Cook Inlet Salmon Trends

Prepared for a KDLL discussion of trends
in Cook Inlet salmon harvests and markets

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Organization of Slides

- Introductory slides
- Catches and Value
- Permits and Permit Holders
- Comparing Cook Inlet and Bristol Bay
- Production, Markets and Prices

Fisheries Data

- I've been tracking data about Alaska salmon fisheries for about 30 years.
- There is a lot of data about Alaska salmon fisheries, but they can be difficult to find and understand.
- Data are collected by different agencies for different purposes and in different ways
- The most important data are based on:
  - Fish tickets
  - Annual permit applications
  - Processors' annual reports to the Department of Fish and Game
  - Processors' salmon sales reports to the Department of revenue
  - Exporters and Importer customs declarations
- A lot of data is confidential, particularly for prices and value
- It takes a long time for agencies to collect and publish data
  - Data can be months or years "out-of-date"
  - We still have only limited data about the 2022 fisheries

- *Tracking salmon fisheries can feel like being a weatherman shut up in a house with no windows and only having data for*
  - *What the weather was last week or last month*
  - *What the average temperature was for all of Alaska*

What are the Cook Inlet salmon fisheries?

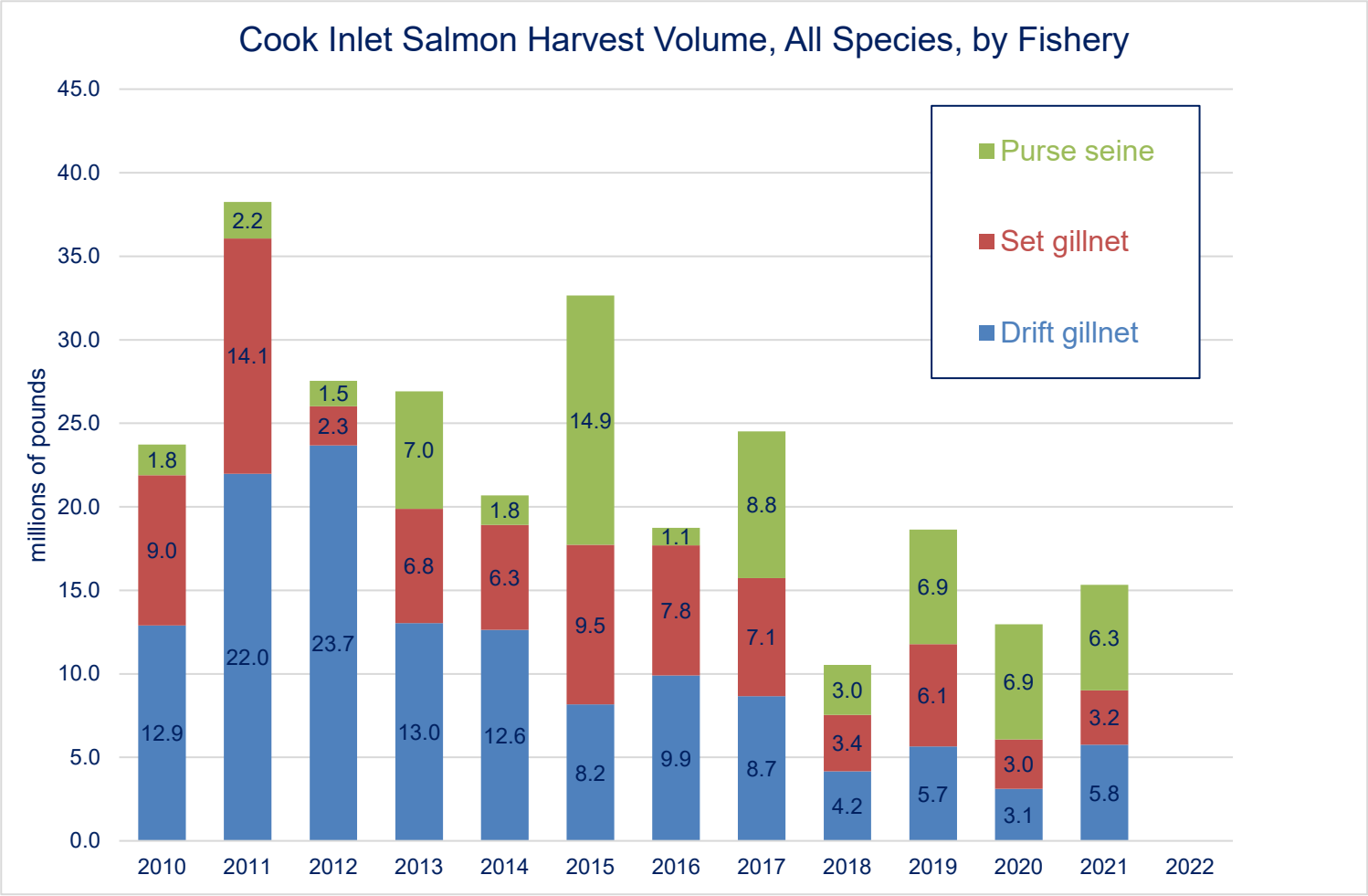
- There are three Cook Inlet commercial salmon fisheries: Drift gillnet, Set gillnet, and Purse seine
- These three fisheries differ significantly from each other in gear, where fishing occurs, and the mix of species caught
- The drift gillnet fishery occurs entirely in Upper Cook Inlet, north of Anchor Point. Most set gillnet fishing also occurs in Upper Cook Inlet. The purse seine fisheries occur in Lower Cook Inlet.
- The drift gillnet and set gillnet fisheries are primarily sockeye salmon fisheries, which accounts for most of the value.
- Lower Cook Inlet purse seine fisheries harvest both pink salmon and sockeye salmon. Typically pink salmon account for most of the purse seine fishery volume, although higher-priced sockeye salmon account for a significant share of the ex-vessel value. There are also significant hatchery sales of sockeye and pink salmon in Lower Cook Inlet.
- We'll be talking today mostly about the drift gillnet and set gillnet fisheries, although some of the data sources are for all Cook Inlet salmon so they include the purse seine fisheries.

COOK INLET SALMON CATCHES & VALUE

What are trends in catches?
What are trends in prices?
What are trends in value

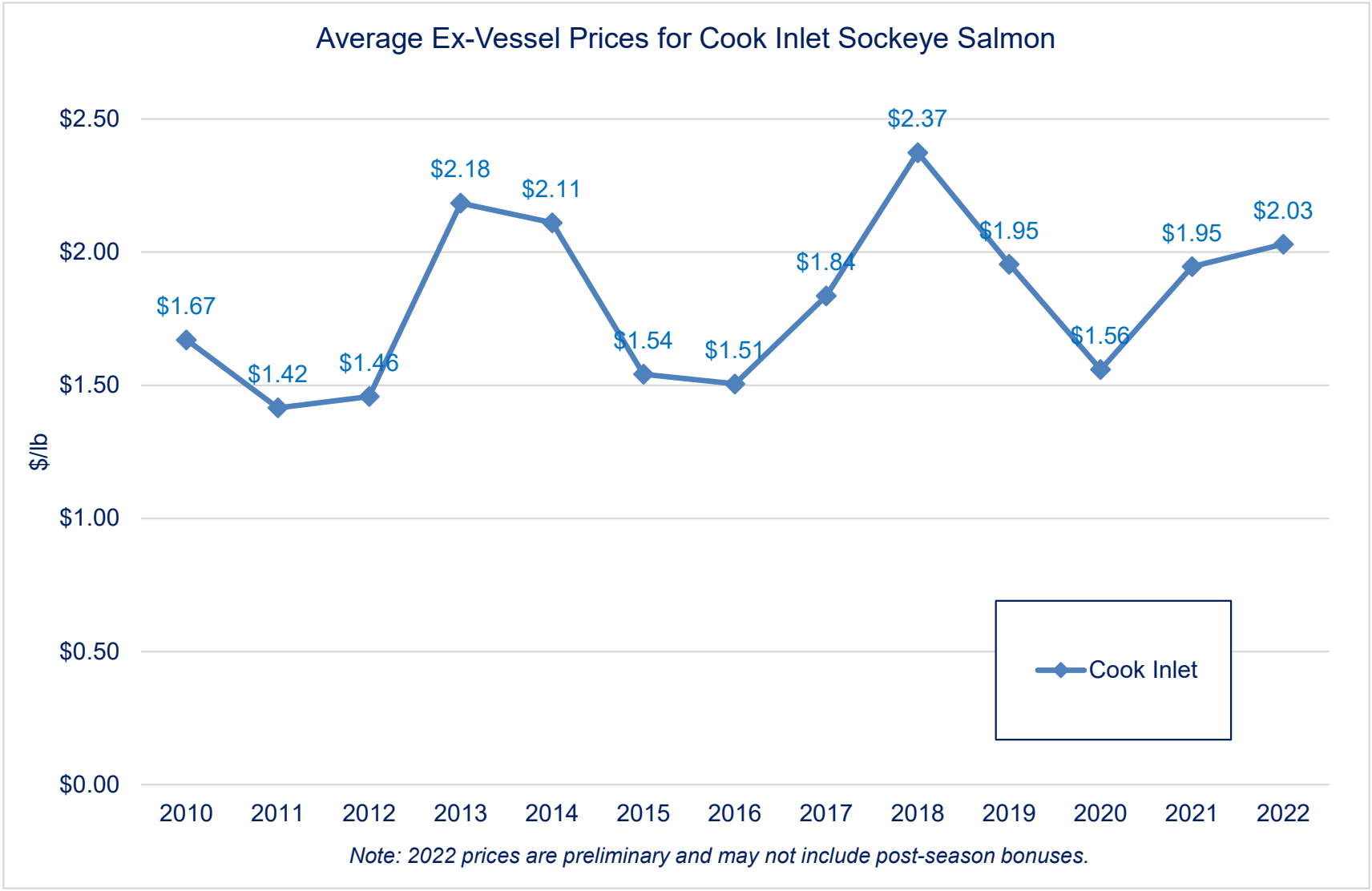
What has been happening to catches in the Cook Inlet salmon fisheries?

Catches have been trending downwards, particularly for the drift gillnet fishery.



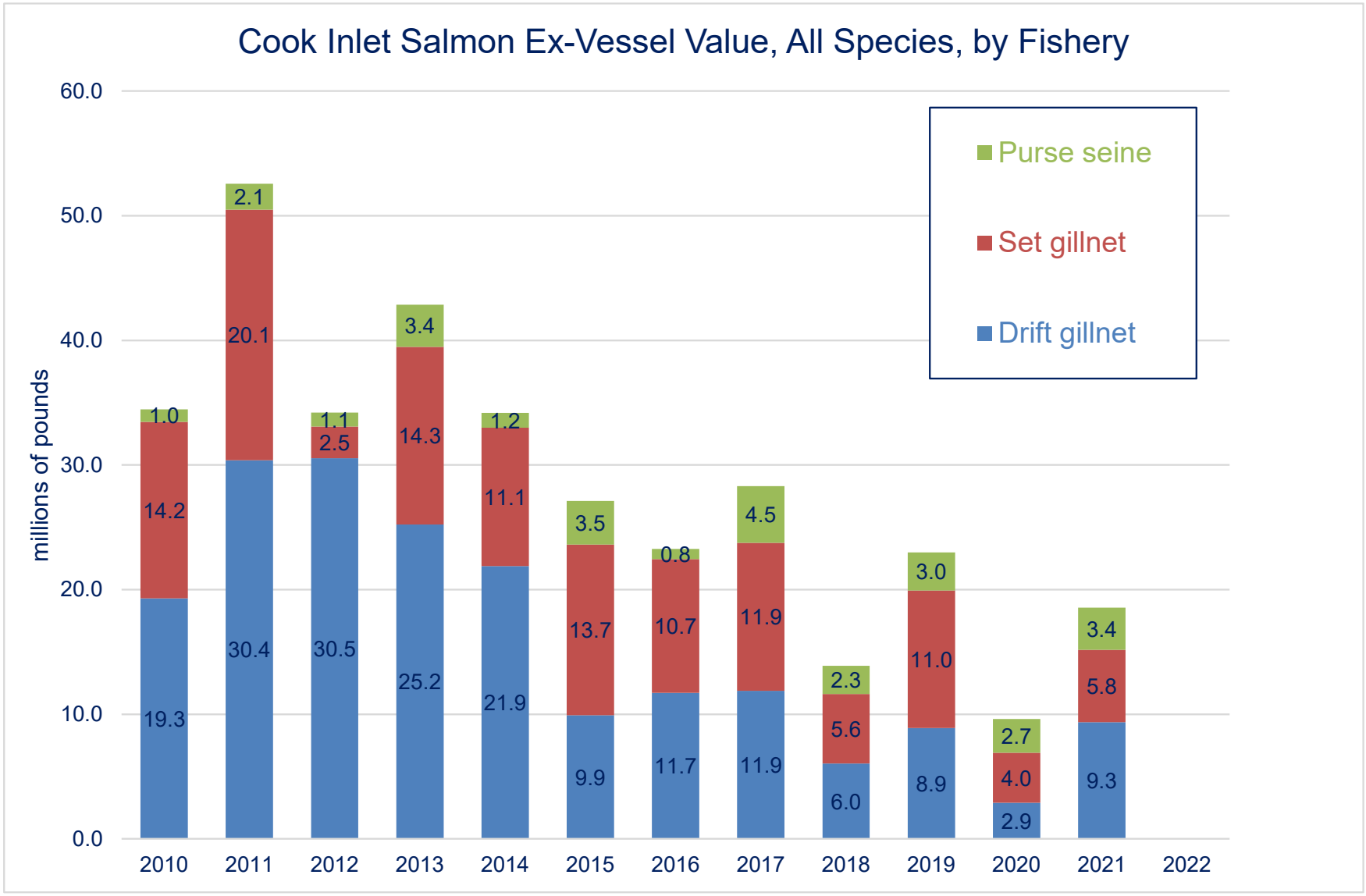
What has been happening to prices for Cook Inlet Salmon?

