OUTLOOK FOR DUNGENESS CRAB IN 2018

JOHN SACKTON NEWPORT, OR NOV 2, 2017



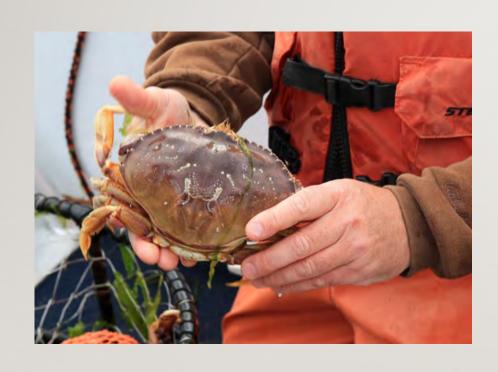
13TH PRE-SEASON DUNGENESS CRAB PRESENTATION

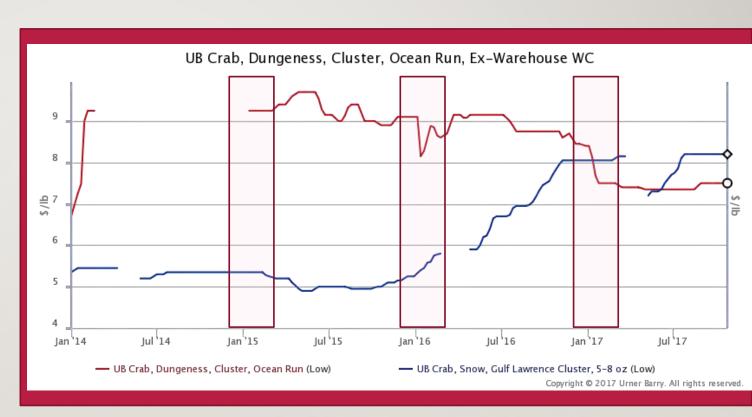
- Crab, shrimp and lobster market analyst since
 1997
- Preseason price and market outlooks on shrimp and crab for 20 years – Atlantic Canada, Alaska, and US West Coast
- Publisher of SeafoodNews.com News
- First Dungeness Presentation: 2005





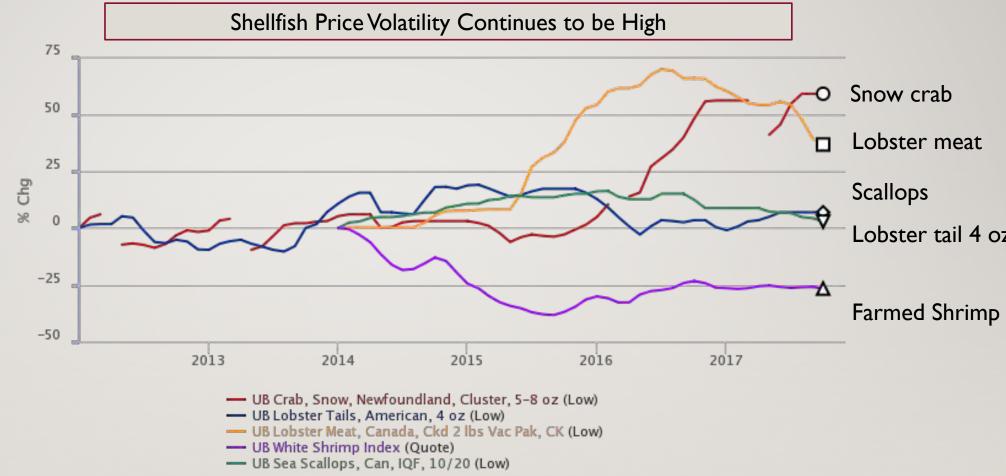
DUNGENESS CLUSTER PRICES VS. SNOW CRAB





SHELLFISH

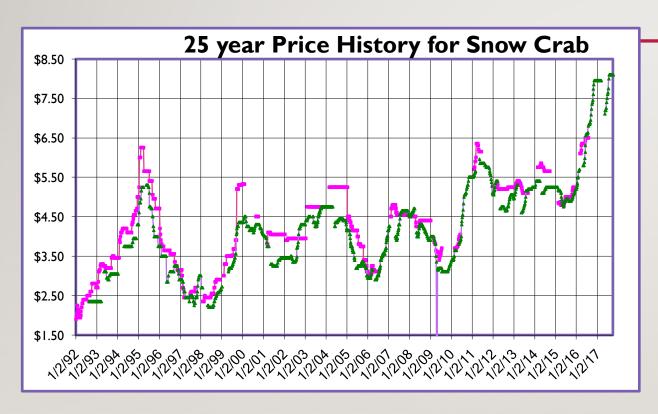
- Erratic Price
 Movements depress
 purchases
- Shellfish has had very high price volatility in recent years
- Currently lobster
 meat and snow crab
 exhibiting over 50%
 price increases.

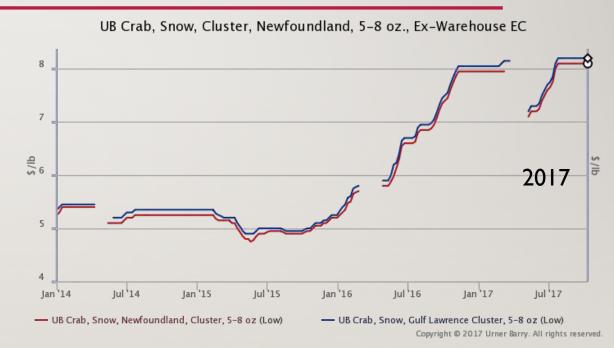


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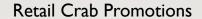


