 2009 range (5 to 30 percent). This year average percentage discounts of both fillets and H&G were reported at 38 percent (see Table 12). These discount rates are similar to those seen in 2010 and 2011, but differ sharply from the 2009 results, which showed an average discount of 48 percent for fillets and 16 percent for H&G.

Table 12. Average Percentage Discount from the #1 Wholesale Price, 2011

Product Form	Low Discount (%)	High Discount (%)	Average (%)	Median (%)
Frozen Fillet	-5	-85	-38	-28
Frozen H&G	-5	-80	-38	-22

Source: Northern Economics, Inc. 2012.

8 Open Ended Responses

Questions 19, 20, and 21 of the 2012 survey captured processor priorities and opinions regarding the fishery. These questions asked respondents to list important projects, to prioritize spending areas, and to rank a set of factors which may have contributed to the higher values for Bristol Bay salmon in 2012. Each is restated below (in italics), and processor responses are summarized in the following sections.

Question 20

BB-RSDA is authorized to spend money in four areas to improve the overall health and value of the Bristol Bay salmon fishery. These areas include: Infrastructure, Research, Quality, and Marketing. BB-RSDA is interested in which area you think it is most important for BB-RSDA to focus. Where can BB-RSDA make the biggest and most important contribution?

Processors' average 2012 responses to this question are roughly the same as their average responses in 2011. However, we note that the portion of processors rating these areas as "of moderate importance or higher" fell in a number of categories and only increased in one category: marketing. We believe that it may be time for the BB-RSDA to consider retiring this question given the stability of processor answers and to consider bringing this question back on an every-other-year basis or to consider asking more detailed questions in the areas of higher importance (see Table 13).

Table 13. Prioritization of Spending Areas

Area of Improvement	2011 Average Score on 1-5 Scale*	2012 Average Score on 1-5 Scale	2011 Percent at or above Moderate Importance	2012 Percent at or above Moderate Importance
Infrastructure	3.7	3.7	91%	80%
Research	3.2	3.5	82%	80%
Quality	4.2	4.1	100%	80%
Marketing	3.0	3.0	54%	60%

*1= Very Low Importance, 5=Very High Importance.
Source: Northern Economics, Inc. 2012.

Question 21

How would you describe the 2012 Bristol Bay fishery? Is there anything about the run, the markets, or other factors that really stood out for you this year? What are factors we should be thinking about in our analysis?

Only about half of the processors who responded to the survey responded to this question, but the topics mentioned included:

- A compressed run timing coupled with colder water temperatures
- The relative health of the canned market combined with the relative weakness of the H&G markets
- Overall higher oil content in the fish[3]

[3] From personal experience, the author notes in this draft report that Cook Inlet sockeye also exhibited a higher oil content this year.

Question 21

Please describe what you think is the single most important project that BB-RSDA could undertake in the coming year. If you were BB-RSDA, what project would you undertake?

All of the processors who responded to this question save one either mentioned helping permit holders adequately chill their fish through increased ice production, programs to assist owners in installing RSW systems, and helping smaller vessels that can't accommodate RSW systems find a way to chill. Broadly, the processors who responded appear largely unified around the concept that the single most important project for the BB-RSDA in the coming year is ensuring that the expansion of chilling capacity continues.

One processor also mentioned that the BB-RSDA should support a road between Bristol Bay and Anchorage. As a side note, the Alaska Department of Transportation and Public Facilities is currently producing the Southwest Alaska Transportation Plan. If BB-RSDA wished to take a stand on this issue its comments would be welcome by the consultant team and the Department.[4]

[4] Northern Economics is part of the consultant team.

9 References

Alaska Department of Fish and Game (ADF&G). 2012 Bristol Bay Salmon Season Summary. News Release. September 21, 2012. Available at www.adfg.state.ak.us.

Alaska Department of Fish and Game (ADF&G). *2011 Alaska Commercial Salmon Harvests and Exvessel Values*. Published October 31, 2011.. Available at http://www.adfg.alaska.gov/index.cfm?adfg=CommercialByFisherySalmon.exvesselquery. Accessed on February 2, 2011

Alaska Department of Fish and Game (ADF&G). 2011 *Bristol Bay Salmon Season Summary*. Issued September 26, 2011. Available at http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2011_bristolbay_salmon_summary.pdf. Accessed on March 25, 2012.

