Trends in Alaska Salmon Markets

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Outline of this Presentation

1. Recent trends in Alaska salmon markets
   • Ex-vessel catches, prices and value
   • Production, wholesale prices and wholesale value
   • End-markets for Alaska salmon products

2. Pictures of Chinese reprocessing of Alaska salmon

3. What explains the dramatic recovery in Alaska salmon prices over the past decade?

4. Potential short-term concerns for Alaska salmon markets

5. Factors affecting the long-term future for Alaska salmon

6. Appendix: Data sources for Alaska salmon harvests, production, prices, value and end-markets
1. Recent Trends in Alaska Salmon Markets

The first part of this presentation consists of graphs showing trends in Alaska salmon markets. The most important trends over the past decade include:

- Harvests have been strong
- Ex-vessel prices and value have risen dramatically since 2002
- Wholesale prices and value have risen dramatically since 2002
- Both fishermen and processors have shared in the increase in prices and value
- The frozen share of pink salmon production has increased dramatically
- US markets for frozen salmon have become much more diverse:
  - The shares exported to Japan has declined dramatically
  - The shares exported to China (for reprocessing into value-added products which are re-exported to US and EU markets) have increased dramatically
  - The shares exported to the EU have increased
  - The shares consumed in US domestic markets have increased
The graphs are based on five different data sources, as follows

- **Slides 5-11: Alaska Department of Fish and Game Harvest Data**
  - Alaska salmon harvests, 1980-2011
  - Alaska salmon ex-vessel prices, 1980-2011
  - Alaska salmon ex-vessel value, 1980-2011

- **Slides 12-13: Commercial Fisheries Entry Commission Basic Information Tables**
  - Total harvest value, selected salmon fisheries, 1980-2010
  - Permit prices, selected salmon fisheries, 1980-2010

- **Slides 14-26: Alaska Department of Fish and Game (ADF&G) Commercial Operators Annual Reports (COAR) Data**
  - Production of different products, by species, 1984-2010
  - Wholesale prices for different products, by species, 1984-2010
  - Wholesale value of different products, by species, 1984-2010

- **Slides 27-31: Alaska Department of Revenue Salmon Price Reports Data**
  - Trends in wholesale prices, by product: 2001-2011

- **Slides 33-42: Estimates of End-Markets for Selected Salmon Products, based on National Marine Fisheries Service (NMFS) Foreign Trade in Fisheries Products Data**
  - Frozen sockeye salmon
  - Frozen pink salmon
  - Frozen chum salmon
  - Canned sockeye salmon
  - Canned pink salmon

The appendix at the end of the presentation provides more information about these data sources.
Alaska salmon harvests have generally been strong over the past decade. In this presentation, I focus primarily on sockeye, pink and chum markets—because these species account for most of Alaska salmon harvest volume and value.
Harvest trends differ by species:
* High but widely fluctuating pink harvests
* Sockeye harvests up from 1998-2003 lower levels
* Chum harvests fairly strong and consistent

Alaska Salmon Harvest Volume, by Species

Source: ADF&G
Ex-vessel prices fell drastically in 1990s but have rebounded dramatically since 2002. (Note that the ex-vessel prices for 2011 shown in the graph are preliminary ADF&G estimates; actual prices will probably be higher after taking account of post-season adjustments).

Alaska Salmon Statewide Average Ex-Vessel Prices, by Species
(nominal prices-not adjusted for inflation)

Source: 1980-
2010: ADFG
COAR reports;
2011: ADFG
preliminary
estimates
In comparing long-term price trends it’s important to remember that there has been significant inflation since the 1980s.

Anchorage CPI and Inflation Adjustment Factor

A dollar had twice the purchasing power in 1983 that it has in 2011.

Note: To convert from nominal dollars to "real" (inflation-adjusted) 2011 dollars, multiply the price or value by the inflation-adjustment factor for that year.
After adjusting for inflation, the rebound in ex-vessel prices since 2002 is still big but doesn’t appear quite as dramatic.