SNOW CRAB PRICES HAVE NEVER TRADED AT THIS LEVEL: \$8.00 PER LB





RETAIL CRAB PROMOTIONS 2 YEARS





DUNGENESS CRAB INCREASED PROMOTIONS IN 2017



WHOLE COOKS VS CLUSTERS AT RETAIL

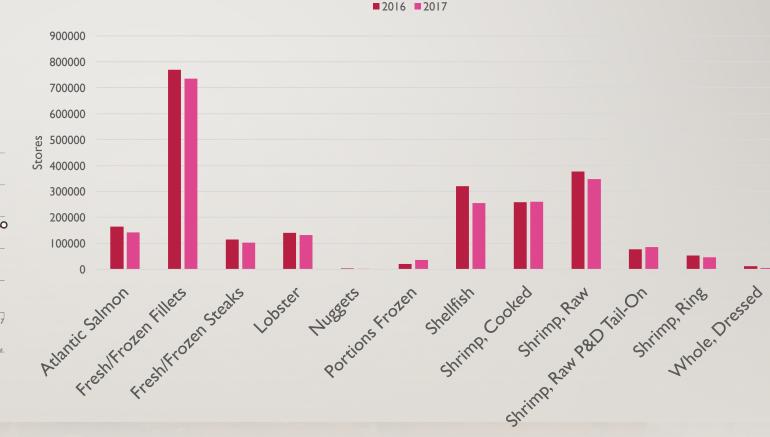


RETAIL SEAFOOD

MOST TYPES OF SEAFOOD HAD LESS VOLUME







RETAIL SUMMARY

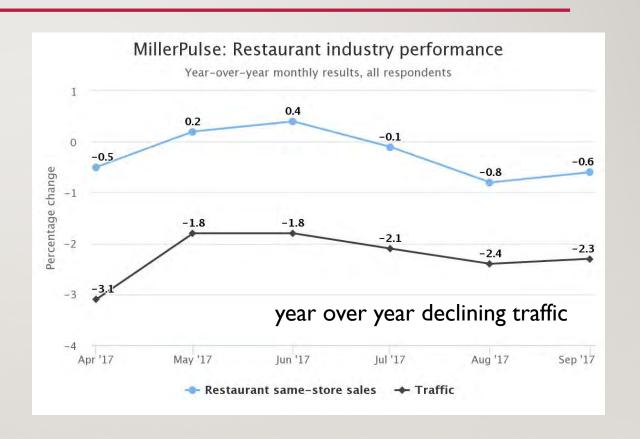
- Dungeness Crab is Well Positioned as a Successful Retail item for 2017-18
 - Pricing is favorable compared to snow crab
 - Snow crab prices not likely to decrease until well after Dungeness Season
 - Red King Crab Prices are coming down.
 - Current backwards relationship between snow crab and Dungeness prices is likely to correct
 - Whole Cooks will be major retail item.
 - Domoic Acid Could have Impact to push more product to clusters/sections.

MACRO FACTORS FOR US

- US economy continues to expand
- Foodservice Traffic has declined for 6 Straight Months; with restaurant sentiment weaker than in 2016. Foodservice was main driver of strong seafood demand in 2017.
- Retailers have cut back promotions of items like salmon and crab due to high prices
- Hurricanes, Fires, and other disruptions of all have the potential to destabilize consumer spending, and lead to lower demand.
- Percent of Americans who feel the country is on the wrong track has gone up significantly. This can bleed into consumer confidence and spending patterns

RESTAURANTS IN US 'FACING WORST PERIOD SINCE 2009' SAYS MILLER PULSE

- Storms Hurt Restaurant sales by 40 basis points in Aug, Sept.
- But even without storm impact same-store sales remain historically low, declining for 13 of the past 16 months.
- "the restaurant industry faces its worst period since 2009."



SNOW CRAB USAGE IS BEING CUT BACK IN US

GULF CASINOS CUT BACK

Gulf Coast Casinos Restrict Crab Leg Buffets to Weekends; Add Price Increases as Cost Rise 70%

SEAFOODNEWS.COM [Sun Herald] by Mary Perez



BILOXI -- The first thing many people do at the casino buffets in South Mississippi is devour a plate of steamed crab legs, but now there's a catch as the price of crab legs soars.

Crab legs are limited to weekends only at many of the casino buffets. And at IP Casino Biloxi and Hard Rock Casino Biloxi you'll now pay a little extra if you want crab legs.



RED LOBSTER DE-EMPHASIZES

SNOW CRAB

Crabfest Back at Red Lobster with More
Non-Snow Crab Offerings: Dungeness and



SEAFOODNEWS.COM [Seafood News] July 11, 2017

Crabfest is back at Red Lobster. They are expanding the range of crab offerings to include Dungeness and Argentina Southern Red Crab.

For a limited time Red Lobster is inviting guests to explore the restaurant's largest variety of wild-caught crab it offers all year, including two new types

DUNGENESS ALSO HAS FOODSERVICE OPPORTUNITY IN 2018

- As shown by Red Lobster, Foodservice is willing to shift to Dungeness due to better pricing and availability.
- This is mostly for clusters.
- Dungeness is now a very competitive substitute for Casual Dining, Buffets, and Casinos.
- This is in addition to the traditional West Coast Foodservice Demand, where many restaurants must keep Dungeness crab on the menu.

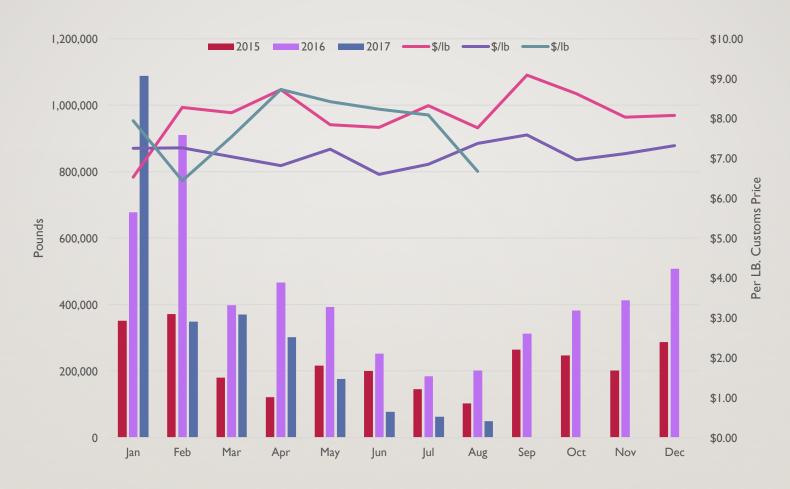
WILD CARDS FOR 2018

- Economists Beginning to Worry about Recession in US as Fed is Tightening, But Many Signs of Weakness Abound.
- Trump: His instability has had remarkably little economic impact so far. That could change with the coming year if he escalates trade disputes that have potential for significant disruption with China or NAFTA for example.

