

# Spring 2016 – Alaska Salmon Harvest Summary and Forecast Analysis

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## Harvest Summary

The table below shows harvest volumes of Alaska salmon in recent years, as well as the forecast 2016 harvest volume (based on the forecast harvest in numbers of fish applied to the average fish size over the last three years).

Alaska Salmon Harvest and Forecast Summary by Area, Millions lbs., 2010-2016

	2010	2011	2012	2013	2014	2015	2016F
<b>Harvest/Forecast by Species</b>							
Sockeye	242.6	248.7	213.8	177.7	245.4	280.4	265.3
Pink	400.6	395.4	252.0	691.8	329.1	651.3	298.5
Keta	139.7	125.6	168.6	143.6	93.7	113.2	145.6
Coho	30.3	21.7	20.3	33.0	43.5	22.4	29.0
Chinook	5.3	6.3	4.6	3.6	5.8	5.1	5.4
<b>Harvest/Forecast by Area</b>							
Southeast	206.7	327.1	211.4	425.2	230.5	223.5	246.5
PWS	301.6	138.6	161.1	303.6	184.4	364.8	117.0
Cook Inlet	24.1	39.2	28.2	26.8	21.1	39.4	19.7
Bristol Bay	181.5	139.8	127.2	98.8	170.3	191.5	166.7
Kodiak	47.6	73.9	81.2	112.1	60.7	132.5	80.2
Chignik	16.3	23.2	14.5	21.1	6.9	15.6	14.5
AK Peninsula & A.I.	31.9	45.4	25.8	51.1	28.8	93.8	70.5
A-Y-K	8.9	10.5	9.8	11.1	14.7	11.3	16.4
<b>Alaska Total</b>	<b>818.6</b>	<b>797.6</b>	<b>659.3</b>	<b>1,049.7</b>	<b>717.4</b>	<b>1,072.3</b>	<b>743.9</b>

Note: 2015 data is preliminary. 2016 data is based on forecast harvests applied to the average fish size over the past three seasons. Sources: ADF&G and McDowell Group estimates.



Alaska produced a record salmon harvest in 2015, in terms of pounds harvested. The 2015 harvest of 1.07 billion pounds was 28 million pounds greater than the 2013 harvest, which produced a record number of salmon harvested. In short, the last two odd-year harvests were by far the largest ever recorded in the Alaska salmon industry's 130+ year history.

Prince William Sound, Bristol Bay, Cook Inlet, Kodiak, and the Alaska Peninsula regions posted relatively large harvests in 2015. Harvests in Chignik and the Arctic-Yukon-Kuskokwim regions were in line with recent averages, while Southeast posted a well-below average harvest given 2015 was an odd year.

Pink and sockeye harvests were well above previous averages in 2015. Last season resulted in the second-largest pink salmon harvest on record and the largest sockeye harvest since 1995. Chinook harvests were slightly above the previous five-year average while coho and keta harvests were significantly lower.

## 2016 Alaska Salmon Forecast

The table below shows the 2016 Alaska salmon forecast compared to average harvest volumes over the past five and ten year periods.

**Alaska Salmon Forecast and Average Historical Harvest, in Thousands of Fish, 2016**

	Chinook	Sockeye	Coho	Pink	Keta	Total	10-yr. Avg.
Southeast	366	1,273	2,831	34,000	11,349	49,819	35,903
PWS	21	3,397	266	23,439	3,100	30,223	47,668
Cook Inlet	7	4,156	162	866	250	5,441	5,519
Bristol Bay	29	29,520	118	796	762	31,225	28,966
Kodiak	17	3,692	333	16,200	645	20,887	18,734
Chignik	6	1,767	71	849	150	2,843	2,423
AK Peninsula & A.I.	17	3,579	269	13,422	948	18,235	9,592
A-Y-K	2	94	365	575	1,480	2,516	1,482
<b>Alaska Total</b>	<b>465</b>	<b>47,733</b>	<b>4,415</b>	<b>90,146</b>	<b>18,683</b>	<b>161,442</b>	<b>150,287</b>
<b>Pct. Change from Previous Year's Forecast</b>	<b>N/A</b>	<b>-19%</b>	<b>-4%</b>	<b>21%*</b>	<b>9%</b>	<b>4%*</b>	<b>-</b>
<b>5-yr. Avg. Harvest</b>	<b>413</b>	<b>42,851</b>	<b>4,350</b>	<b>91,921</b>	<b>16,327</b>	<b>155,862</b>	<b>-</b>
<b>10-yr. Avg. Harvest</b>	<b>438</b>	<b>41,537</b>	<b>4,236</b>	<b>86,532</b>	<b>17,545</b>	<b>150,287</b>	<b>-</b>

\*The 2016 pink forecast is compared to the 2014 pink forecast in order to account for even/odd year differences. This variation is incorporated into comparisons for the total forecast as well.

Note: Pink harvest averages only include the previous three and five even years, due to substantial even/odd year oscillations.

Sources: ADF&G and McDowell Group estimates (Southeast Chinook).

Overall, the Alaska Department of Fish and Game (ADF&G) is forecasting an above-average salmon harvest in 2016 (based on the previous five and ten year averages after accounting for even/odd year pink salmon fluctuations). A projected harvest of 161 million salmon would be the largest even year harvest since 2010. After accounting for even/odd year differences in pink salmon abundance, this year's forecast is 4 percent above the combined 2015 forecast for sockeye, coho, and keta salmon and 2014 pink salmon forecast.