Alaska Salmon Real Statewide Average Ex-Vessel Prices, by Species
(adjusted for inflation, expressed in 2011 dollars)

$0.00
$0.50
$1.00
$1.50
$2.00
$2.50
$3.00

$/lb (2011 dollars)

Source: 1980-2010: ADFG COAR reports; 2011: ADFG preliminary estimates
The combined result of strong harvests and a dramatic recovery in prices has been a dramatic recovery in the ex-vessel value of Alaska salmon harvests, from $164 million in 2002 to $603 million in 2010.
After adjusting for inflation the recovery in ex-vessel value doesn’t appear quite as dramatic—although it is still dramatic and important. Although ex-vessel value has rebounded strongly, it is still well below the inflation-adjusted levels of much of the 1980s.
There are twenty-seven different limited entry salmon fisheries in Alaska. The trends in ex-vessel value (which is the same as total earnings) differs by fishery, reflecting the species mix caught in the fishery and local run conditions. However, in general almost all fisheries experienced a significant decline in value during the 1990s and a significant recovery since 2002. This graph shows trends in total earnings in two of Alaska’s most valuable salmon fisheries: the Bristol Bay drift gillnet fishery and the Southeast purse seine fishery.

Total Earnings, Selected Alaska Salmon Fisheries

Source: Commercial Fisheries Entry Commission, Salmon Basic Information Tables
Permit prices in Alaska salmon fisheries tend to reflect trends in earnings. In many fisheries, permit prices fell drastically when total earnings fell in the 1990s, and have recovered dramatically since 2002 as total earnings have risen. The increase in permit prices since 2002 shows that Alaska salmon fishermen have become increasingly optimistic about the future prospects of Alaska salmon fisheries.

Source: Commercial Fisheries Entry Commission, Salmon Basic Information Tables
The next group of slides shows trends in the production of canned, fresh and frozen production from Alaska sockeye, pink and chum salmon.

Frozen, canned and fresh salmon are all important sockeye salmon products. Frozen sockeye production fell dramatically in the 1990s as harvests fell and as the frozen share of production declined.

Alaska Salmon Production: Sockeye

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
As sockeye harvests increased in the 2000s the frozen share of sockeye production also increased.

Share of Alaska Salmon Production: Sockeye

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
Historically most Alaska pink salmon was canned. Since 2002, however, frozen pink salmon production has been increasing rapidly.

Alaska Salmon Production: Pink

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
More than half of 2010 Alaska pink salmon production was frozen in 2010—a dramatic increase from less than 20% in the late 1990s.

Share of Alaska Salmon Production: Pink

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
Most Alaska chum salmon is frozen.
The frozen share of Alaska chum salmon production has been increasing, while the fresh share has declined.

Share of Alaska Salmon Production: Chum

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
Five major product forms account for most of the volume of Alaska salmon production: frozen sockeye, frozen pink, frozen chum, canned pink, and canned sockeye.

Volume of Alaska Salmon Production, by Product

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh, frozen & roe production.
Wholesale prices for frozen, canned and fresh sockeye salmon have risen dramatically since the early 2000s.

Average Alaska Salmon Wholesale Prices: Sockeye (not adjusted for inflation)

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
Wholesale prices for canned and frozen pink salmon have risen dramatically since the early 2000s.

Average Alaska Salmon Wholesale Prices: Pink
(not adjusted for inflation)

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
Wholesale prices for frozen, fresh and canned chum salmon have risen dramatically since the early 2000s.

Average Alaska Salmon Wholesale Prices: Chum
(not adjusted for inflation)

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh & frozen production. Excludes roe.
First wholesale prices for Alaska salmon roe exhibit very different trends than first wholesale prices of other products—reflecting the fact that roe is sold in very different end-markets and that wild salmon roe production faces little very competition from farmed salmon. Roe prices spiked in 2008 but have otherwise not increased as dramatically as canned, frozen and fresh prices. Note that chum roe first wholesale prices are much higher than for other species. Roe accounts for a major share of chum salmon total first wholesale value.

Alaska Salmon Roe First Wholesale Prices, by Species
(nominal prices-not adjusted for inflation)

Source: ADF&G Commercial Operator Annual Reports.
Prices are for all roe product forms combined.
There has been a dramatic increase in the total wholesale value of Alaska production since the early 2000s, from $466 million in 2002 to $1.5 billion in 2010. The increase in wholesale value was driven primarily by higher wholesale prices, as well as increased harvests and production of sockeye salmon. Note that salmon roe also represents an important component of total wholesale value.

First Wholesale Value of Alaska Salmon Production, by Product

Source: ADF&G Commercial Operator Annual Reports.
Note: Includes only canned, fresh, frozen & roe production.
Both fishermen and processors have shared in the increase in salmon wholesale prices and value since the early 2000s.