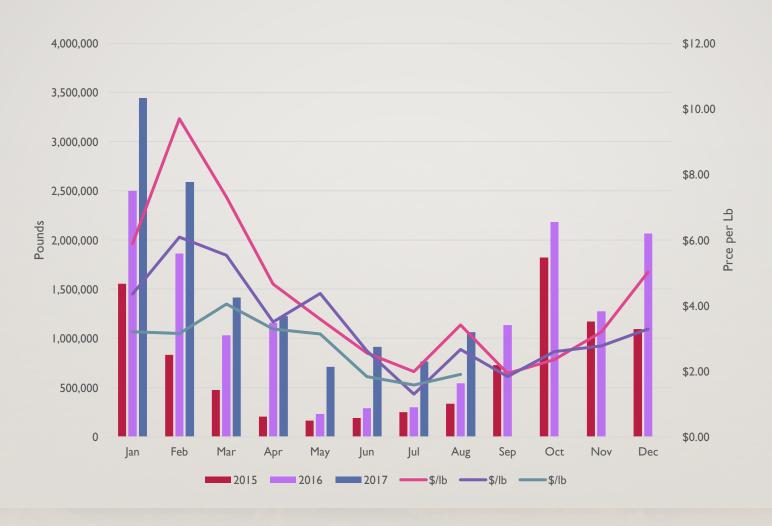
EXPORT MARKETS ALSO IMPORTANT FOR DUNGENESS

- Live Exports to China have become a significant factor expanding demand for Dungeness
- This year there were several short-lived disruptions by Chinese authorities in response to Domoic acid and other issues like Cadmium.
- Ecommerce continues to drive Chinese Seafood Import Demand.

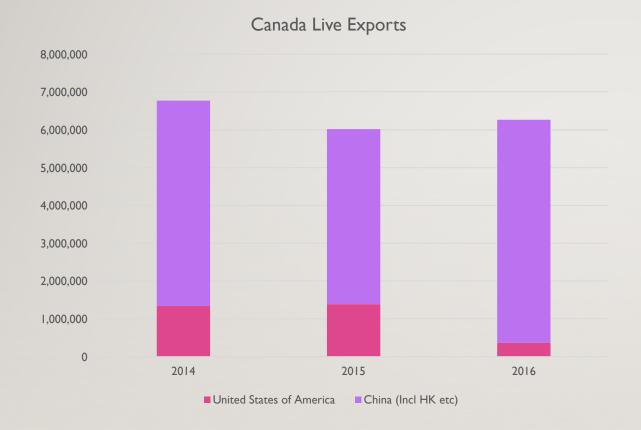
US LIVE EXPORTS TO CHINA



LIVE EXPORTS TO CANADA



BC LIVE EXPORTS TO CHINA, US



BC has not published updated export statistics for Live Crab, but it remains a major gateway for live shipment to China.



ECOMMERCE IS DRIVING PROCUREMENT IN CHINA

- First live Lobster and Crab Sales focused on hotels and banquets in China
- Competition and Lower Prices brought lobsters and crabs to many mass restaurants.
- Ecommerce popularized imported seafood like Dungeness, Lobster and King Crab.
- Alibaba's Hema Fresh Stores are revolutionizing merchandising



Hema: All Commerce on Smart Phone: Order, Delivery, Pick-up or In store shopping Alibaba uses Customer data to determine locations and what to carry



BANNER YEAR FOR CRAB FISHERY IN 2017

- West Coast Landings Totaled 58 million pounds through July.
- Oregon saw record landed value as good volume combined with high prices
- California value in 2017 increased by about 33% over 2016.
- Washington landed 17.1 million pounds but with lower overall value than in 2016

DUNGENESS SHOULD BE IN FAVORABLE POSITION IN 2018

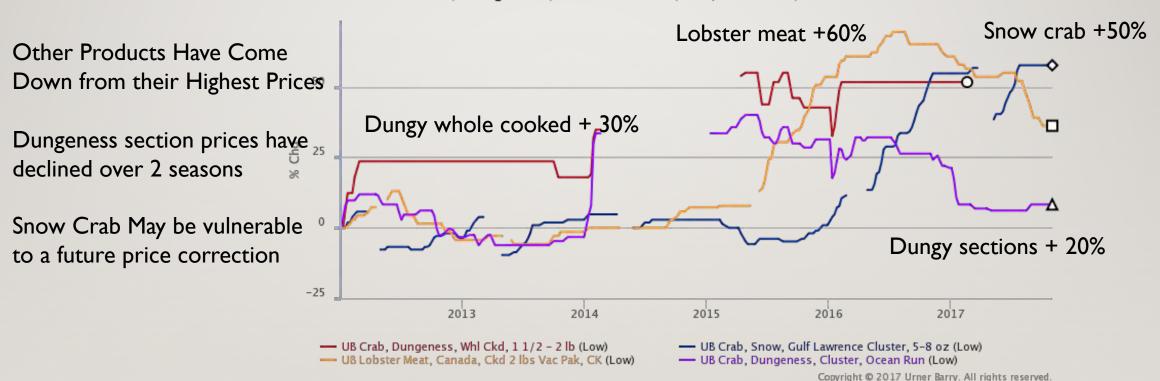
- Other crab products at record prices last year
- Wholesale Prices were near record levels two years ago due to supply cutbacks but section prices have since declined
- Red King Crab is now correcting from high prices
- Snow Crab is still at record highs, but prospects are for lower volumes in 2018
- Dungeness has stable pricing by contrast, so can take advantage of market demand.

DUNGENESS ISSUES FOR 2017-2018

- Will Season Open on Time?
- Will volume be similar or above last year
- Lately there have been Domoic Acid Issues in California
- Inventory situation is good. With favorable pricing, no signs of excess inventory
- Both retail and foodservice likely to expand use of Dungeness in 2018 if supply is there
- China continues to be a very strong market

