

# Determining Salmon Prices

Farming, currencies, global relations are major factors

By **CONOR BELL**

Commercial salmon harvesting is vital to many coastal towns and employs far more people than any other Alaska fishery. The salmon fishing industry is highly volatile, with prices and catch volumes subject to big changes from year to year. From 2013 to 2015, for example, prices for Alaska pink and sockeye salmon fell by over 50 percent.

Salmon prices are dictated by a number of local, national, and international factors that extend from

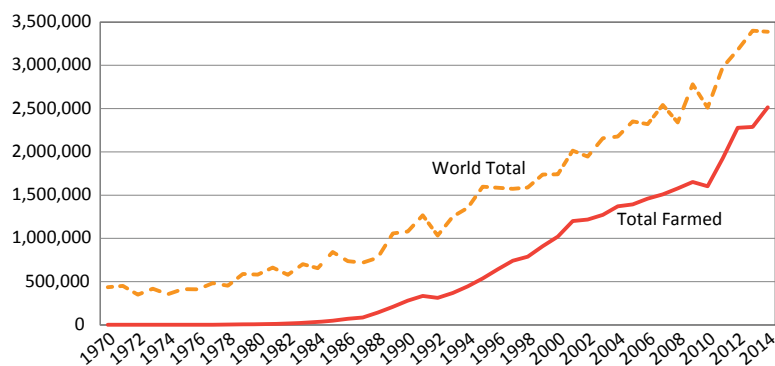
the Bristol Bay gillnetter to corporate offices in Tokyo and seafood markets in Paris. Like other commodities, salmon prices rise and fall depending on market conditions, the most critical of which we will examine here.

## Smaller world share means less stability

Before salmon farming became dominant and global trade ubiquitous, Alaska processors had power over salmon prices. This allowed for relative stabil-

## 1 Farmed Fish Has Flooded Global Market

FARMED AND TOTAL PRODUCT IN METRIC TONS, 1970 TO 2014



Source: Food and Agriculture Organization of the United Nations



At left, a floating salmon farm in Norway. Norway is the world's largest salmon producer.

Photo by Ghent University Lab of Aquaculture in Ghent, Kortrijk, Belgium

ity, with market prices going down during years more salmon were caught, and vice versa. Now that Alaska supplies a much smaller percentage of the world's salmon, it has little effect on world prices and that stabilizing effect has all but disappeared.

Although Alaska supplied over 80 percent of salmon produced or caught in the United States in 2014, it only contributed around 10 percent of the world's total salmon. Norway, the world's largest salmon producer, exported almost three times the total U.S. catch.

## Most of world's salmon is farmed

Salmon farming, also known as aquaculture, is a relatively new development and has been the biggest change to the industry in modern history. Until 1978, farmed salmon made up less than 1 percent of the world's salmon supply. Since then, farming has quintupled the world's supply. (See Exhibit 1.)

Alaska's wild salmon prices had been buoyed in the 1980s by Japan's bubble economy and other factors such as smaller catches, but Alaska's diminished global influence and the growing practice of farming salmon led to a steep decline in prices. (See Exhibit 2.)

The farmed salmon supply tends to be more consistent than wild catch, as it's produced and sold year-round so stores and restaurants can offer fresh fish

consistently. Although it theoretically doesn't have the large annual fluctuations inherent with wild salmon, some producers have come up against problems such as disease and sea lice, which are much more common in confined spaces and have resulted in supply fluctuations.

Although Norway has been relatively unscathed, the world's second-largest salmon producer, Chile, has been particularly troubled. Between 2008 and 2010, a disease outbreak among farmed salmon lowered

Chilean production by 75 percent. Earlier this year, an algal bloom killed millions of Chile's fish, causing a 20 percent drop in production.