“Processor margin” is my term for the wholesale value of processors’ sales minus the ex-vessel value they pay fishermen. Since the early 2000s, both total processor margin and total ex-vessel value have risen by similar amounts.
The next five graphs show the dramatic increase in Alaska salmon wholesale prices over the past decade based on Alaska Department of Revenue salmon price reports.

Canned salmon prices have risen dramatically for both tall and halves.
Frozen headed and gutted (H&G) prices have risen dramatically for all species.
Frozen fillet prices have risen dramatically for all species.

Average First Wholesale Prices Received by Alaska Salmon Processors:
Frozen Fillets

I = Jan-Apr; II = May-Aug; III = Sep-Dec; Source: Alaska Department of Revenue, Alaska Salmon Price Report
Fresh headed and gutted (H&G) prices have risen dramatically for all species.

Average First Wholesale Prices Received by Alaska Salmon Processors, May-August: Fresh H&G

Source: Alaska Department of Revenue, Alaska Salmon Price Reports
The Department of Revenue data also show that Alaska salmon roe exhibit very different wholesale price trends than for other products. Note that roe prices spiked in 2008 and 2011, and that chum roe wholesale prices are much higher than for other species.

Average First Wholesale Prices Received by Alaska Salmon Processors:

Roe

I = Jan-Apr; II = May-Aug; III = Sep-Dec; Source: Alaska Department of Revenue, Alaska Salmon Price Report
The next ten graphs show trends in exports and estimated end-markets for each of the five major Alaska salmon product forms (frozen sockeye, frozen pink, frozen chum, canned pink, canned sockeye).

- There are two graphs for each product form.
- In the first graph for each product form:
  - The green line shows total Alaska production of the product as reported in the Commercial Operator Annual Report (COAR data)
  - The blue line shows total US exports of the product as reported in NMFS “Foreign Trade in Fisheries Products” data.
  - The other lines show exports of the product to the three or four largest foreign markets
  - By comparing the green line and the blue line, you can get a sense of the relative share of total production which is exported.
- The second graph is a stacked bar graph showing my estimates of the major end-markets for each product form.
  - The estimates for the different export markets are based on NMFS “Foreign Trade in Fisheries Products” data
  - I calculated the estimates for the “USA” by subtracting reported US exports (for the period from May to April of the following year) from reported Alaska production. This should be considered only an approximate estimate!
Over the past decade, the export share of Alaska frozen sockeye salmon production has declined. Frozen exports to Japan—which used to account for almost all frozen sockeye exports—have declined dramatically. Exports to China and the EU have risen significantly.

![Graph showing Alaska Production & U.S. Exports: Frozen Sockeye Salmon](image)

**Note:** Export data are for the period May of the production year to April of the following year. 2011 exports are May-Dec only.
Over the past decade, end markets for Alaska frozen sockeye have become much more diversified. Formerly almost all frozen sockeye was exported to Japan. Although Japan still remains the largest market, now the USA, EU and China have all become important markets as well.

Estimated End-Markets for Alaska Frozen Sockeye Salmon

Note: USA estimated as Alaska production minus exports.
Especially during the past decade, almost all frozen pink salmon production has been exported, mostly to China. There has been a very dramatic increase in frozen pink salmon exports to China. Note that most of this frozen pink salmon is not being consumed by Chinese people! Most of it is reprocessed in China into value-added products which are re-exported to the US, EU and other markets. (This is also what is happening to US frozen sockeye and frozen chum exports to China.)
Most of the dramatic increase in Alaska frozen pink salmon production over the past decade has gone to China. Note that significant volumes are also exported to Thailand for reprocessing.
Over the past decade the export share of frozen chum salmon has risen dramatically. Since 2005 almost all frozen chum salmon has been exported. Exports to China have grown dramatically. The EU is also a very important export market.

Alaska Production and U.S. Exports: Frozen Chum Salmon

Note: Export data are for the period May of the production year to April of the following year. 2011 exports are May-Dec only.
Over the past decade, exports of frozen chum salmon to China have risen dramatically, while estimated US domestic consumption has fallen. The EU is another very important export market.
Exports account for a much smaller share of Alaska canned pink salmon production than for frozen salmon.