Ex-vessel prices for sockeye salmon, which accounts for most of the catch and even more of the value, vary a lot from year to year. But over the past 12 years prices have gradually trended upwards.



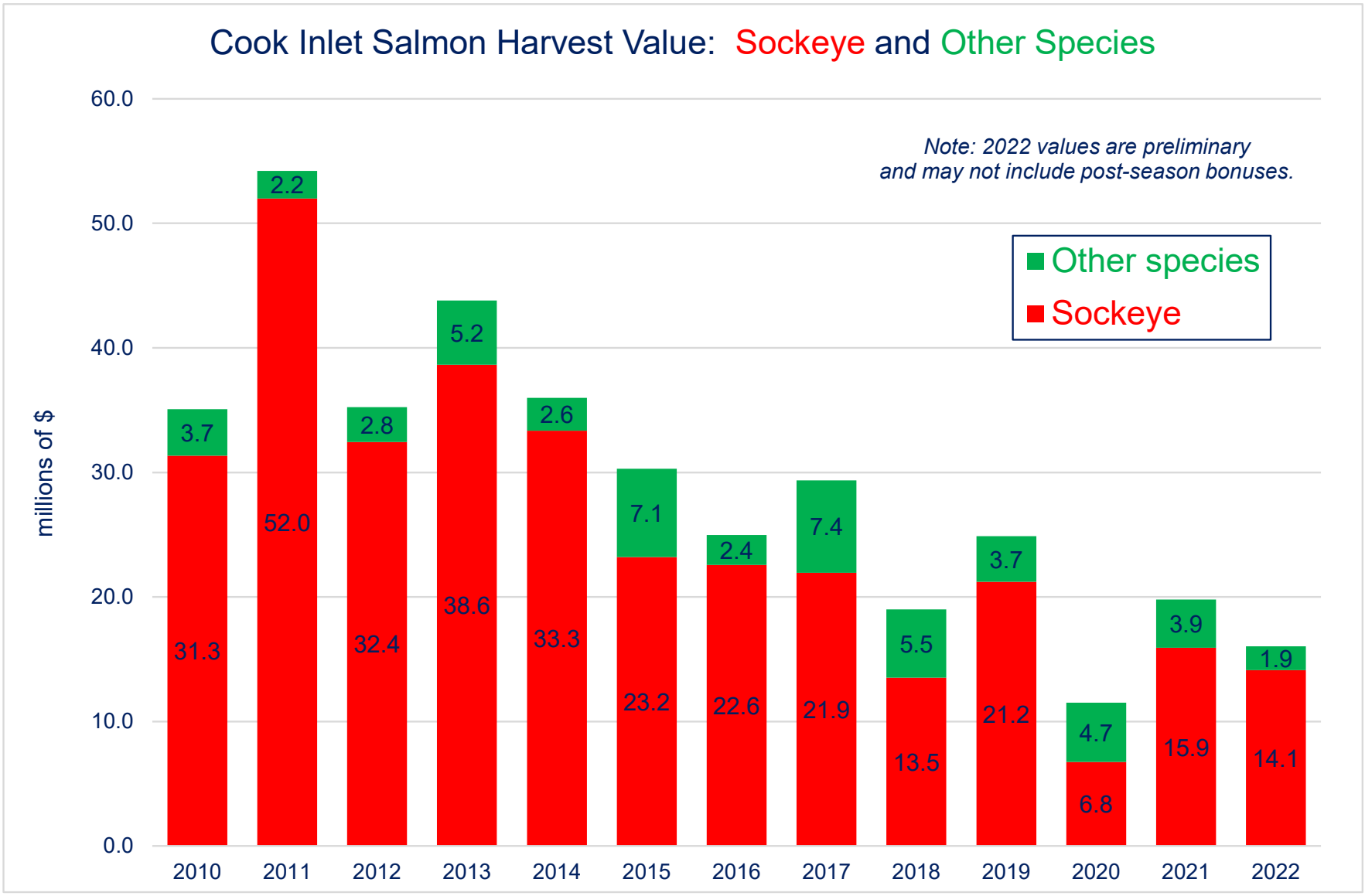
What has been happening to ex-vessel value in the Cook Inlet salmon fisheries?

The value of catches has fluctuated a lot from year to year, reflecting fluctuations in both catches and prices. Mostly because of the decline in catches, the ex-vessel value has also been trending down.



How important is sockeye salmon to Cook Inlet salmon fisheries?

Very important! Sockeye salmon accounts for most of the ex-vessel value.
Declining sockeye catches have accounted for most of the decline in ex-vessel value.



PERMITS & PERMIT HOLDERS

How many permits are there?

What share of permits are fished?

Where do permit holders live?

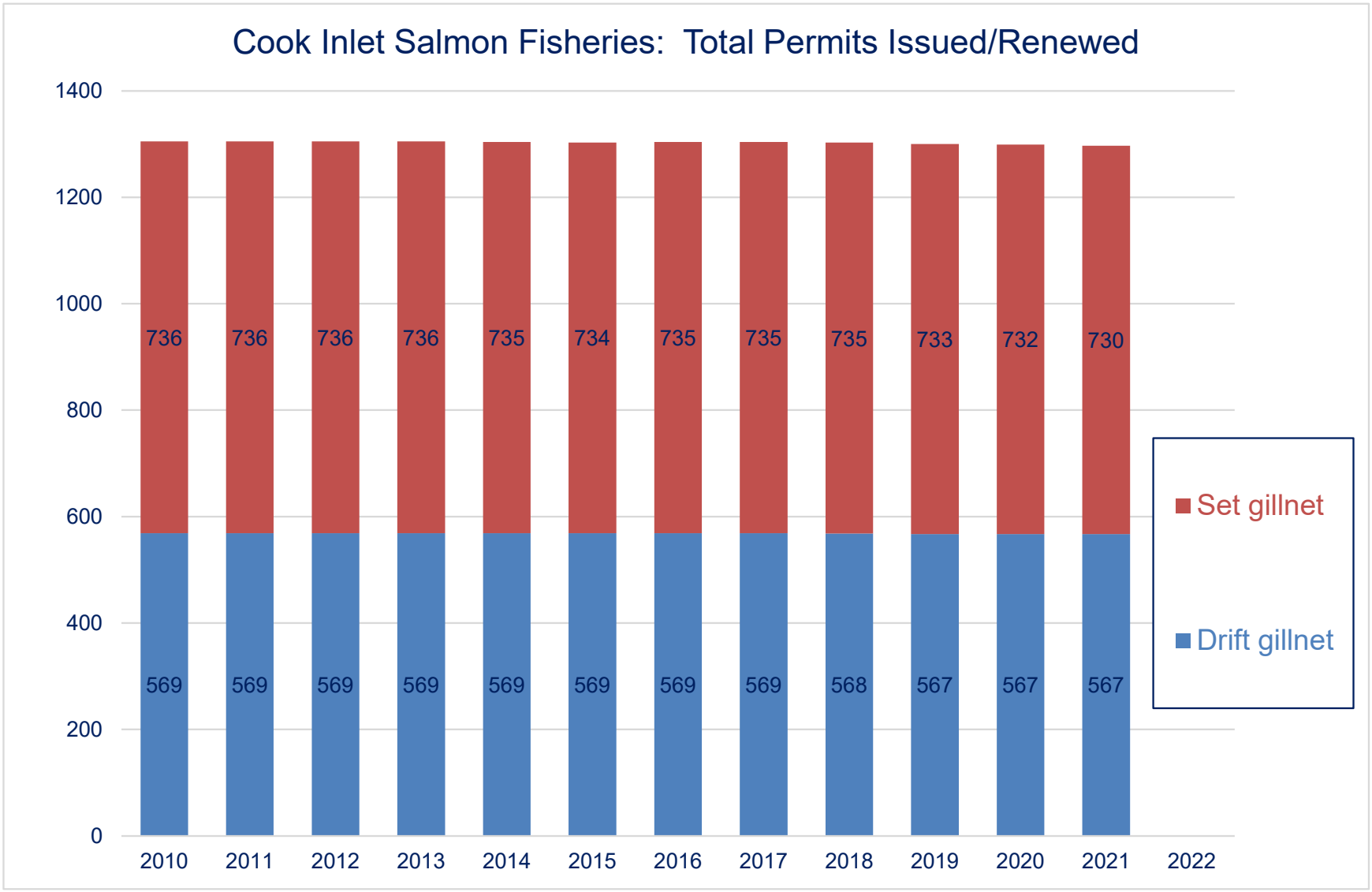
What are trends in average earnings?

How much do average earnings vary?

What are trends in permit prices?

How many permits are there for the Cook Inlet Salmon fisheries?

There are about 570 drift gillnet permits and 730 set gillnet permits.



Where do drift gillnet permit holders live?

About 70% live in Alaska, and about about 60% live in the Kenai Peninsula Borough.

Residency of Cook Inlet Drift Gillnet Permit Holders, 2021

	Number of permit holders	Number of permits held	Number of fishermen who fished	Estimated total earnings ($ millions)
TOTAL	**489**	**567**	**289**	**9.3**
ALASKA	**350**	**410**	**214**	**7.3**
Kenai Pen. Borough	296	350	187	6.4
Homer	*114*	*143*	*60*	*2.7*
Kenai	*53*	*60*	*37*	*1.1*
Soldotna	*35*	*39*	*22*	*0.7*
Kasilof	*22*	*26*	*17*	*0.5*
Nikolaevsk	*14*	*14*	*11*	*0.3*
Sterling	*14*	*18*	*12*	*0.4*
Nikiski	*13*	*15*	*10*	*0.3*
Other Kenai Pen.	*31*	*35*	*18*	*0.5*
Anchorage	24	26	8	0.2
Mat-Su	16	19	11	0.4
Other Alaska	22	22	5	< 0.1
OTHER STATES	**139**	**157**	**75**	**2.1**
Oregon	43	45	20	0.5
Washington	40	47	23	0.7
Other states	56	65	32	0.9

Where do set gillnet permit holders live?