DUNGENESS SECTIONS AND WHOLE COOKS HAVE STABILIZED IN PRICE

UB Crab, Dungeness, Whole Cooked, 1 1/2 - 2 lbs., Ex-Warehouse WC

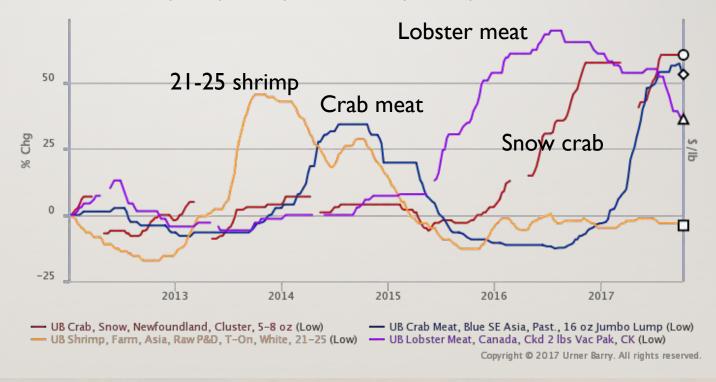




SNOW CRAB IS NOT IMMUNE TO A FUTURE MARKET CORRECTION

Other Products Have Come
Down from their Highest Prices

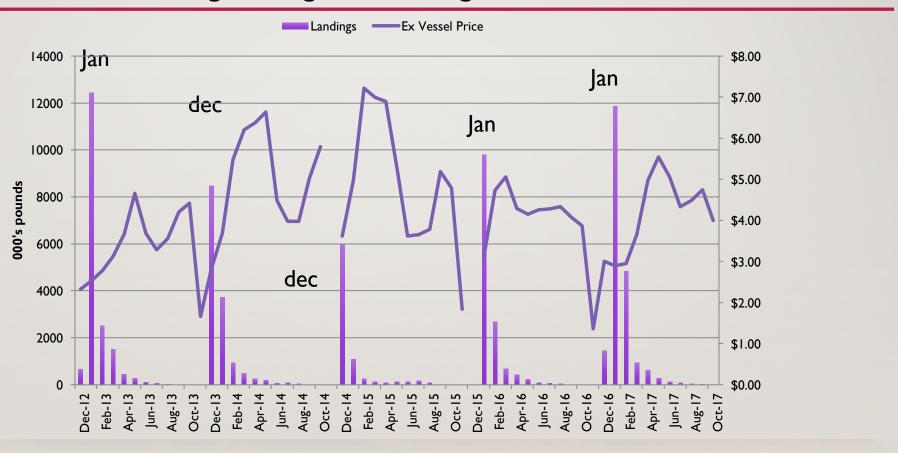
However no relief from short Supply of snow crab is in Sight. Russia is selling most of it snow crab to Japan. UB Crab, Snow, Cluster, Newfoundland, 5-8 oz., Ex-Warehouse EC