Note: Export data are for the period May of the production year to April of the following year. 2011 exports are May-Dec only.
The largest end-market for canned pink salmon is the USA, followed by Canada, the UK and Australia. (According to industry sources, most canned pink “talls” are sold in the US market, while a larger share of canned pink “halves” are sold in export markets.)

Estimated End-Markets for Alaska Canned Pink Salmon

Note: USA estimated as Alaska production minus exports.
Estimating end markets for canned sockeye salmon is complicated by the fact that reported US exports have exceeded total Alaska production in some years. This probably is due, in part, to exports in some years of carryover inventories from previous years. In any case, it is clear that most canned sockeye salmon is exported. The most important export markets are Canada, the UK and Australia.

![Alaska Production and US Exports: Canned Sockeye Salmon](image-url)

**Alaska Production and US Exports: Canned Sockeye Salmon**

- **Alaska production, total**
- **US exports, total**
- **US exports to Canada**
- **US exports to UK**
- **US exports to Australia**

**Sources:** ADFG COAR database; NMFS trade data

**Note:** Export data are for the period May of the production year to April of the following year. 2011 exports are May-Dec only.
The share of canned sockeye salmon exported to Canada increased over the past decade. Note that the estimates for the USA are not reliable, given the problems associated with estimating US consumption as Alaska production minus exports, when exports in some years are partly carryover production from earlier years.
2. Pictures of Chinese reprocessing of Alaska salmon

Because China has become such an important market for Alaska frozen salmon over the past decade, I have included a few pictures in this presentation that I took several years ago at a processing plant in Qingdao, China, which reprocesses Alaska frozen salmon.

The cold storage at the plant was full of boxes of frozen H&G salmon (sockeye, coho, pink and chum) like the box in this picture.
The first stage of reprocessing is thawing the frozen H&G salmon.
Next workers fillet the salmon, after which the pinbones are pulled by hand.
The boneless fillets are placed in trays for freezing.
After freezing the frozen fillets are cut into portions.
This is the label on a box of frozen coho fillets.
This is the label on a box of skinless boned chum salmon blocks.
This is the cover on the box for one of the many value-added products manufactured for the European market at the plant. (*Wildlachs* is German for “wild salmon”)}
Very large numbers of workers are employed at the plant.
3. What explains the dramatic recovery in Alaska salmon prices over the past decade?

- As is clear from the graphs shown above, prices for Alaska salmon recovered dramatically over the past decade.
- What caused the recovery in prices?
- It is important to have a clear understanding of what has been driving prices in order to think clearly about how prices may change in the future.
The Alaska salmon industry has done many things which contributed to the price recovery.

- Sustained effective marketing
- Effective niche marketing
- Development of new markets
- New product forms
- Improved quality
Sustained effective marketing . . .

It’s a known fact that if you grow up in Alaska you’ll be stronger, healthier and better looking.
(eespecially if you’re a salmon)

In Alaska’s pure, icy waters, salmon naturally develop firmer meat that’s rich in Omega-3 oils, great tasting, and much more attractive to your customer. For easy menuing and merchandising ideas with Alaska Salmon, call: 1-888-300-2437 or visit our website: www.alaskaseafood.org.
Effective niche marketing . . .

The Salmon’s Sky-High This Year

By WALTER NICHOLLS
Washington Post Staff Writer

Washingtonians who wait all year for wild Copper River king salmon from Alaska are paying for the privilege — assuming they can even find the prized fish in stores or restaurants.

Specialty fish markets are charging $5 more per pound than they did last year. At M. Slavin & Sons in Arlington, Copper River king salmon is selling for $28.95 per pound; at River Falls Seafood in Potomac, it’s $29.99 per pound, up from $24.99 per pound last year. For the time being, supermarkets are carrying the less expensive sockeye variety.

At Oceanaire Seafood Room downtown, an entree of the rich, oily Copper River fish is $53.95, up from $32 five years ago. “We’re just
Development of new markets . . .

Alaska Frozen Sockeye Exports to Selected European Countries, 2002-2010

Source: NMFS trade data

Note: Export data are for the period May of the production year to April of the following year.
New product forms . . .

Wild sockeye fillet
Drift Fleet Raw Product Purchases, 2008-2010

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<td>151.7</td>
<td>100%</td>
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</tr>
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</table>

Source: Northern Economics, Inc. 2010
But other factors beyond the control of the Alaska salmon industry also contributed to the price recovery.