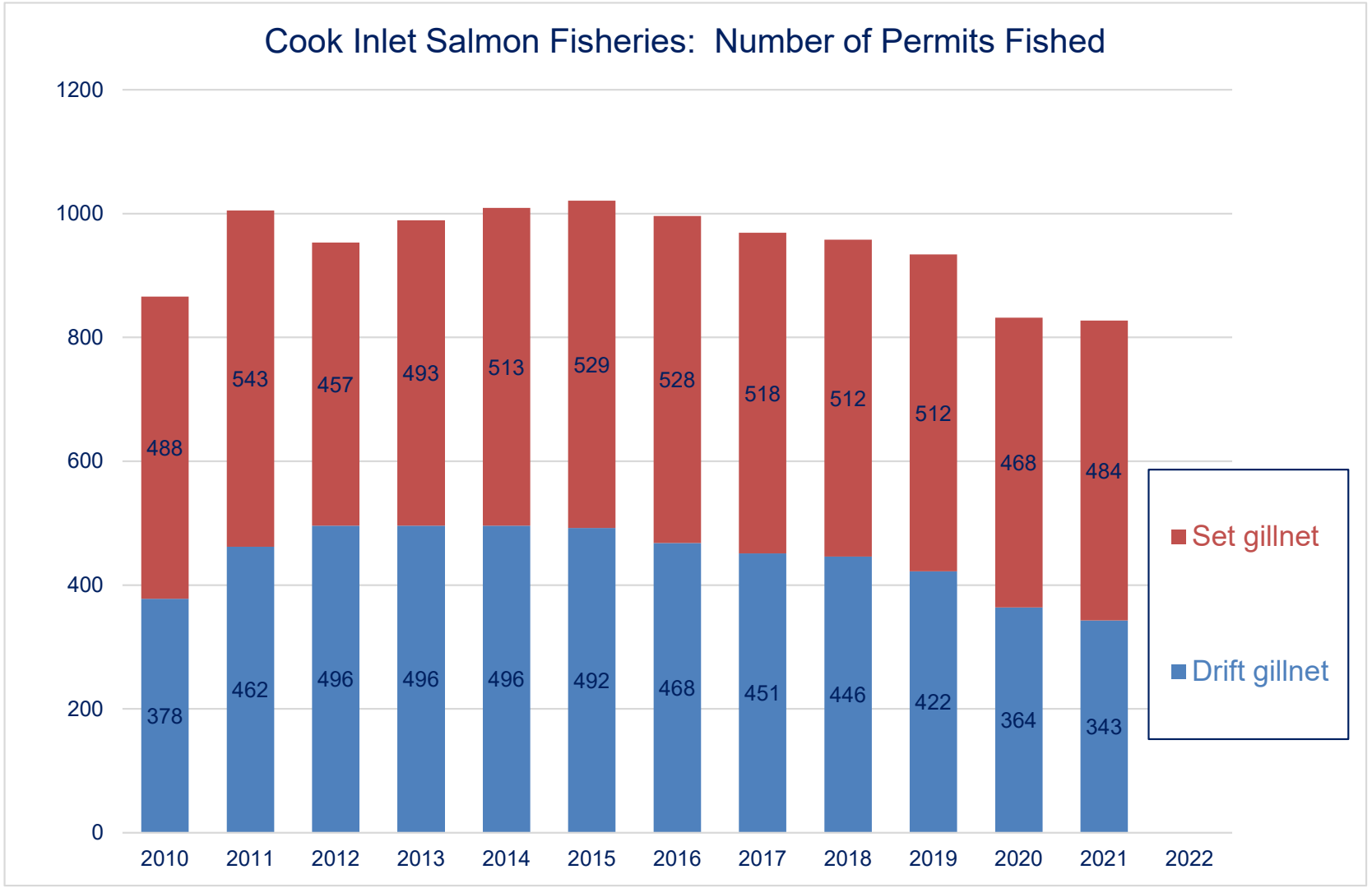
About 85% live in Alaska, and about about 55% live in the Kenai Peninsula Borough.

Residency of Cook Inlet Set Gillnet Permit Holders, 2021

	Number of permit holders	Number of permits held	Number of fishermen who fished	Estimated total earnings ($ millions)
Total	**588**	**730**	**391**	**5.8**
Alaska	**495**	**609**	**335**	**4.7**
Kenai Peninsula	328	421	243	3.7
Kenai	*99*	*128*	*71*	*1.3*
Kasilof	*57*	*69*	*45*	*0.4*
Soldotna	*55*	*70*	*39*	*0.6*
Clam Gulch	*23*	*33*	*22*	*0.3*
Nikiski	*20*	*24*	*16*	*0.3*
Homer	*17*	*23*	*11*	*0.1*
Ninilchik	*17*	*24*	*14*	*0.1*
Seldovia	*15*	*20*	*11*	*0.2*
Tyonek	*9*	*9*	*6*	*0.2*
Other Kenai Pen.	*16*	*21*	*8*	*0.1*
Anchorage	101	119	58	0.7
Mat-Su	56	58	29	0.3
Other Alaska	55	72	34	0.4
OTHER STATES	**93**	**121**	**56**	**0.4**
Washington	28	43	21	0.4
Oregon	4	5	2	< 0.1

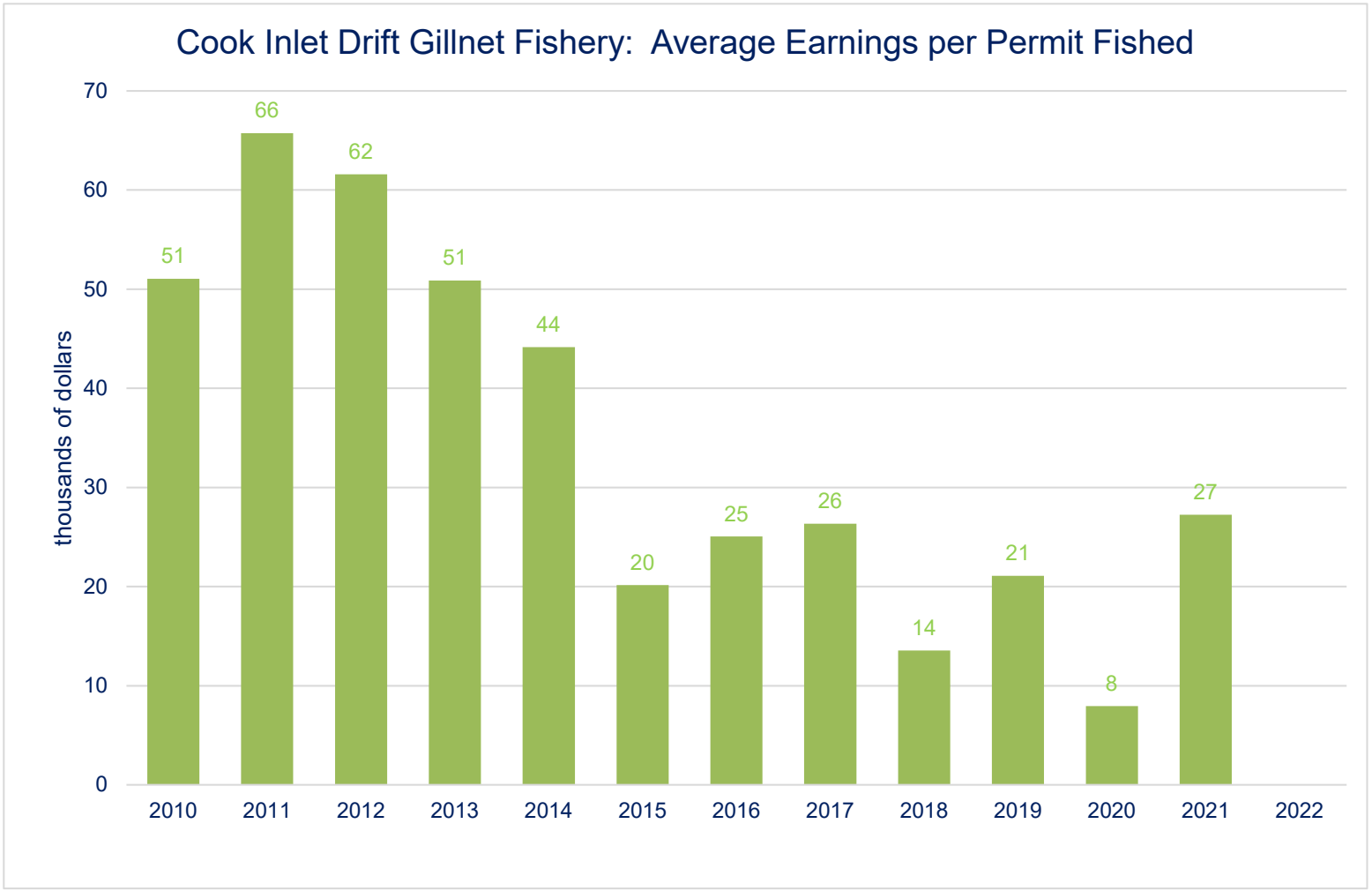
What has been happening to the share of Cook Inlet permits which are fished?

The number of permits fished has been declining since 2015.



What has been happening to average earnings in the drift gillnet fishery?

As the total catch value has declined, average earnings have been declining. They also vary a lot from year to year!

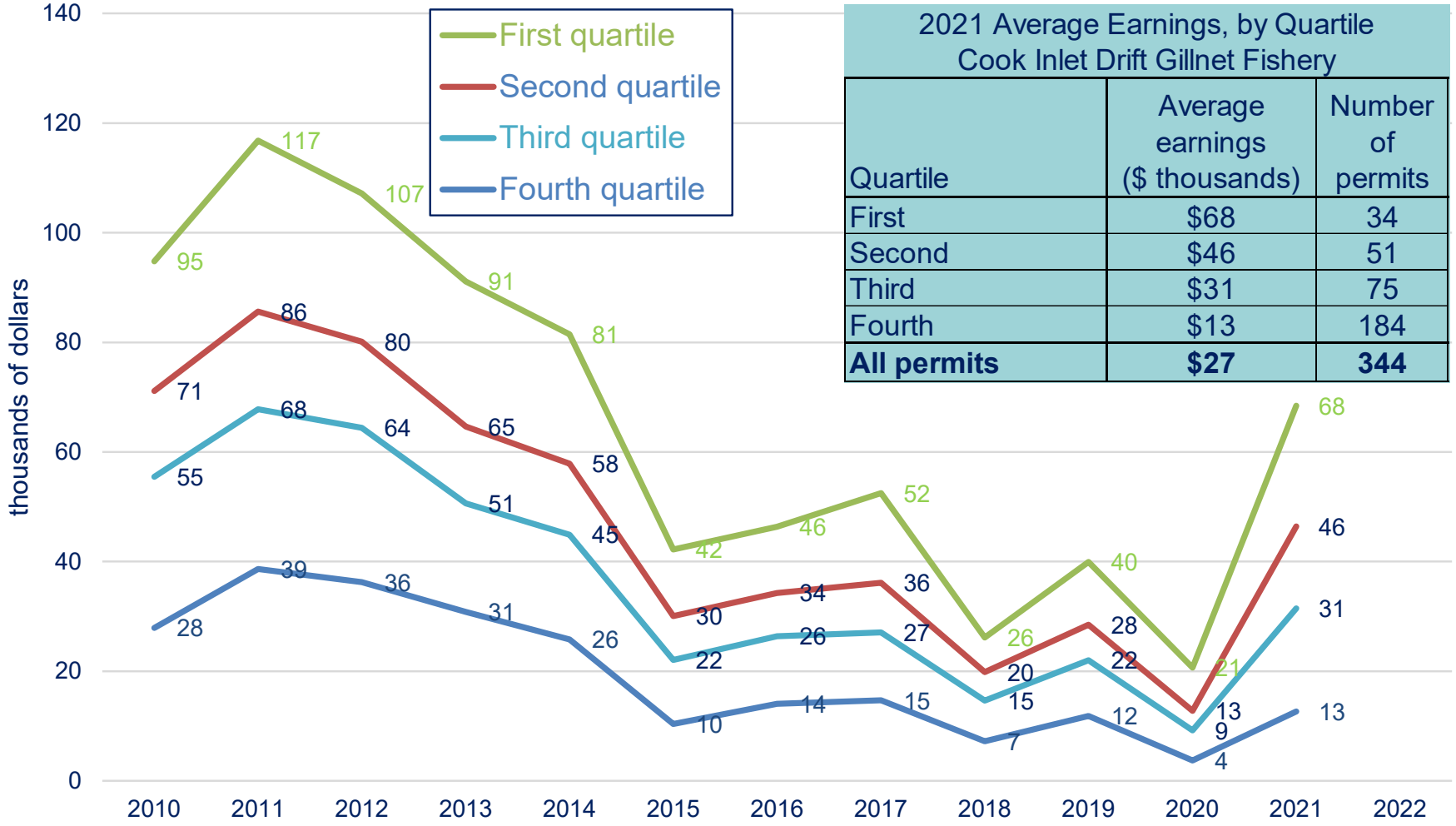


How much do earnings vary among drift gillnet permit holders?

They vary a lot! In 2021, the 34-highest earning permit holders averaged $68K

The 184 lowest-earning permit holders averaged only $13K.