Appendix: 2011 Bristol Bay Processors Survey Instrument

2012 Bristol Bay Processor Survey

1. Introduction

Welcome to the 2012 Bristol Bay Salmon Fishery Processing Survey! We're glad to be conducting this survey again after succesful 2008-2011 surveys. The 2012 survey builds on the data in prior surveys and will allow you to see aggregate changes in the fishery that have occurred between 2008 and 2012.

As with the prior surveys:

The purpose of the survey is to collect information on the chilling of fish by fishermen and the distribution of finished product among four dominant product forms (excluding roe).

All of the data reported by individual respondents will be held in confidence by Northern Economics and will only be reported in aggregate. At no time will anyone other than Northern Economics staff have access to individual survey responses.

The aggregated survey results will be submitted to the survey sponsor, the Bristol Bay Regional Seafood Development Association (BB-RSDA). BB-RSDA will also distribute the same report that it receives from Northern Economics to each participant who completes the survey.

If you experience problems while completing the survey please call Jonathan King or Akexus Bond at 907-274-5600.

PLEASE MAKE SURE YOU HIT NEXT AT THE BOTTOM OF EACH PAGE.

1. What is the name of your processing company?

2. What is your name?

3. What is your primary contact phone number?

4. Please enter your email so that we may send you a copy of the survey results.

2012 Bristol Bay Processor Survey

2. Raw Product

This section asks questions about a processor's purchase of raw product (round weight fish) in 2012. Please ensure that all answers are for the 2012 season.

Please note that some questions refer to all of your operations in 2012 while other questions refer specifically to the DRIFT NET fleet.

The survey form does not accept commas, $ signs, decimals, or % symbols. Please enter whole numbers only. For example $1,254, would be entered as 1254 while 50% would be entered as 50.

NOTE: THE PAGE WILL NOT ADVANCE IF A REQUIRED SUM TO 100 DOES NOT SUM TO 100 OR IF A % SYMBOL IS INCLUDED IN THE ENTRY.

5. In 2012 how many pounds of raw product (round weight fish) did your company purchase from the Bristol Bay salmon fishery?

2012 Raw Product Weight

6. In 2012, how many pounds of previously chilled raw product (using ice or refrigerated sea water [RSW]) did your company purchase in the Bristol Bay salmon fishery?

2012 Chilled Raw Product Weight

7. What percentage of each of the following categories came from the DRIFT NET fleet in 2012?

For example, if the DRIFT NET fleet accounted for 75% of your purchases you would enter 75 below. The survey form does not accept % symbols or decimals.

Portion of Total Raw Product from the Drift Net Fleet

Portion of Total Chilled Raw Product from the Drift Net Fleet

8. What percentage of your 2012 purchases in the Bristol Bay salmon fishery was shipped long-haul for processing at a plant outside of Bristol Bay?

Percentage Processed Outside Bristol Bay

9. Of the raw product (round weight fish) that your company purchased in 2012, and processed INSIDE Bristol Bay, please estimate the percent that your company used for each of the following product forms. The total should equal 100. ENTER ONLY NUMBERS. DO NOT ENTER PERCENT SYMBOLS (%).

Canned Product	
H&G Frozen	
H&G Fresh	
Fillet	
Other	

10. We are interested in how (or if) the portion of raw product that is chilled changes during the season. In each of these time periods, what percentage of the total raw product your company purchased from DRIFT NET FLEET BOATS in 2012 from the Bristol Bay salmon fishery was chilled prior to delivery?

Across the Season	
First Third of the Season (Before July 1)	
Peak of the Season (July 1-July 15)	
Last Third of the Season (After July 15)	

11. What percentage of the chilled raw product your company purchased from drift net fleet boats in 2012 was from each of the following categories? The total of your answer should be 100.