- Dramatic recovery in farmed salmon prices from 2002-2011
- Stronger currencies in major Alaska export markets
Japanese wholesale prices for farmed coho & trout...

Japanese Wholesale Prices for Frozen Farmed Coho & Trout ($/lb)

Chilean coho

Chilean trout

Sources: 1/80-12/89, Tokyo Central Wholesale Market average prices, all sockeye; 1/90-4/02: Japan Power Data Book 2002; 5/2-present. www.fis.com, prices for first day of month. All prices are for 4-6 lb frozen salmon, low price.

Dramatic recovery in prices from 2002-2011
U.S. import prices for farmed Atlantic salmon

Average United States Import Prices of Selected Farmed Salmon Products ($/lb)

Source: NMFS
Norwegian export prices for farmed Atlantic salmon . . .

Average Weekly Export Price, Norwegian Fresh Atlantic Salmon ($/lb)

Dramatic recovery in prices from 2002-2011
Alaska has become a relatively small part of total world salmon supply. Alaska salmon prices are driven in significant part by global supply and demand conditions which influence prices for all salmon.

**World Salmon Supply: Wild and Farmed**

(Source: Alaska data from Alaska Commercial Fisheries Entry Commission and Alaska Department of Fish and Game; other data from National Marine Fisheries Service and FAO FishStatJ database. Farmed trout includes rainbow trout farmed in saltwater.)
Wild salmon competes with farmed salmon in world markets

- When farmed salmon prices fell in the 1990s, wild salmon prices fell too
  - Because buyers had cheap alternatives to wild salmon
- When farmed salmon prices rose between 2002 and 2011, wild salmon prices rose too
  - Because buyers didn’t have cheap alternatives to wild salmon
But Alaska wild salmon is different and better than farmed salmon! Why should farmed salmon prices have any effect on wild salmon ??!!??

• Not everyone knows or thinks that wild salmon is different and better than farmed salmon
• What matters for wild salmon prices is not what the first and most loyal customers think and are willing to pay, but what the last and least loyal customers think and are willing to pay
• Even if a competitor’s product is different and not as good as yours, that doesn’t mean it doesn’t affect your prices
  – If your competitor’s product gets cheaper, you have to lower your prices or some of your customers will switch
  – If your competitor’s product gets more expensive, you can raise your prices without losing customers
• The many things the Alaska salmon industry has done to strengthen markets since 2002 have helped to increase the premium that Alaska salmon commands over farmed salmon (or reduce the discount that Alaska salmon is priced at, depending on the species and product). But except in a few niche markets, they have not made Alaska salmon prices fully independent of farmed salmon prices.
In a global market dominated by farmed salmon, wild salmon prices tend to move in the same direction as farmed salmon prices—both down and up.

U.S. Wholesale Prices for Selected Wild and Farmed Salmon Products reported in Urner Barry's *Seafood Price Current*

- Fresh farmed Atlantic, pinbone-out fillets
- Fresh farmed Atlantic, whole fish
- Frozen H&G wild sockeye
- Frozen wild Chum, semi-brite

In a global market dominated by farmed salmon, wild salmon prices tend to move in the same direction as farmed salmon prices—both down and up.

Japanese Wholesale Prices for Frozen Salmon ($/lb)

Sources: 1/80-12/89, Tokyo Central Wholesale Market average prices, all sockeye; 1/90-4/02: Japan Power Data Book 2002; 5/2-present. www.fis.com, prices for first day of month. All prices are for 4-6 lb frozen salmon, low price.
What happens in the wholesale end-markets where wild salmon compete with farmed salmon directly affects the ex-vessel prices paid to Alaska fishermen—both when wholesale prices go down and when wholesale prices go up.
A brief review of supply and demand analysis—to make an important point
An increase in supply:
* Occurs when producers are willing to supply more at any given price.
* Causes the equilibrium price to fall, because producers have to lower their prices to get buyers to purchase the higher volume.
An increase in demand:
* Occurs when buyers are willing to buy more at any given price.
* Causes the equilibrium price to rise, because buyers have to raise their prices to get producers to supply the higher volume.
If demand increases more than supply, prices tend to rise.
If demand increases less than supply, prices tend to fall.
Probably the most important reason for the increase in both farmed and wild salmon prices over the past decade was that world demand for salmon was growing faster than world supply.