Cook Inlet Drift Gillnet Fishery: Average Earnings, by Quartile

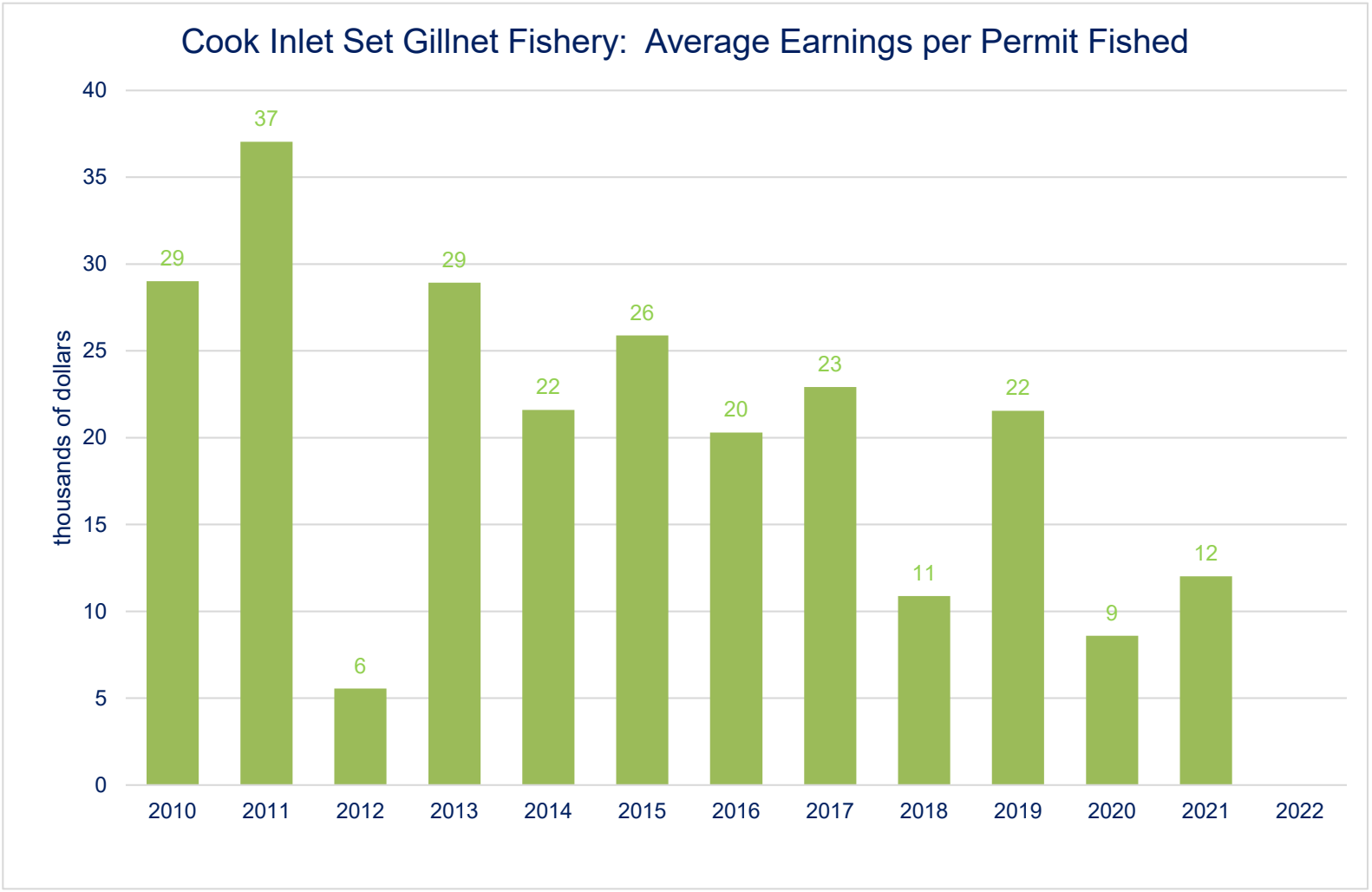


2021 Average Earnings, by Quartile
Cook Inlet Drift Gillnet Fishery

Quartile	Average earnings ($ thousands)	Number of permits
First	$68	34
Second	$46	51
Third	$31	75
Fourth	$13	184
All permits	**$27**	**344**

What has been happening to average earnings in the set gillnet fishery?

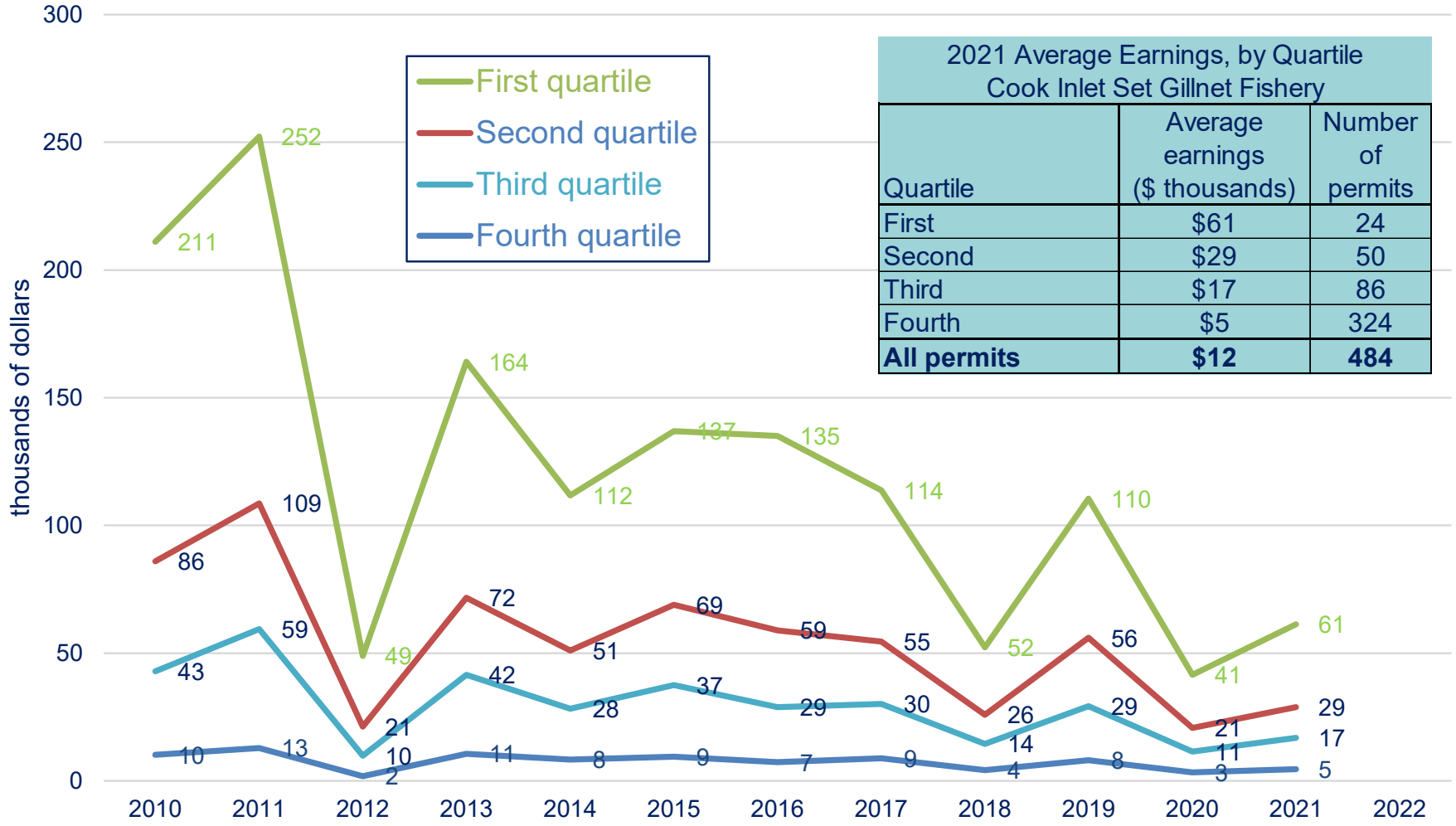
As the total catch value has declined, average earnings have been declining. They also vary a lot from year to year!



How much do earnings vary among set gillnet permit holders?

They vary a lot! In 2021, the 24-highest earning permit holders averaged $61K.
The 324 lowest-earning permit holders averaged only $5K.

Cook Inlet Set Gillnet Fishery: Average Earnings, by Quartile

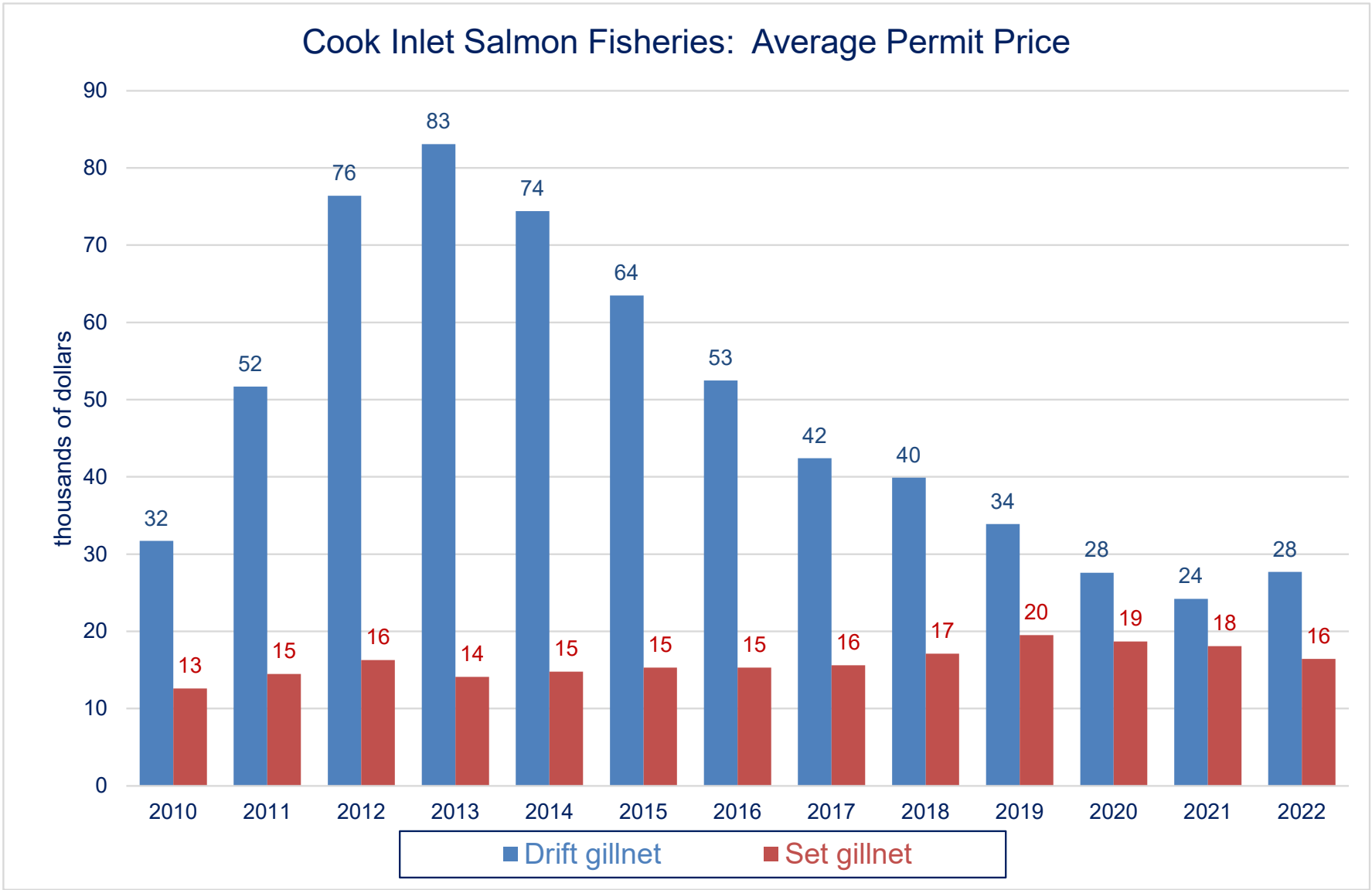


2021 Average Earnings, by Quartile
Cook Inlet Set Gillnet Fishery

Quartile	Average earnings ($ thousands)	Number of permits
First	$61	24
Second	$29	50
Third	$17	86
Fourth	$5	324
All permits	**$12**	**484**

What has been happening with the prices of Cook Inlet salmon permits?

Prices of drift net permits have been declining dramatically since about 2015
—reflecting the declining value of catches.
Average prices of set-net permits have stayed about the same.