The explosion of salmon farming has increased competition for Alaska. Alaska salmon is marketed as a distinctive product, and people are willing to spend more for it than farmed or even non-Alaska wild salmon. Alaska

sockeye, coho, and especially Chinook salmon are high-value products sold as fillets in grocery stores or high-end restaurants. And while pink and chum salmon fillets have a lower wholesale value than Atlantic salmon, they can still command a premium in value-added (processed) products, and their roe is considered a delicacy.

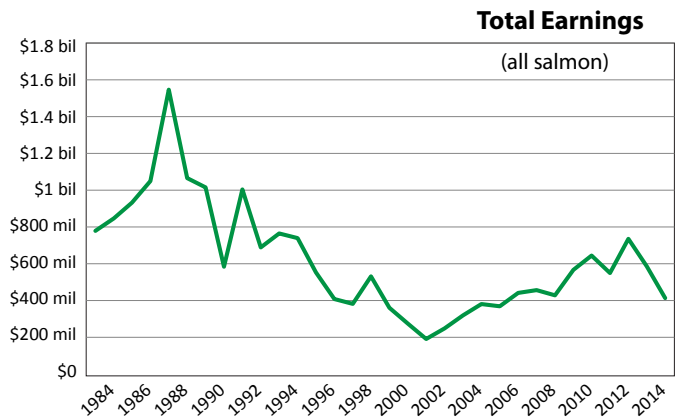
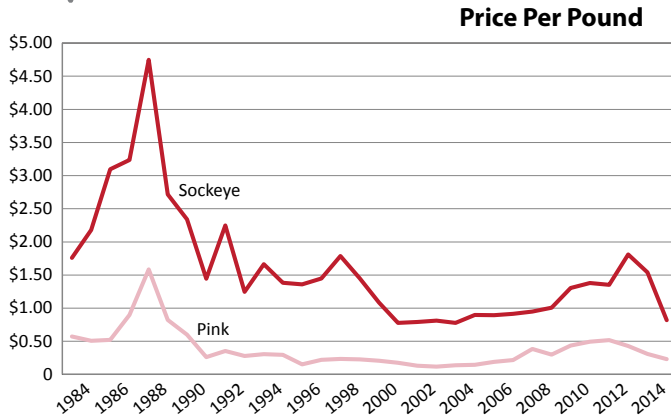
Prices of cheaper substitute goods still affect top-shelf products. While Alaska product holds status and a higher price tag compared to non-Alaska and farmed salmon, its performance still varies based on the per-

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# 2

## Prices, Total Earnings Hit a High in the '80s

ALASKA SALMON PRICES AND EARNINGS IN 2014 DOLLARS, 1984 TO 2014



Note: Earnings are those paid directly to fishermen.  
Source: Alaska Department of Fish and Game

formance of other suppliers. But mounting concerns about salmon farming’s antibiotic use, genetic engineering, pollution, and the risk of salmon escaping have helped to increase the premium for wild salmon over the past decade.

### Economic conditions affect price

People’s willingness to pay for Alaska salmon also depends on economic conditions. Salmon is expensive compared to chicken or pork, and wild salmon tends to cost more than its farmed competition. If the economy is doing well, people tend to have more disposable income and can pay extra for salmon over other meats, or wild over farmed. This allows Alaska salmon prices to rise. During recessions, lower consumer incomes

can depress the price of all salmon in addition to the premium Alaska salmon holds over farmed product.

### The interplay of exchange rates

The majority of U.S. salmon is sold abroad, and changes in exchange rates also mean a change in price. When our dollar appreciates relative to another country’s currency, it becomes more expensive for that country to buy our goods.

China is the biggest importer of American salmon, at 24 percent of its total value. (See Exhibit 4.) Most isn’t actually consumed in China but is processed, packaged, and resold to markets in Europe or even sent back to the U.S. The other primary importers are Japan, Canada, and the European Union.

The U.S. dollar is currently strong against the currencies of our primary buyers, making it more expensive for them to purchase from us. The currencies of other exporting countries are almost as important. Norway’s weak kronor has been giving them an extra advantage over U.S. sellers.