RSW	
Slush Ice	
Other	

12. BB-RSDA is interested in learning the proportional difference in the wholesale value of a fish receiving a #2 grade vs. a fish receiving a #1 grade. We believe that being able to communicate a difference to permit holders will help us show the value of improved handling practices. For each of the following product forms, if a fish graded #1 has a wholesale value of 100, what is the approximate wholesale value (0 to 100) that a #2 fish would have? INFORMED ESTIMATES ARE OKAY!!

	#2 Percentage Value
Frozen Fillet	
Frozen H&G	

13. Over the past three years the survey asked several questions about whether RSW or slush ice systems result in better chilled product. Our impression from the past survey results is that both systems can provide high-quality chilled product, but that slush ice systems have a slight edge in producing high quality product and that RSW systems are more susceptible to user error. We would like to know, based on your experience in 2012, how likely a delivery was to be properly chilled before arriving at first point of delivery (i.e., permit holder to plant or tender). For each type of permit holder below please tell us what percentage of deliveries was chilled properly at the time delivery was made by the permit holder.

	Percent of Deliveries Chilled Properly
Permit Holders Using Slush Ice	
Permit Holders Using RSW	
Permit Holders Using Some Other System	

3. Your Fleet

This page asks questions about drift net boats that you consider to be part of "your fleet."

14. In 2012, how many drift net boats did you consider to be part of "your fleet"? A boat would be counted as part of your fleet if they were contractually obligated to deliver to your company or if you felt they made more than 50% of their deliveries to your company in 2012.

Number of Drift Fleet Vessels

15. Please estimate the percentage of the drift net boats in your fleet that fit into the following categories. Please make sure your answers sum to 100.

75% to 100% of their 2012 deliveries were chilled

50% to 75% of their 2012 deliveries were chilled

25% to 50% of their 2012 deliveries were chilled

1% to 25% of their 2012 deliveries were chilled

None of their 2012 deliveries were chilled

4. Processor Ice Production

This section of the survey asks about chilling in the bay including your company's production of ice in 2012 and its availability to your fleet.

16. In 2012, what was your company's total daily ice making capacity in Bristol Bay in tons?

Please exclude any ice produced by the BBEDC ice barges.

Daily Ice Production Capacity (tons) [ ]

17. What percentage of your 2012 daily ice making capacity located in Bristol Bay is available for use by your drift boat fleet?

Please exclude any ice produced by the BBEDC ice barges.

Portion Available to Your Drift Boat Fleet (%) [ ]

18. Which statement do you think best describes how the amount of ice available to permit holders from ALL processors in aggregate is likely to change in the next five years? Please check one box.

- ◯ Substantially More Ice Available from Processors
- ◯ Marginally More Ice Available from Processors
- ◯ No Change in the Amount of Ice Available from Processors
- ◯ Marginally Less Ice Available from Processors
- ◯ Substantially Less Ice Available from Processors

5. Processor Input

BB-RSDA believes that increased communication between processors and permit holders will lead to cooperative opportunities that benefit both groups. The distribution of our survey results are an example of this concept in action. BB-RSDA is interested in knowing if the processing industry believes there are certain actions BB-RSDA can take or promote that will benefit both groups. We're interested in knowing what you would like our role to be in the fishery.

19. BB-RSDA is authorized to spend money in four areas to improve the overall health and value of the Bristol Bay salmon fishery. These areas include: Infrastructure, Research, Quality, and Marketing. BB-RSDA is interested in knowing which area you think it is most important for BB-RSDA's focus. Where can BB-RSDA make the biggest and most important contribution?

	1-Very Low Importance	2-Low Importance	3-Moderate Importance	4-High Importance	5-Very High Importance
Infrastructure	○	○	○	○	○
Research	○	○	○	○	○
Quality	○	○	○	○	○
Marketing	○	○	○	○	○

20. How would you describe the 2012 Bristol Bay fishery? Is there anything about the run, the markets, or other factors that really stood out for you this year? What are factors we should be thinking about in our analysis?

21. Please describe what you think is the single most important project that BB-RSDA could undertake in the coming year. If you were BB-RSDA, what project would you undertake?

6. Thank You!

Thank you for completing the survey. A copy of the survey results will be available from BB-RSDA in early 2013. BB-RSDA will email a copy of the results to you using the contact information you provided with the survey.

All individual data will remain in confidence with Northern Economics.