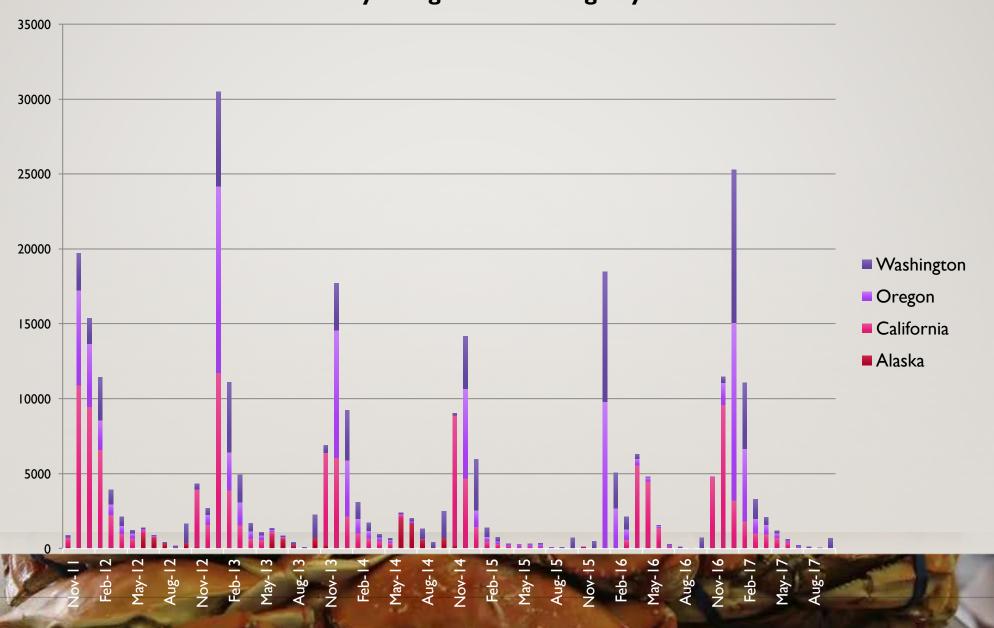


OREGON DUNGENESS LANDINGS

Oregon Dungeness Landings and Price

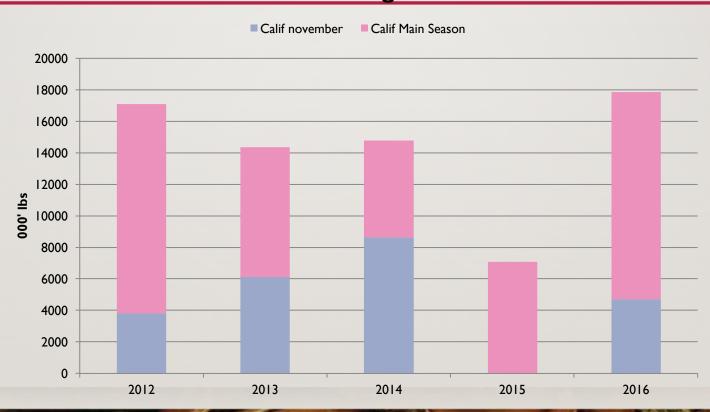


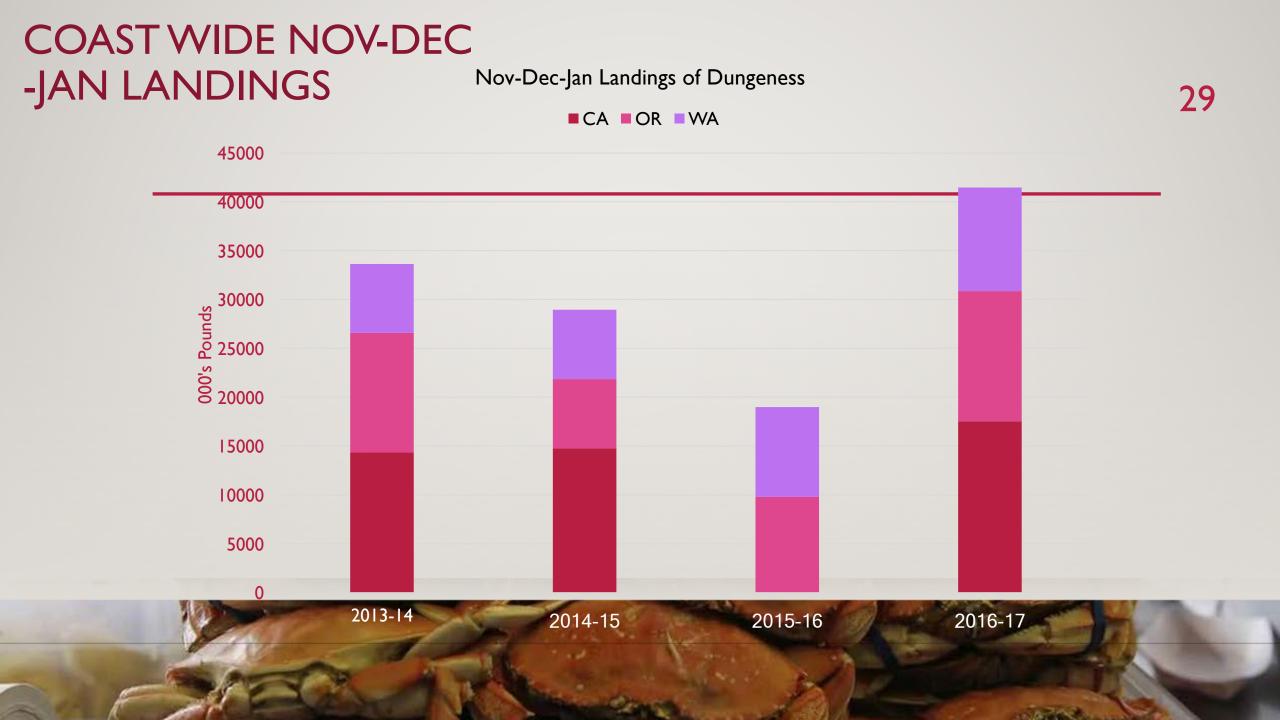
Monthly Dungeness Landings By State



CALIFORNIA NOV DUNGENESS LANDINGS RETURN TO NORMAL

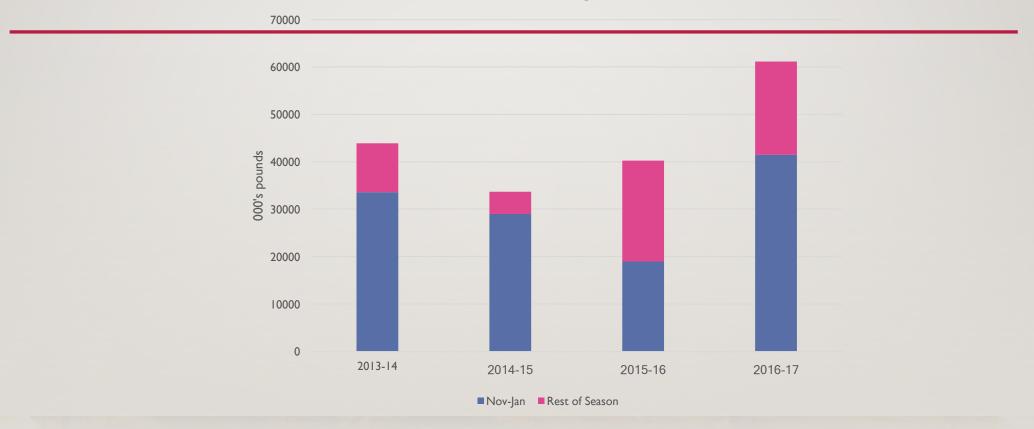
California November and Season Dungeness Landings





NOV-JAN COMPARED TO ENTIRE SEASON

Coast Wide Landing Months



OREGON PRICE AND VOLUME 2017

31

Oregon Dungeness Landings and Price 2017



PRICES AND LANDINGS FOR THREE YEARS





DUNGENESS PRICE HISTORY

- 3 Market segments: clusters; whole cooks, live
- Volume and demand for whole cooks and clusters determines initial pricing
- If Domoic Acid Suppresses Demand for Whole Cooks, Clusters are Key to Pricing
- Volume, section orders, and live / fresh demand determines subsequent pricing, including export demand
- Dungeness pricing heavily dependent on pace of landings and total volumes

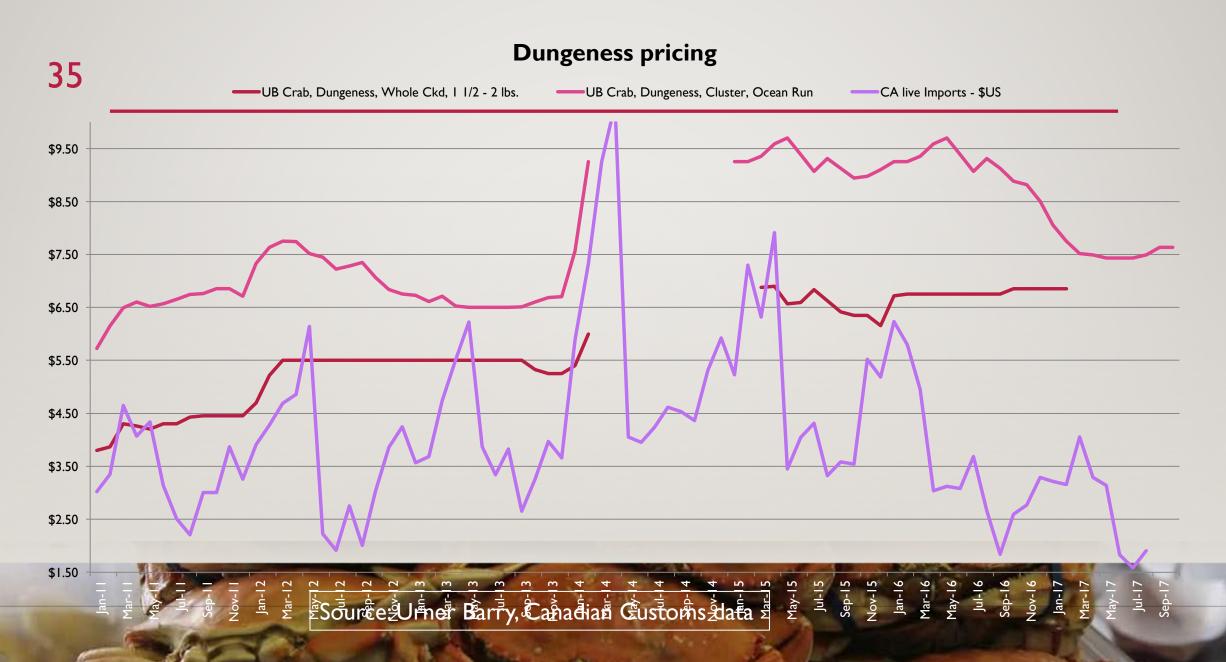
DUNGENESS ANNUAL PRICING

34

Dungeness Annual Pricing (Cluster, Ocean run)