# 3

## Earnings Mainly Pink, Sockeye

ALASKA SALMON,  
2011-15 AVERAGES

Species	Price per pound	Total earnings
Sockeye	\$1.26	\$293,839,065
Pink	\$0.36	\$165,957,062
Chum	\$0.66	\$85,716,939
Coho	\$1.09	\$30,762,713
Chinook	\$3.97	\$20,152,792

Note: Prices and earnings reflect those paid to fishermen.  
Source: Alaska Department of Fish and Game

### The broad role of political change

When a good is traded internationally, it is subject to shocks resulting from political change. Countries entering or exiting the world market can have a significant effect on prices.

Russia was the second-biggest buyer of Alaska pink and chum salmon roe and a major purchaser of other salmon products until 2014, when it placed an embargo on American goods. Roe contributes a large share

of a pink and chum's total value, and the embargo has been a major factor in their falling values.

The impacts of political changes ripple throughout the economy, based on intercountry relationships. For example, Russia's embargo extends to Norway and throughout the E.U. Norway is the largest aquaculture producer, and before the embargo, Russia was their biggest importer at 8.5 percent of Norway's total product. With that market closed off, Norway will sell elsewhere, increasing competition and driving down prices.

## Transportation costs and expected catch

When determining prices for salmon, processors incorporate all the preceding factors but also take into account transportation costs and expected catch for the season. Transportation costs primarily depend on oil prices.

Processors use expected catch to determine how much product can be contracted to wholesalers. When catches turn out smaller or larger than anticipated, prices can swing widely in the middle of a season. Because processors must honor their wholesale contracts, they need to ensure they get enough fish. In the case of a smaller run, processors will raise prices to entice more fishermen. Likewise, processors don't want more salmon than they can sell, so if a run is too large, they'll decrease the price to discourage an even bigger catch.

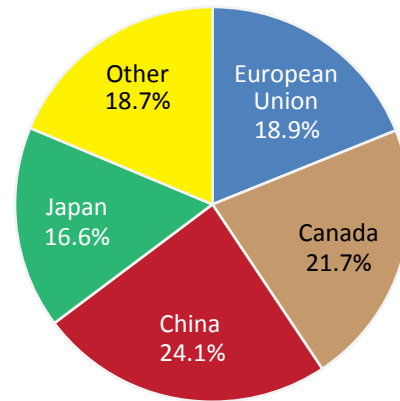
Both of these things happened during the 2015 Bristol Bay sockeye run. The early season was slow, and the anticipated peak period didn't come. The run forecast was adjusted down 44 percent, and prices rose to attract fishermen. The run finally came strong and fast, leading processors to lower prices. The condensed time frame also overwhelmed processors. Not having the capacity to process all the salmon being caught, they were forced to set limits on how much they would buy from fishermen.

Though a large catch may not have a huge impact on world supply, it can give processors a long-running surplus. Even when offering a discounted price, lining up new buyers can be time consuming.

Alaska had huge runs of pink and sockeye salmon in 2013 and 2014, respectively, and processors were

# 4 China Gets Largest Share of Exports

U.S. SALMON BY VALUE, 2015



Source: National Oceanic and Atmospheric Administration

left with warehouses full of canned salmon. To bail out the fisheries, the U.S. Department of Agriculture bought \$13 million in canned Alaska pink in 2014 and \$30 million in canned sockeye in 2015 for food assistance programs.

## Harvesters, crew members hit hardest by price drops

Fishermen tend to benefit during good times more than processors, with harvesters' earnings increasing more percentage-wise, but they also take a bigger hit when prices are low. This is largely because changes in prices are the same for fishermen and processors but fishermen are paid less to begin with, so a price change means a larger percent difference in their earnings.

Lower prices affect crew members as well as permit holders, as most are paid a share of their boat's earnings. Alaska-owned permits account for just over two-thirds of total salmon earnings.

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