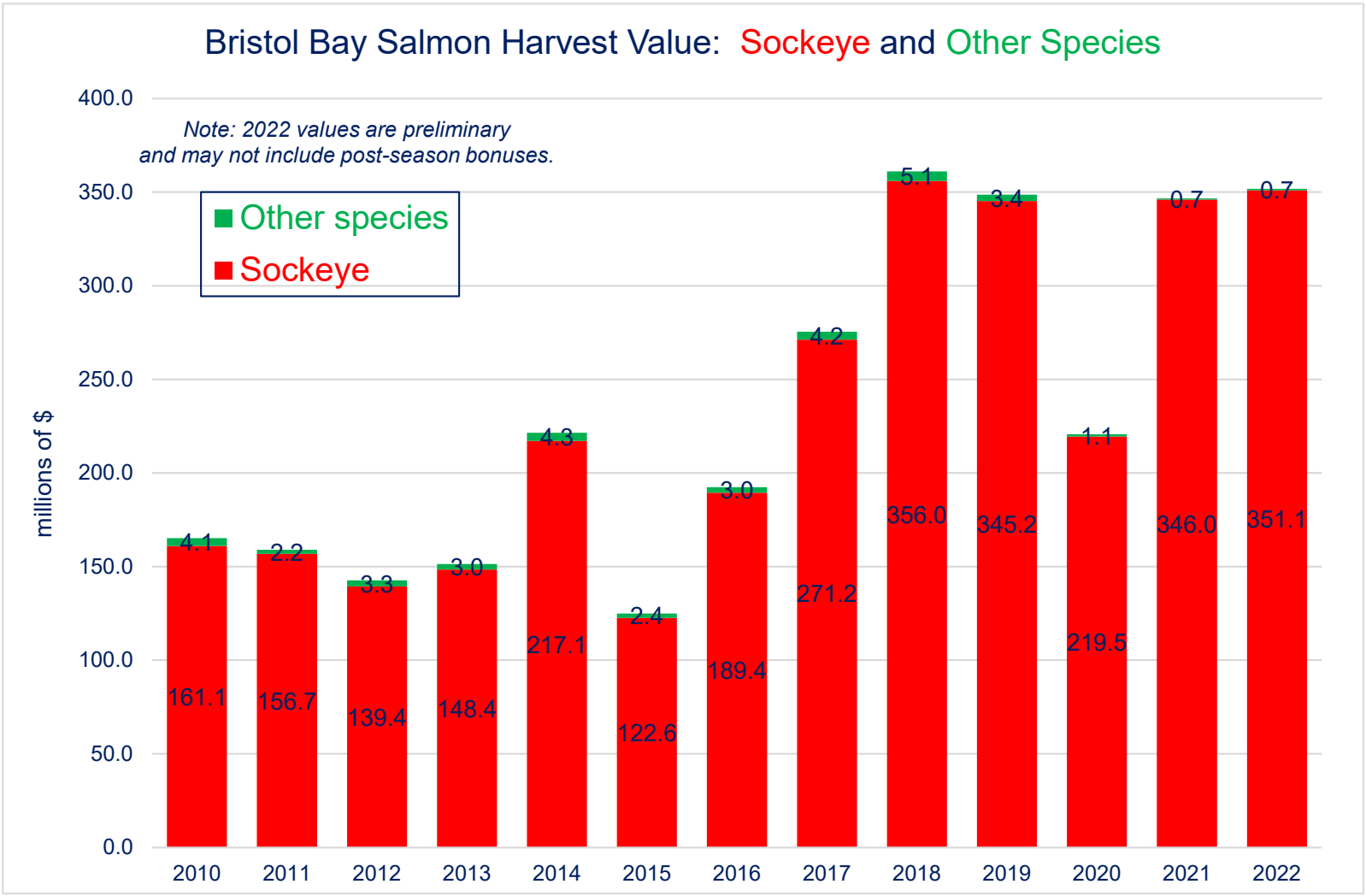


COMPARING COOK INLET AND BRISTOL BAY

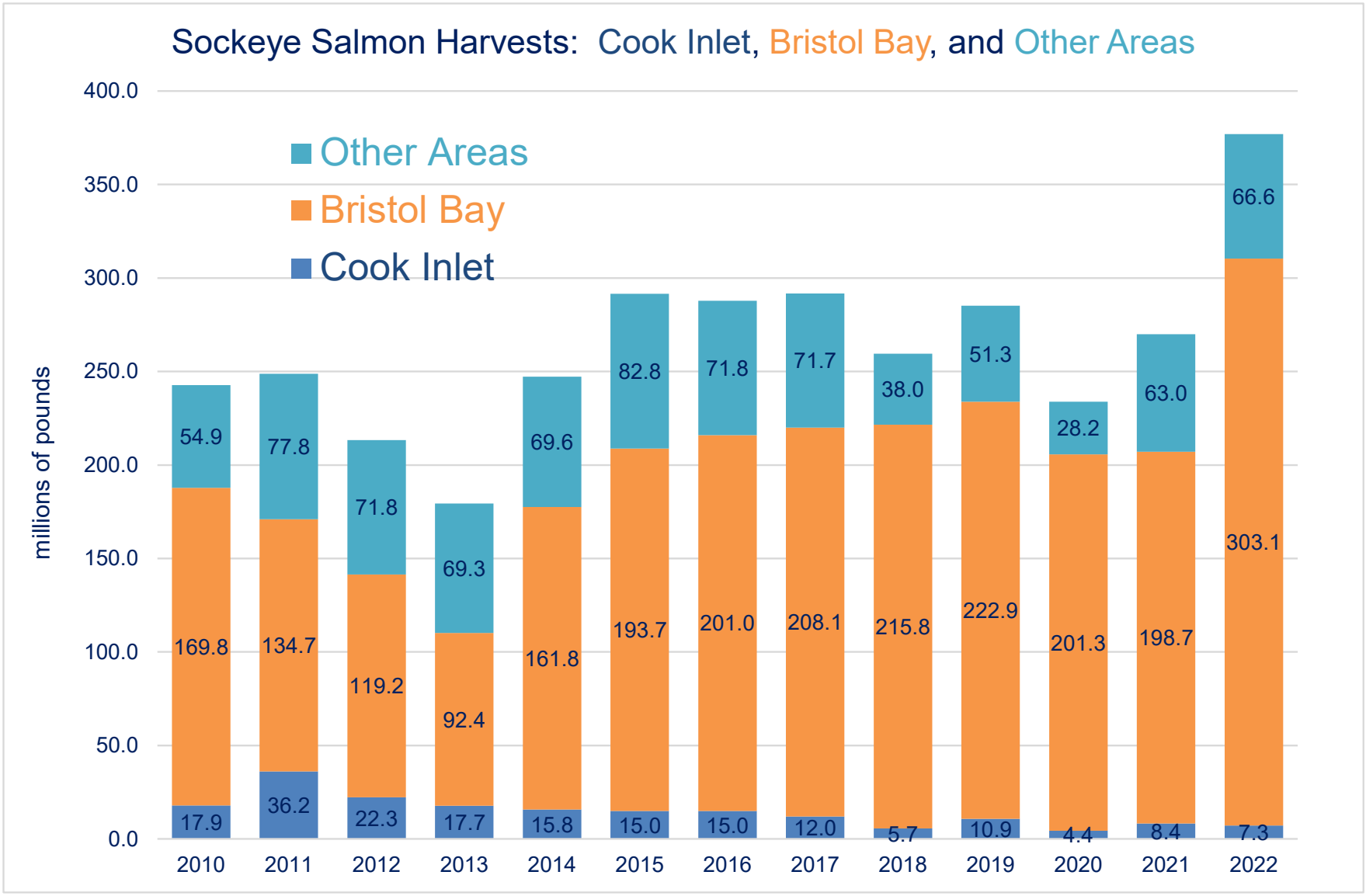
How do catches compare?
How do prices compare?
How do harvest values compare?
How do permit prices compare?

How does Bristol Bay compare with Cook Inlet salmon fisheries?

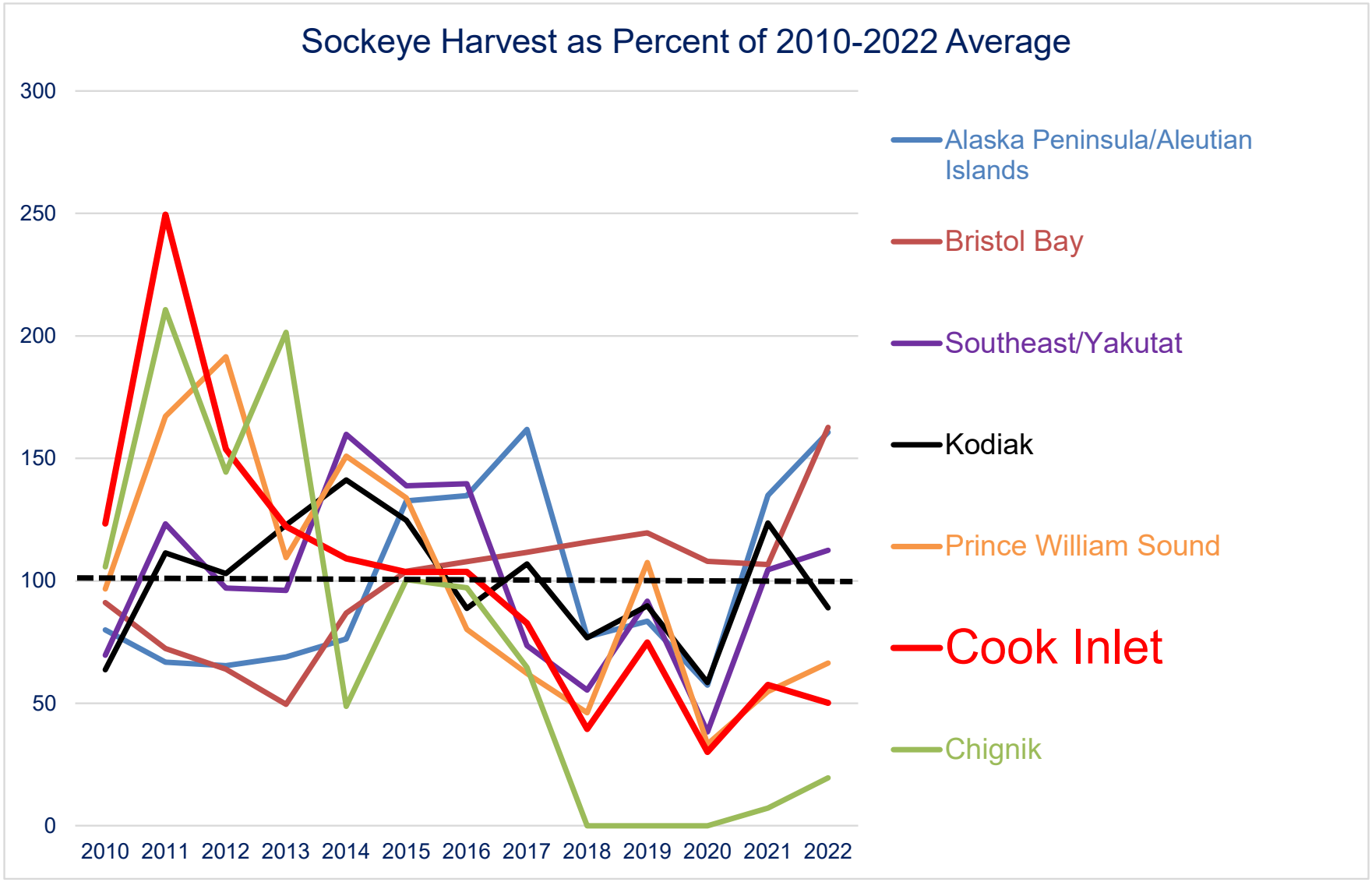
Both Bristol Bay and Cook Inlet are primarily sockeye salmon fisheries But the value and trends are very different. In 2022, the value of Bristol Bay sockeye catches was $350 million, compared with only $14 million in Cook Inlet. So Bristol Bay was 25 times as valuable as Cook Inlet. And while Cook Inlet catches and value have been declining, Bristol Bay catches have been increasing.



(continued) Basically Bristol Bay totally dominates Alaska sockeye salmon catches. Catches in all other areas combined are only about ¼ of Bristol Bay.

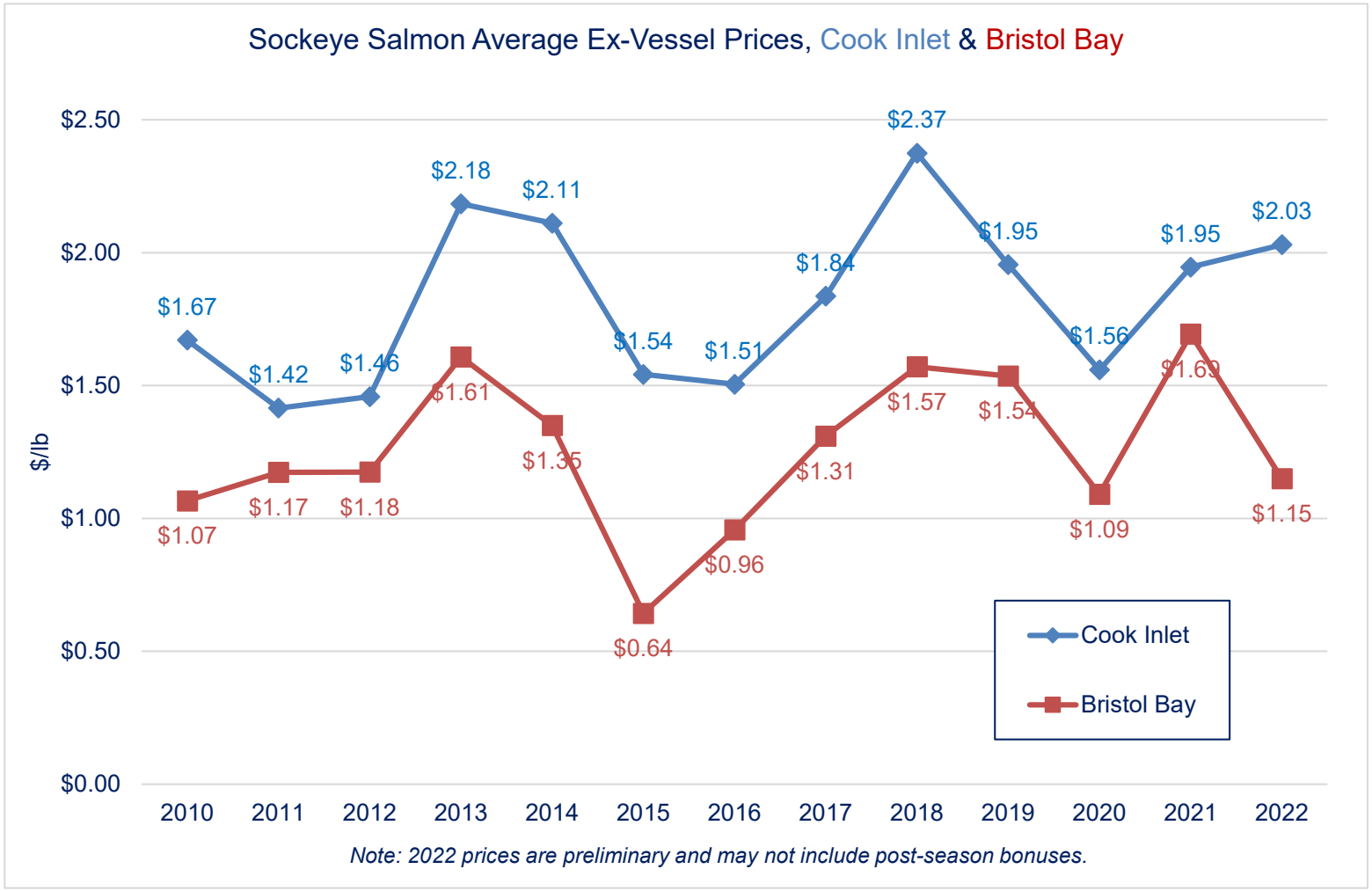


There is a striking difference in what is happening to sockeye catches in different areas of Alaska. Catches have been falling in some area particularly Cook Inlet, Prince William Sound, and Chignik. But they've been rising in other areas, particularly Bristol Bay and the Alaska Peninsula.