LIVE IMPORT PRICES TO CANADA AFFECTED BY CURRENCY



PRICE COMPARISON WITH KING CRAB AND SNOW CRAB

Dungeness, king, snow crab price history



DUNGENESS VS SNOW CRAB PRICING





PRODUCT REVIEW

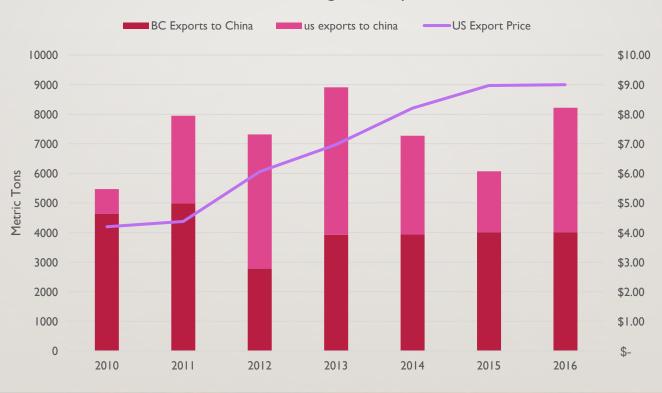
- Dungeness market strength is dependent on maintaining all market segments:
 - Live
 - Fresh Whole Cooks
 - Frozen Whole Cooks
 - Frozen Sections
 - Crabmeat



LIVE MARKET AND EXPORTS

- In months of lower volume, live buyers set prices because they can absorb a greater percentage of the total landings; section and whole cook buyers have to compete
- In months of high volume, live buyers fill their orders but most of the catch goes to processing – fresh whole cooks, frozen whole cooks, and sections. Demand for the other products sets the market price
- In recent years, exports to China have expanded the demand for live products and supported higher prices, but recently the volume and value of these exports has fallen.







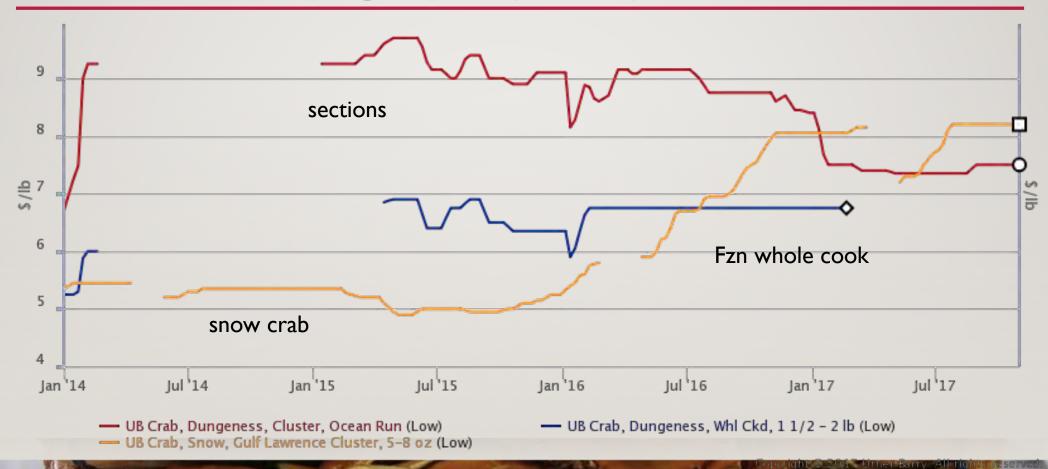
FRESH WHOLE COOKS

- Processors can sell fresh whole cooks to move volume, but not a very profitable item
- Drip loss from cooking, labor add cost, but cannot sell for much more than live price
- Product is mostly produced when there is need to run high volume through plant with minimal labor

FROZEN SECTIONS AND WHOLE COOKS

- Dungeness section market is currently priced less than snow crab.
- When prices are competitive with snow crab Dungeness can expand beyond west coast; when supply limited and prices are higher than snow crab it is a west coast only product.
- The expansion of sections to new markets this year will help stimulate demand in 2018.
- Plants mostly produce sections and frozen whole cooks during higher volume periods of the fishery
- In times of shortage, they may have to bid against live and fresh buyers even when prices are high, so they buy to order only.

UB Crab, Dungeness, Cluster, Ocean Run, Ex-Warehouse WC



CRABMEAT

- Dungeness crabmeat is important on the West Coast, and it helps maintain the value of the fishery. Only a subset of packers can actually pick meat.
- Meat prices tend to be stable, even when section prices are more volatile.
- So far major packers have been able to hang on to that market by supporting some price stability.
- Meat market is one of main ways Dungeness can expand foodservice usage. Expanding meat demand helped sustain lobster prices.

CRAB SURPRISES

NARRATIVE

2017 Snow Crab Season was Totally Unexpected

Prices soared to record levels.

Even the Big increase in Gulf Snow Crab did not have a moderating effect on the market.

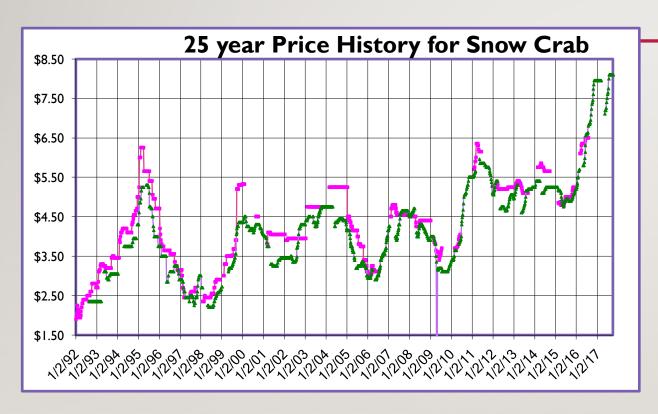
A recovery in Japan was the main driver for both the high price in Newfoundland and the Gulf.