Forecasts for coho and keta salmon are up compared to last year’s harvest, while the Department expects fewer pink, sockeye, and Chinook salmon to be harvested. However, as previously noted, harvests of pink and sockeye salmon were exceptionally large in 2015.

ADF&G forecasts of Chinook, sockeye, and coho have been relatively accurate, on average, over the past six years. Forecasts of pink salmon have tended to be lower than actual harvests while keta projections tended to be higher than actual harvests (see table below). However, there is considerable variability within each species from year to year.

**ADF&G Salmon Forecast Accuracy, Pct. Difference between Forecast and Actual Harvest, 2010-2015**

Year	Chinook*	Sockeye	Coho	Pink	Keta
2010	13%	-11%	-9%	53%	1%
2011	2%	-10%	-25%	-14%	-13%
2012	-27%	-8%	-28%	-3%	6%
2013	-19%	-14%	48%	92%	-8%
2014	-5%	35%	44%	28%	-43%
2015	30%	-9%	-22%	36%	-12%
<b>6-yr. Avg.</b>	<b>-1%</b>	<b>-3%</b>	<b>1%</b>	<b>32%</b>	<b>-11%</b>

\*Chinook based on SMIS estimates drawn in part from ADF&G data.  
Sources: ADF&G and McDowell Group estimates (Southeast Chinook).

### Sockeye Salmon

The 2016 forecast predicts this year’s sockeye salmon harvest will be the second-largest of the past two decades. As usual, the majority of sockeye are expected to be caught in Bristol Bay (62 percent), with other areas accounting for the balance (38 percent). Sockeye projections for Kodiak and Cook Inlet are 68 percent and 33 percent, respectively, above the prior 10-year average harvest in those regions. Meanwhile the Bristol Bay sockeye forecast is 10 percent above the 10-year average, a difference of approximately 2.6 million fish.

Although the sockeye harvest in 2015 was large in terms of total fish and pounds caught, the average fish size was relatively small in most areas of the state. Fishermen, processors, and biologists will be watching sockeye fish size carefully this year to see if this trend continues. One theory is that warmer water is increasing metabolism rates and leading to smaller adult fish. The smaller-than-average fish have contributed to lower pricing for Alaska sockeye, as small fish yield less product and significantly less valuable fillets.

Given the large 2015 harvest and higher-than-expected 2014 harvest, which led to substantial increases in canned production, processors are expected to focus on fresh/frozen H&G and fillet production in 2016. This will make quality a key area of focus this season, as quality defects for fresh/frozen products result in larger discounts than canned salmon where unchilled fish, bruising, or skin marks have less of an impact on taste and appearance. Maximizing sockeye quality in 2016 will be even more important in maximizing resource value, compared to most years.



## **Pink Salmon**

The 2016 forecast predicts this year's pink salmon harvest will be slightly larger than recent even-year harvests. However, an analysis of recent forecasts versus actual harvests suggests there may be upside potential in this year's forecast. In four of the previous six years, the pink salmon forecast was below the actual harvest. On average, actual pink salmon harvests have exceeded preseason forecasts by 32 percent over the past six years. The tendency to under-forecast is particularly stark for even-year harvests of PWS pink salmon. Forecasts for Southeast Alaska and the Alaska Peninsula and Aleutian Islands region are significantly above the previous ten year average harvest.

Record pink harvests in 2013 and 2015 resulted in substantial increases in canned production. With this being an off year for pink salmon abundance, processors will likely favor frozen production over canned.

## **Keta Salmon**

Harvests of keta salmon, also known as chum salmon, are expected to increase in 2016. However, actual keta harvests have fallen short of the forecast in each of the past three seasons. Whether this trend continues in 2016 remains to be seen. The 2016 keta forecast predicts a larger-than-average harvest, particularly in Southeast Alaska and the A-Y-K region.

## **Chinook and Coho Salmon**

Commercial harvests of Chinook salmon were relatively large from 2002 through 2007, averaging 658,000 fish. Harvests declined from 2008 through 2013, averaging 367,000 fish. Chinook harvests increased in the last couple years, averaging 477,000 fish. This year's forecast calls for a slightly lower harvest, but still above the previous ten year average harvest. Typically, most of Alaska's commercial Chinook harvest occurs in Southeast Alaska, but last year other areas saw larger-than-expected returns leading to a non-Southeast commercial harvest of 171,000 fish. The 2016 non-Southeast Chinook forecast calls for a harvest of 99,000 fish. Southeast Chinook harvests will likely increase this year, as the quota allocated to Southeast (commercial and sport) fisheries increased from 237,000 fish to 355,000 fish.

Coho harvests are expected to rebound in 2016; however, the 2016 coho forecast is slightly lower than last year's projected harvest. Actual harvests fell 22 percent short of the forecast in 2015. Biologists expect a larger harvest in 2016 compared to 2015, but project a smaller harvest than those seen in 2013 and 2014. Most coho are caught in Southeast Alaska. The 2016 Southeast forecast is slightly lower than last year's projected harvest, but still 13 percent above the previous ten year average for that region.

*Note: ADF&G salmon forecast reports can be found by visiting the following link:*

<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyfisherysalmon.salmonforecast>.

*Historical harvest information is also available on ADF&G's website:*

<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyfisherysalmon.salmoncatch>