- **Rapid demand growth** due to:
  - Development of new geographic markets (Russia, Brazil, China, etc.)
  - Growing incomes in new markets
  - Development of new product forms
  - Sale of products from more types of retail outlets
  - Shifting consumer tastes
    - Growing familiarity with salmon
    - Health benefits

- **Slower supply growth** due to:
  - Wild supply limited by nature
  - Drastic drop in Chilean farmed Atlantic production due to disease
  - Higher feed costs
A drastic drop in Chilean farmed Atlantic salmon production due to disease slowed the growth in farmed salmon supply.
Another important factor contributing to the recovery in Alaska salmon prices since 2002 has been the strengthening of the Japanese Yen and the Euro compared to the dollar—which increases the prices Japanese and European buyers are willing to pay in dollars.
Many different factors continuously and simultaneously affect salmon markets. It is very difficult to quantify the relative effect of each factor on prices in the past—or to project what the combined effects of future changes in all the different factors may be on future salmon prices.

- **Supply**
  - Wild harvests
  - Farmed production
  - Inventories
- **Demand**
  - Consumer tastes
  - Consumer incomes
  - Exchange rates
- **Costs throughout the value chain**
  - Energy
  - Labor
- **Market power**
- **Competition**
- **Speculation**
4. Potential Short-Term Concerns for Alaska Salmon Markets

Several recent developments could signal a change in the trend over the past decade of increasing farmed and wild salmon prices.

- Rapidly growing world farmed salmon supply as Chilean production rebounds
- Steep falls in farmed salmon prices over the past six months
- Recent decreases in the value of the Japanese yen and the Euro

It is very difficult to predict what will happen to salmon prices! But anyone interested in Alaska salmon markets should pay close attention to what is happening to farmed salmon markets and with exchange rates. Both economic theory and past experience suggest that if farmed salmon prices fall and the value of the Japanese yen and the Euro fall, it will be difficult for wild salmon sellers to continue to sell wild salmon for the prices they could get in 2011.
World farmed Atlantic salmon supply is projected to increase sharply as Chilean production rebounds.
Farmed salmon prices have fallen sharply over the past six months . . .

Japanese Wholesale Prices for Frozen Farmed Coho & Trout ($/lb)

Sources: 1/80-12/89, Tokyo Central Wholesale Market average prices, all sockeye; 1/90-4/02: Japan Power Data Book 2002; 5/2-present. www.fis.com, prices for first day of month. All prices are for 4-6 lb frozen salmon, low price.
Farmed salmon prices have fallen sharply over the past six months . . .

Average United States Import Prices of Selected Farmed Salmon Products$/lb)
Farmed salmon prices have fallen sharply over the past six months . . .

Average Weekly Export Price, Norwegian Fresh Atlantic Salmon ($/lb)
The dollar value of the Euro and the Japanese Yen have declined in recent months—reflecting market concerns about the Euro and recent changes in Japanese monetary policy.

Trends in the Value of the Japanese Yen and the Euro
5. Factors affecting the long-term future for Alaska salmon

There are many reasons for optimism about the future of Alaska wild salmon

- Global demand for salmon is likely to continue to grow:
  - Growing population
  - Growing incomes, particularly in rapidly developing countries such as China
  - Health benefits of salmon
  - New product forms appealing to a broader range of consumers
- Wild salmon are in limited supply
  - Potential for niche market differentiation
- Potential limits to future growth of farmed salmon production
  - Continuing potential for disease problems
  - Limits to fish oil and fish meal feed sources

Alaska wild salmon also faces potential future challenges

- Resource uncertainty
  - Regime shifts and climate change
- Potential for farmed salmon supply growth to exceed demand growth, glutting markets and depressing prices, as has happened in the past
- Potential for competition from non-salmon fish species as world aquaculture production grows
- World economic uncertainty
- Political uncertainty:
  - Sport-commercial allocations, hatcheries, Endangered Species Act, etc.
The Alaska salmon industry has seen dramatic changes in every decade since statehood. The future is likely to bring continued significant change!
6. Appendix: Data sources for Alaska salmon harvests, production, prices, value and end-markets

- Alaska Department of Fish and Game (ADF&G) Salmon Harvest and Ex-Vessel Price Data
- Alaska Department of Fish and Game (ADF&G) Commercial Operator Annual Report (COAR) Data
- Alaska Department of Revenue Salmon Price Reports Wholesale Price Data
- Commercial Fisheries Entry Commission (CFEC) Basic Information Tables
- National Marine Fisheries Service (NMFS) Foreign Trade in Fisheries Products Data
Alaska Department of Fish and Game (ADF&G)
Salmon Harvest and Ex-Vessel Price Data