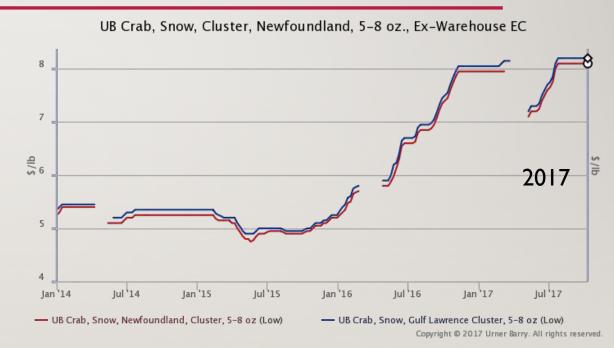
Long Term Outlook for Supply Getting Worse

ISSUES

- Highest prices ever for Canadian snow crab
- Driven by product shortages; lack of crab from Alaska reduction in NL
- Japanese became lead buyers
- High Prices Masked both Retail and Foodservice Lower Usage
- Shortage pricing likely to continue with poor outlook in 2018
- Long term outlook for snow crab is a concern

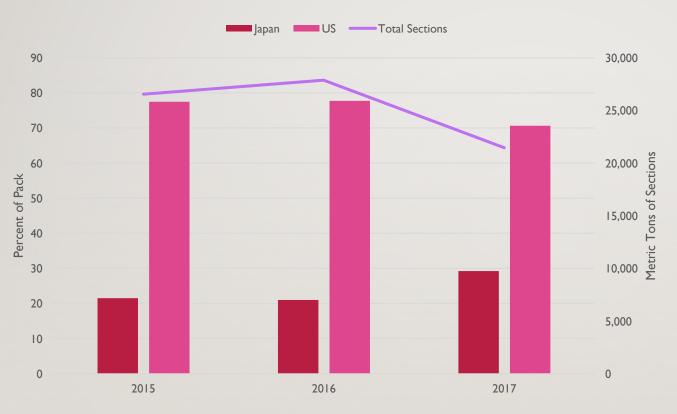
SNOW CRAB PRICES HAVE NEVER TRADED AT THIS LEVEL: \$8.00 PER LB





JAPAN TOOK 40% MORE CRAB FROM NEWFOUNDLAND IN 2017, DESPITE PRODUCTION FALLING 23%



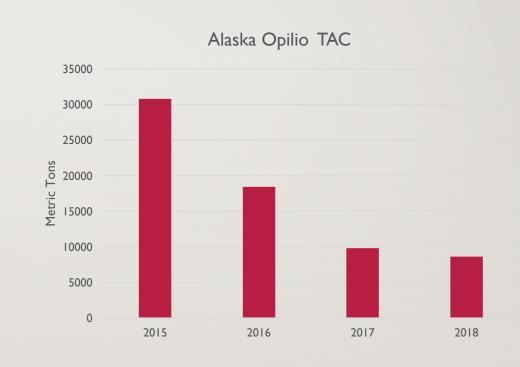


Japan's willingness to buy snow crab Set the market tone in 2017



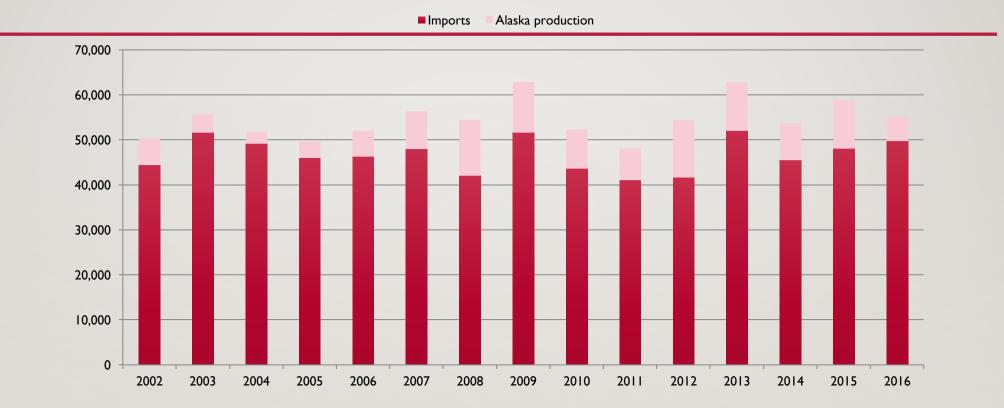
SNOW CRAB SHORTAGES ARE LIKELY TO PERSIST

- Alaska TAC cut for 2018 to 18.9 Million lbs
- Signs Point to Better Recruitment in Alaska in future years.
- Poor Survey Results for 2018 off Newfoundland
- Expectations for Lower landings in Gulf
- Russian snow Crab has increased, but
 Barents Sea Crab is not Coming to US



CUTBACKS IMPACTING US SNOW CRAB SUPPLY

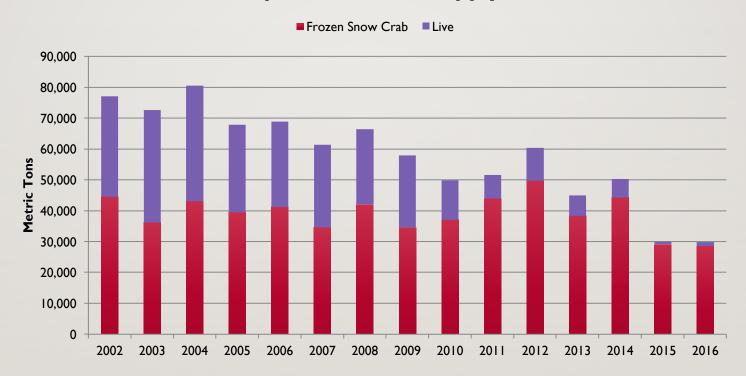
US snow crab supply fell in 2016, and will fall Again in 2017