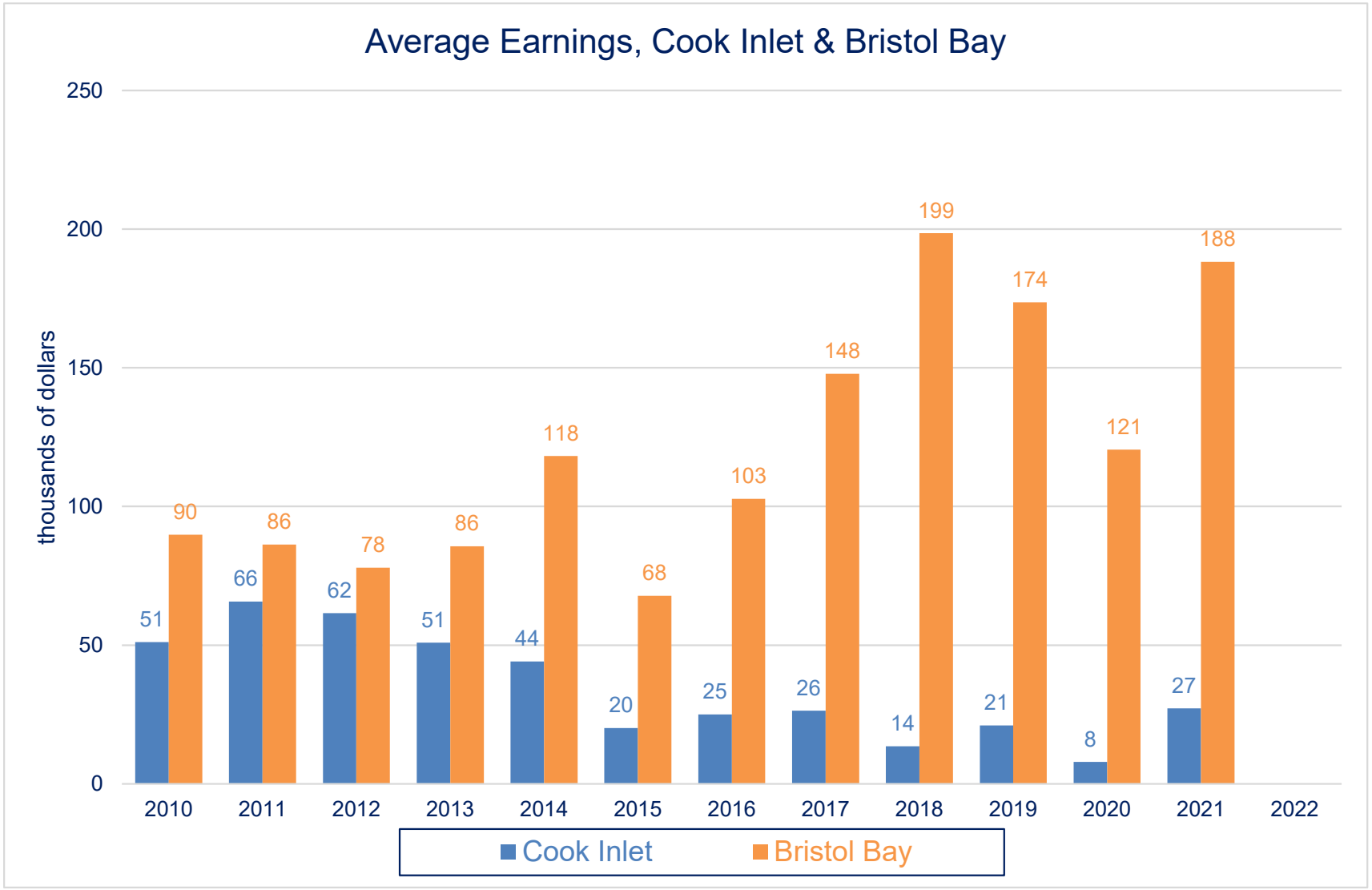
What has been happening with ex-vessel prices for sockeye salmon? How do prices compare in Cook Inlet and Bristol Bay?

Prices have been fluctuating quite a lot in both fisheries, but the long-term trend is gradually upwards. Prices in Cook Inlet are generally about 50 cents/lb higher in Cook Inlet than in Bristol Bay, though the differential can vary quite a bit from year to year.



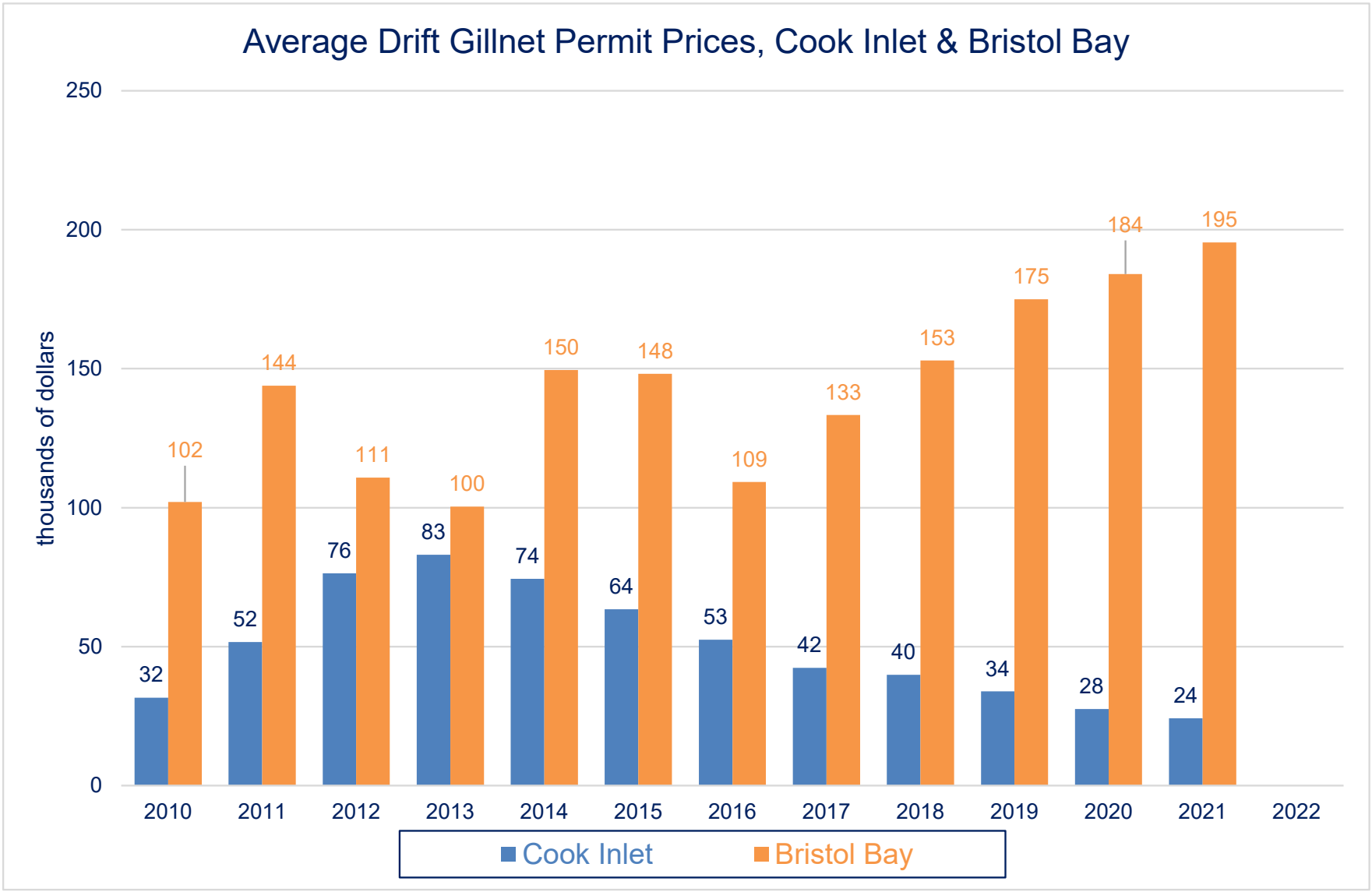
How do trends in average earnings for Cook Inlet drift gillnet permits compare with trends for Bristol Bay drift gillnet permits?

In dramatic contrast to Cook Inlet,
Bristol Bay average earnings are higher and have been rising.



How do price trends for Cook Inlet drift gillnet permits compare with price trends for Bristol Bay permits?

In dramatic contrast to Cook Inlet, Bristol Bay permit prices have been rising.



PRODUCTION, MARKETS AND PRICES

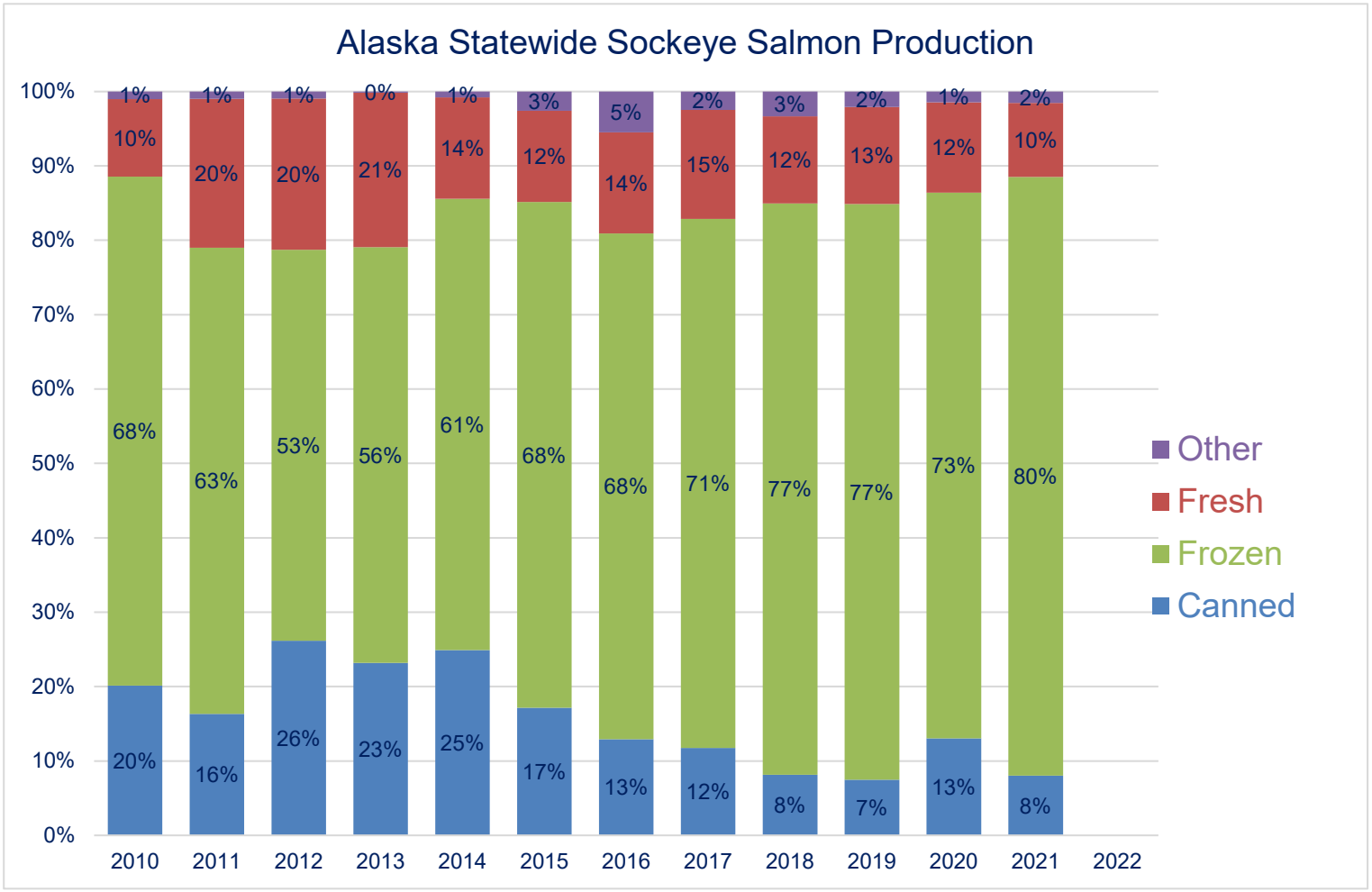
What products are produced from Cook Inlet Salmon?