• Annual average Alaska salmon harvest and ex-vessel price data are posted at this Alaska Department of Fish and Game (ADF&G) Commercial Fisheries Division website:

• The data shown in this presentation for the years 1994-2011 are posted by individual years at the link named “Alaska Commercial Salmon Harvests & Exvessel Values, 1994-2011”

• Data for earlier years were provided by the Commercial Fisheries Entry Commission.

• Note that the price data (which were used to estimate value) are based on Commercial Operator Annual Reports (see the next slide in this appendix) for all years through 2010. Since these reports are not yet available for 2011, the price data for 2011 are preliminary ADF&G estimates. It is likely that they understate actual 2011 ex-vessel prices because they do not include post-season adjustments.
The Commercial Operator Annual Reports (data) are compiled by ADF&G based on “Commercial Operator Annual Reports” which Alaska fish processors are required to submit to the Alaska Department of Fish and Game in April of every year. In these reports they are required to report the total volume of fish purchased, by species and area; the total amount paid for fish purchased, by species and area; the total volume (weight) of production, by product, species and area; and the total first wholesale value of production. Information about the COAR reporting forms is at http://www.adfg.alaska.gov/index.cfm?adfg=fishlicense.coar

The COAR data are not posted on the internet or published regularly by ADF&G (which is unfortunate), but are available by special request from ADF&G.

The data used to prepare these graphs were provided to me by ADF&G over a number of years.

For the purposes of these graphs, I have grouped all production into five product categories: “canned,” “frozen,” “fresh,” “roe” and “other.”
Some important things to keep in mind in looking at the COAR data graphs:

• The data are **statewide data**. They group together production from all areas of the state, and thus conceal sometimes significant differences between areas in the mix of products produced from different species as well as the wholesale value of production. Thus year-to-year differences in the statewide mix of products produced or average prices may reflect in part changes in the relative share of production from different areas.

• The data are for **aggregate product categories**. Thus year to year changes for a product category may reflect changes in the relative mix of products within that category. For example, “canned salmon” includes both “talls” and “halves”. Halves usually sell for a higher average price per pound than talls. If the share of halves in total canned production increases, the average price per pound for all canned salmon production will increase—even if the prices for both talls and halves remains the same.

• The data are **not necessarily 100% accurate**. Errors may have crept in when processors reported the data, when ADF&G entered the data in their database, or when I analyzed the data. It is most useful to focus on long-term significant trends illustrated by the data, rather than any specific figure for any particular year.

• The data do not include production during the most recent (2011) salmon season, as these data will not be reported until April of 2012.
Every four months, “large” Alaska salmon processors (those with sales exceeding 1 million pounds in the previous calendar year) are required to submit salmon price reports to the Alaska Department of Revenue. These reports are available at:
www.tax.alaska.gov/programs/programs/other/fish/salmonreports

The reports include average wholesale prices (total value / total volume) reported by all “large” Alaska processors for the following four-month periods:
  – January-April (I)
  – May-August (II)
  – September-December (III)

The graphs in this presentation show average wholesale prices since 2001 for the six major product forms for Alaska salmon
The Commercial Fisheries Entry Commission (CFEC) posts “Basic Information Tables” for each Alaska salmon fishery on its website at: http://www.cfec.state.ak.us/bit/MNUSALM.htm

These tables provide a useful summary of trends since 1975 in each salmon fishery for numbers of permits issued/renewed, numbers of permits fished, total pounds harvested, average pound harvested, gross earnings, average earnings, and average annual permit prices.

The most recent data currently available are for 2010.
National Marine Fisheries Service (NMFS)
Foreign Trade in Fisheries Products Data

- The National Marine Fisheries Service posts very detailed data online about U.S. exports and imports of fisheries products at: http://www.st.nmfs.noaa.gov/st1/trade/

- The data presented in this presentation were calculated from the “Monthly Trade Data by Product, Country/Association”: http://www.st.nmfs.noaa.gov/st1/trade/monthly_data/TradeDataCountryMonth.html
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  - including the preparation of this presentation

My research activities and conclusions are totally independent of Icicle.