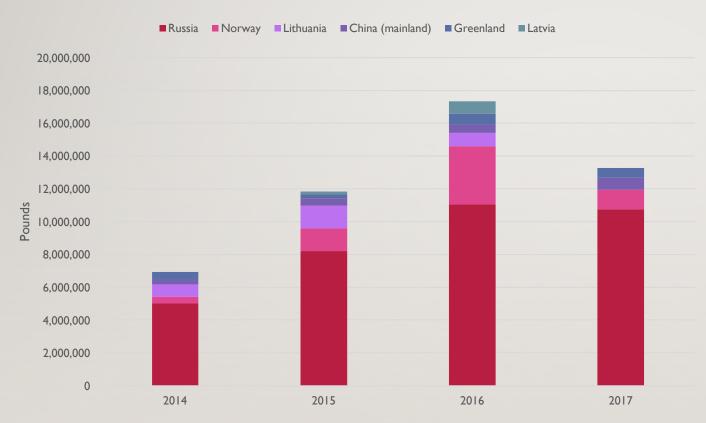
JAPANESE SUPPLY HAS STABILIZED AND MAY INCREASE SLIGHTLY IN 2017

Japan snow crab supply



US IMPORTS OF BARENTS SEA SNOW CRAB DECLINED IN 2017

Snow Crab from Barents Sea Declined in First 8 Mos. of 2017

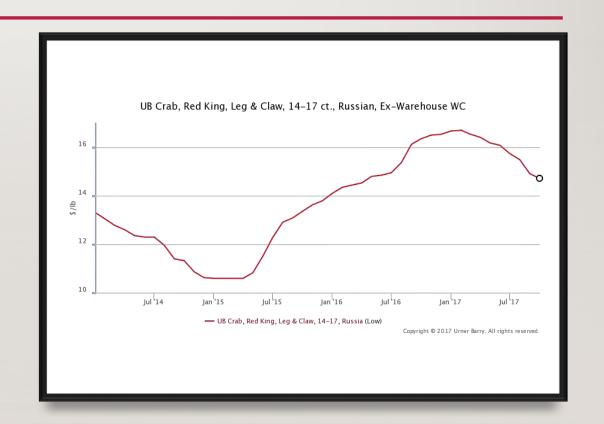






RED KING CRAB MARKET IS FALLING

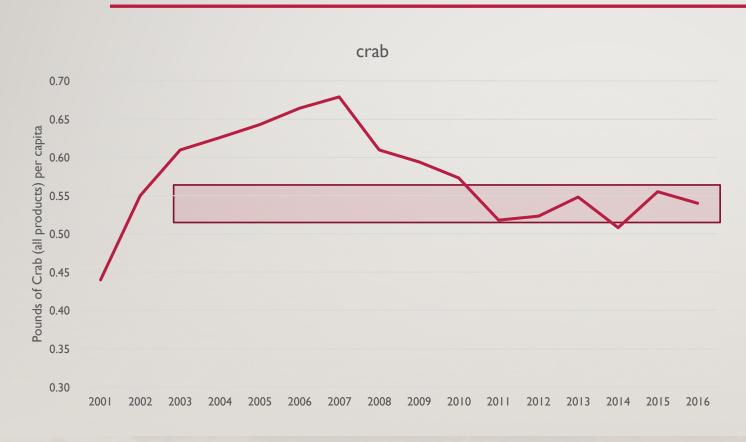
- Fishing Price in Alaska Down
 Substantially from \$10.48/lb of 2016
- CIF Sales to Japan at \$17.10
- US Prices \$16.50 -\$17.50 depending on cluster size (900 gm) FOB Seattle
- Inventories built in January and caused Packers to be very cautious even with lower supply



NOT ALL CRAB PRICES ARE DECLINING

- Red King Crab smaller sizes are where prices have declined the most
- Snow Crab Prices have not declined, and because Japan took such a large share of Canada Production, Prices not likely to change until new Season, when some inventory issues may become visible.
- Dungeness has been on a different cycle with prices for last two years well below peak of \$9.00 for clusters after 2014 supply shock.

PER CAPITA CONSUMPTION OF CRAB REMAINS IN NARROW BAND; CHANGED LITTLE IN 2016



Crab consumption is still 20% below its peak in 2006, 2007.

With prices increasing, overall consumption will be declining



DUNGENESS CRAB IS BETTER POSITIONED THAN OTHER TYPES OF CRAB THIS YEAR

DUNGENESS

- Usage Expanded due to Price Advantage and availability
- Foodservice and Retail both expanded usage
- Red Lobster Promoted Dungeness Crab
 This Year

SNOW CRABAND KING CRAB

- Supply decreasing
- King crab prices falling partly on pressure from Japanese
- Snow Crab Sales momentum is Slowing in US, Strong Prices Due to Japan
- Little unsold crab in market

Conclusion: Dungeness is positioned well in relation to competitive products in 2018



DOMOIC ACID MARKET DISTORTIONS STILL A THREAT

- In recent years market has adjusted to later openings (January)
- If California delays opening Northern Areas due to Domoic Acid, it could affect whole cook market.
- However, customers will seek crab from open areas
- Evisceration orders could lead major retail buyers to specify sections rather than whole cooks.
- Any effects this year will be less than in prior years

SOME POSITIVES FOR DUNGENESS CRAB CONSUMPTION

- China continues to be an important live market
- With other products live trade opened up frozen interest as well.
- With Dungeness prices lower than snow crab buyers have strong motivation to substitute. Market Relationship between snow crab and Dungeness should revert to a more normal pattern this year, but volume will determine how quickly this happens.
- A low volume year will quickly push Dungeness Prices higher than snow crab.
- For the second year the combination of higher landings and high prices led to record Oregon value for this fishery.
- Last year we said '2016- 2017 could see another record for value with an increase in landings, and a relatively small decline in price.'
- This year, higher prices are likely, and with decent volume a third record year is possible; lower volumes however would put that out of reach.

OUTLOOK FOR 2018

- Volume is a wild card.
- There are lots of reasons for prices to rise. How much may depend on volume.
- If California opens normally this year that will stimulate demand.
- If volumes are significantly lower prices will be too high to continue attracting new customers outside of the West Coast.
- If volumes are similar to last year, customers for Dungeness in other areas should be able to absorb higher prices.
- Snow crab shortages are likely again in 2018.

WHAT COULD TRIGGER A SIGNIFICANT MOVE ON PRICE

CURRENT MARKET

- Market has Expanded
- Dungeness is trading well below the top of its historical price range.
- A supply cutback could quickly push up pricing.
- Relationship between snow crab and Dungeness could revert to its more normal value
- US demand for crab remains strong, with a significant increase in per capita consumption

POTENTIAL TRIGGERS

- Lower than expected landings
- Volume Landings, but a More Pronounced shortage of Snow crab
- US Buyers cutting back more than expected due to high crab prices.
- Crab Market Strength Currently Depends on Japan and China



OVERALL OUTLOOK

- 2018 Looks positive from a market perspective in that prices for many species will continue to be in the upper end of their historical range.
- But there are headwinds:
 - Buyers have a delayed reaction to high prices. Some of the buying needs seen in 2017 will disappear in 2018.
- Japan is becoming an important market again for some species, and is spending again.
- Geopolitical risks are much higher this year. If there is a calamity, like a trade confrontation or an incident with N. Korea business projections will go out the window