What are wholesale price trends for these products?

How do wholesale prices

What drives sockeye salmon ex-vessel prices?
What explains the fluctuations from year to year, and the longer-term trends?

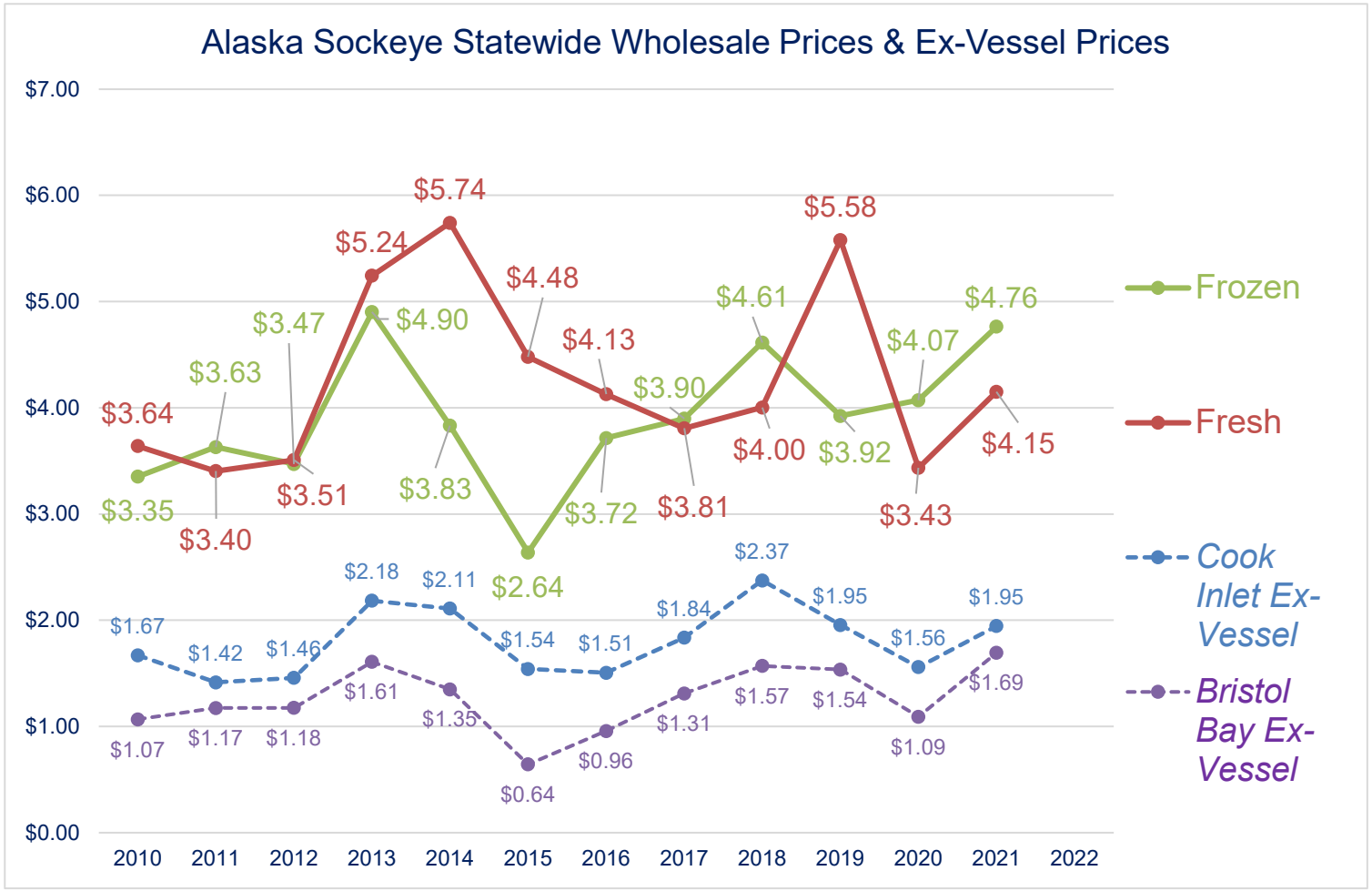
That's actually quite a complicated question. But basically, prices reflect the trends in the value of the different products made from sockeye salmon. So you have to start by looking at the production of different sockeye products.



How to wholesale prices compare with ex-vessel prices?

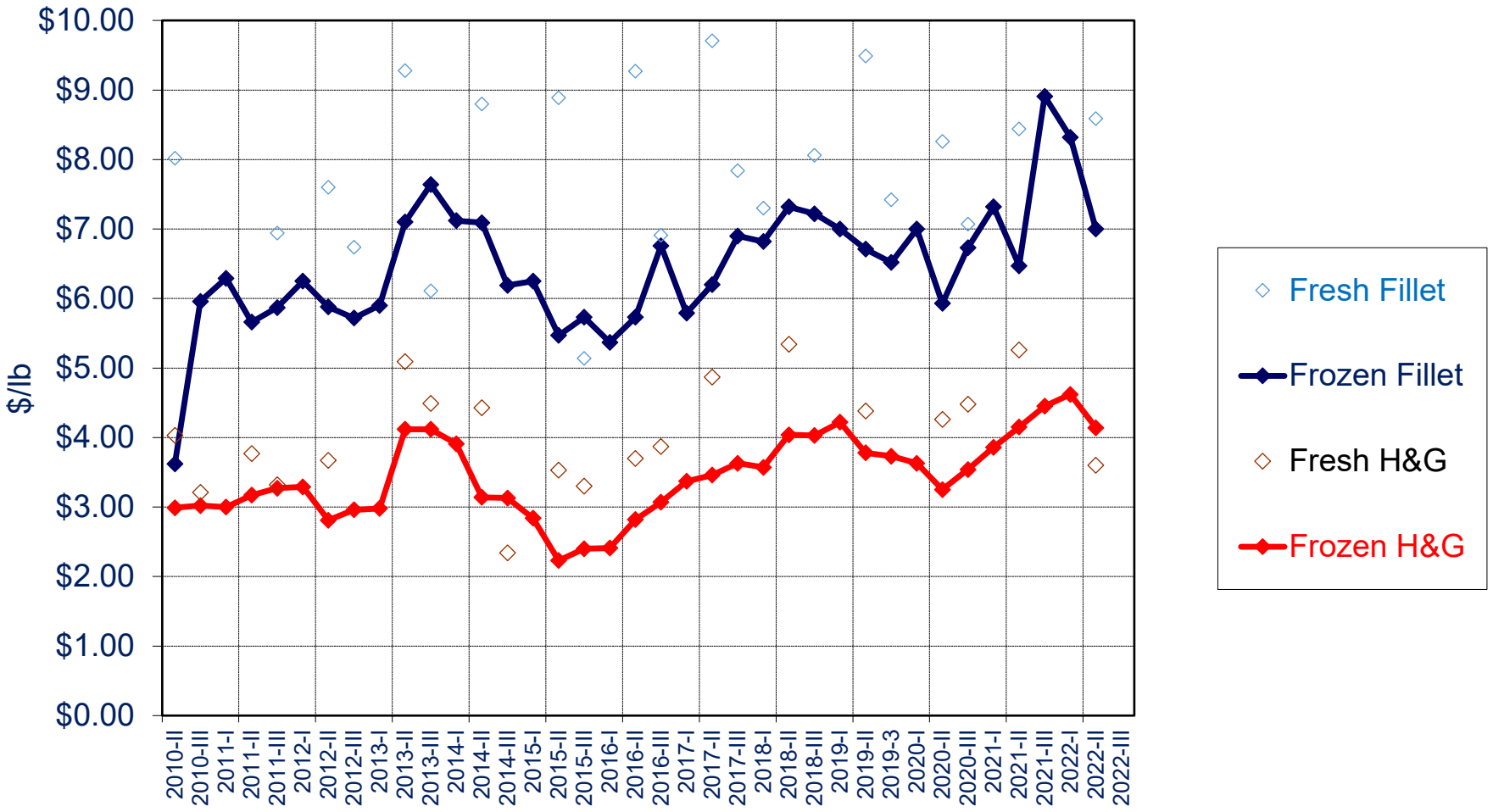
Wholesale prices are significantly higher—reflecting the costs of processing and also the the fact that product volume is lower than harvest volume.

In general, when wholesale prices go up or down, ex-vessel prices go up or down, though not by as much.

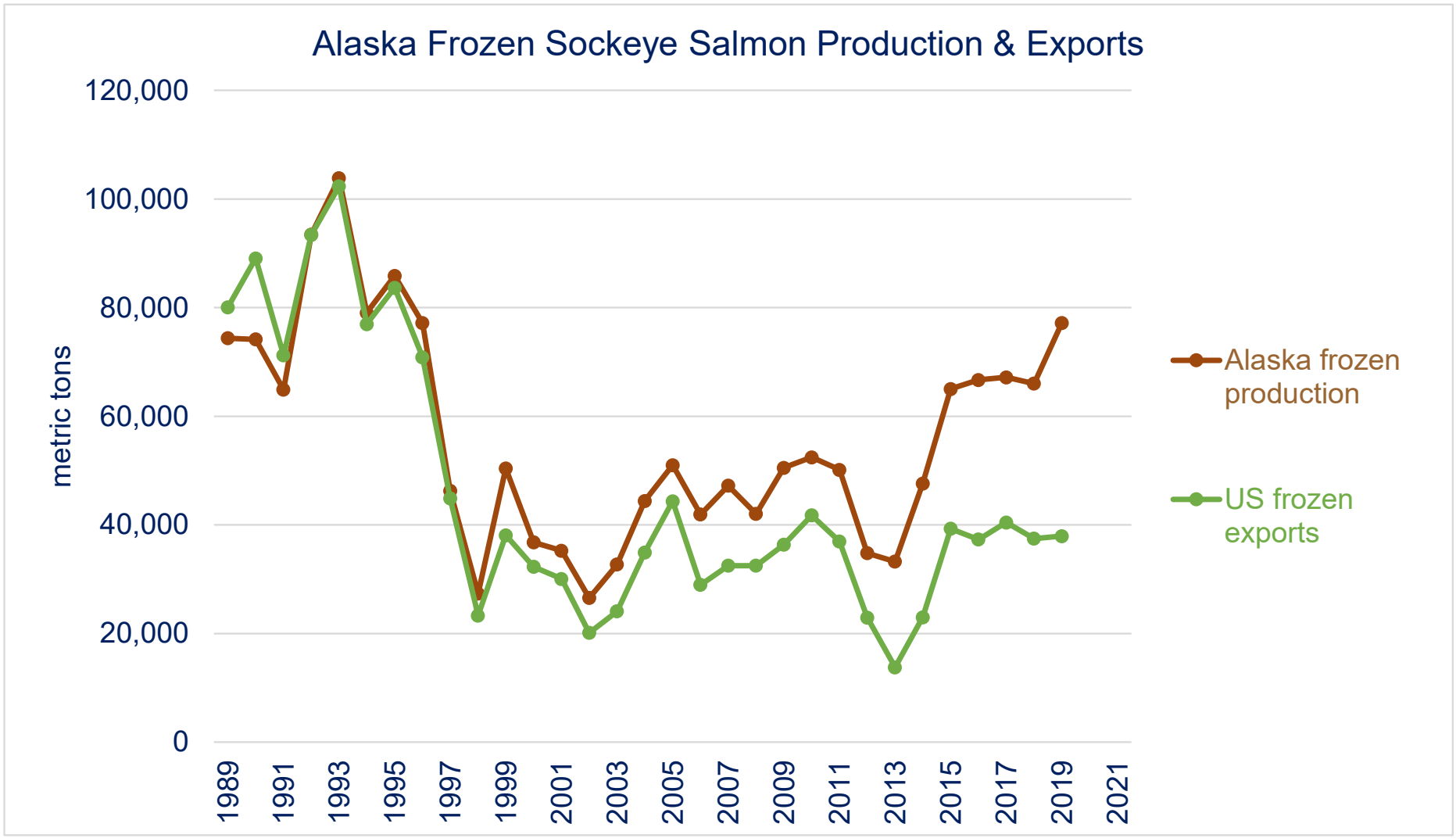


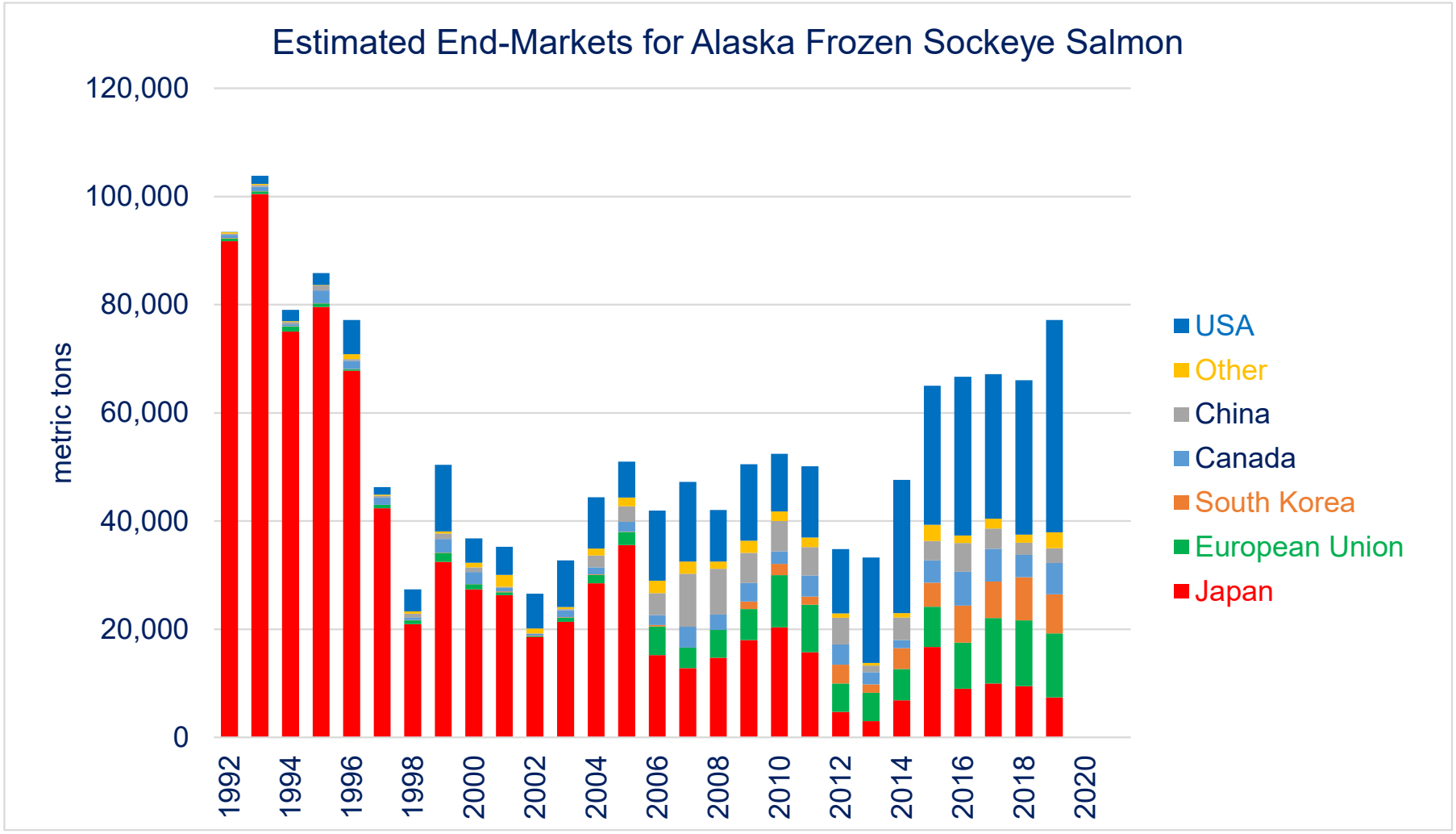
What follows are a few slides which I didn’t update for this presentation, so they are a little more out of date. They help to illustrate a few of the factors affecting sockeye markets.

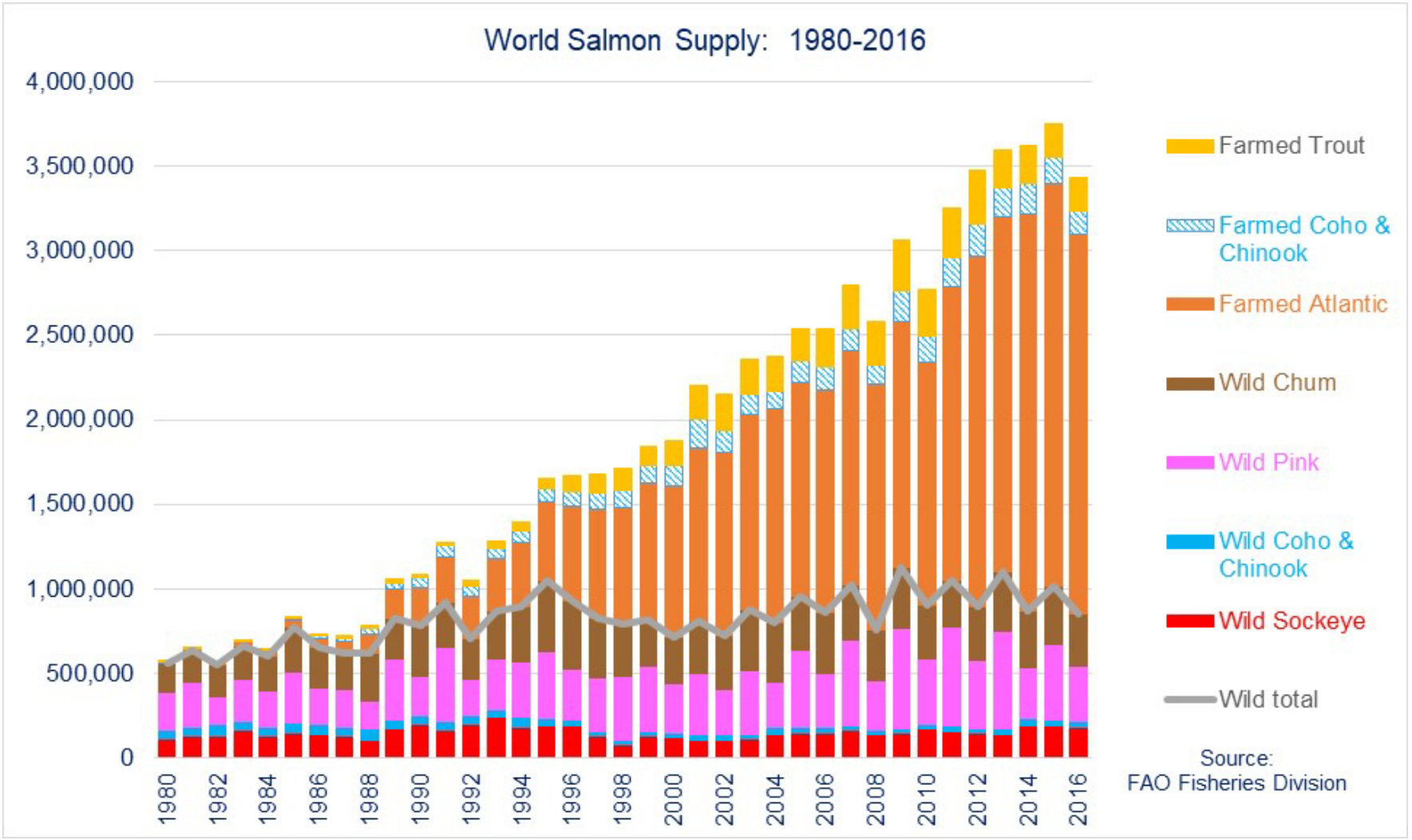
Average First Wholesale Prices Received by Alaska Salmon Processors: Selected SOCKEYE SALMON Products

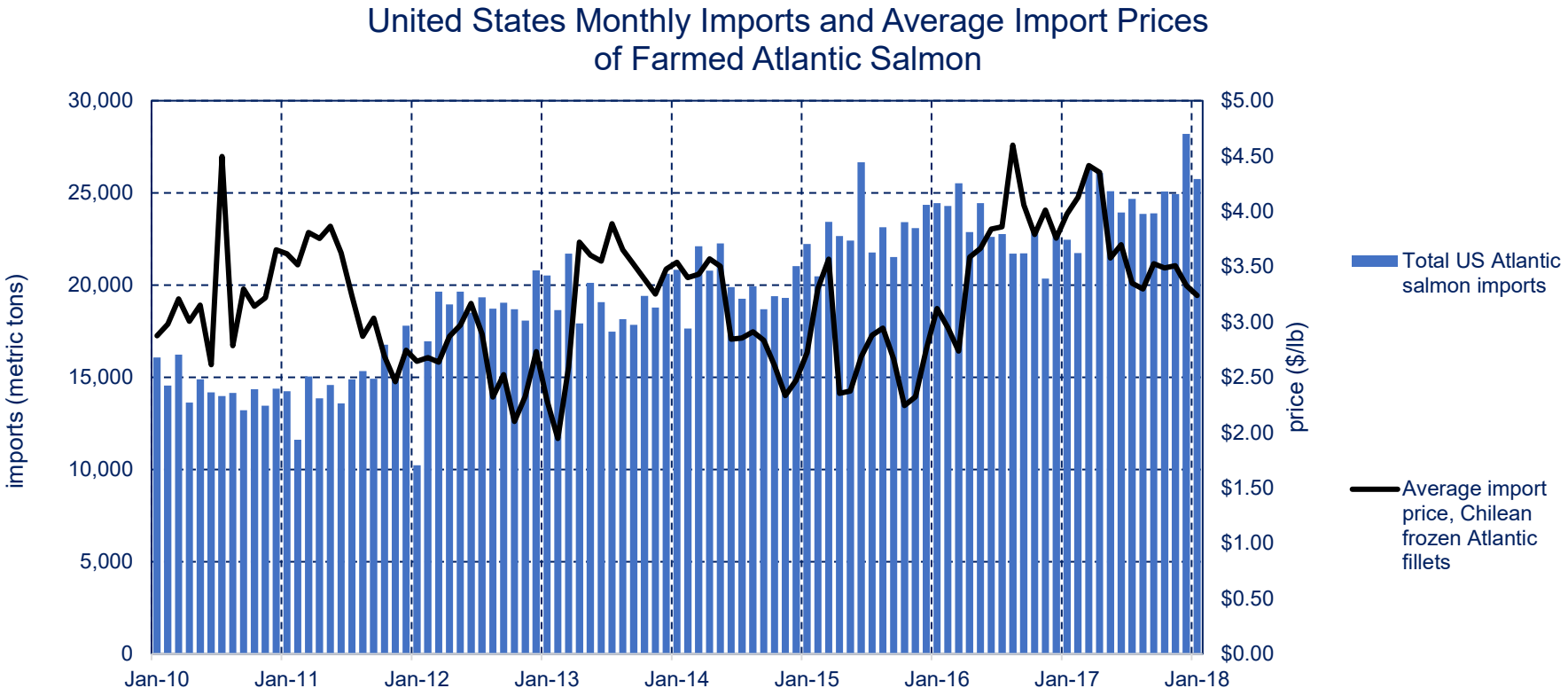


I = Jan-Apr; II = May-Aug; III = Sep-Dec; Source: Alaska Department of Revenue, Alaska Salmon Price Report


Alaska Frozen Sockeye Salmon Production & Exports
120,000
100,000
80,000
60,000
40,000
20,000
0
metric tons
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
Alaska frozen production
US frozen exports


Estimated End-Markets for Alaska Frozen Sockeye Salmon
metric tons
120,000
100,000
80,000
60,000
40,000
20,000
0
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
USA
Other
China
Canada
South Korea
European Union
Japan


World Salmon Supply: 1980-2016
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
Farmed Trout
Farmed Coho & Chinook
Farmed Atlantic
Wild Chum
Wild Pink
Wild Coho & Chinook
Wild Sockeye
Wild total
Source:
FAO Fisheries Division


United States Monthly Imports and Average Import Prices of Farmed Atlantic Salmon
imports (metric tons)
30,000
25,000
20,000
15,000
10,000
5,000
0
price ($/lb)
$5.00
$4.50
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$0.50
$0.00
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Total US Atlantic salmon imports
Average import price, Chilean frozen Atlantic fillets

Average Wholesale Prices, Atlantic Salmon & Bristol Bay Sockeye

