



Surimi Paste Supply Track

Q3, 2024, Q4 preliminary

Prepared by Plutus IQ
for the Genuine Alaska
Pollock Producers, GAPP



HIGHLIGHTS

- Global surimi production estimates indicate overall volumes decreased by approximately 6.5 percent y-o-y through Q3 '24.
- US Alaska Pollock Production declined by ~12.6 percent y-o-y through Q4, marking the third lowest production year since at least 2017.
- Russian Pollock surimi production estimates increased by about 30 percent year over year through Q3, reaching approximately 52 thousand metric tons from a base of 40 thousand metric tons.
- Preliminary and official figures suggest Russian AKP surimi production ended 2024 at ~73-74 thousand metric tons, up from 58 thousand metric tons in '23.
- Japanese pollock surimi production estimates indicate a 4 percent y-o-y increase in 2024.
- Tom Asakawa's market commentary on Japanese surimi provides additional insights on paste and finished products.
- Tropical surimi production estimates reveal a decline of 11.4 percent y-o-y through Q3, with Itoyori experiencing a substantial decrease of ~29.9 percent during this period.
- Chinese production estimates across all Tropical categories contracted by 21 percent y-o-y through Q3.
- Carp surimi production estimates demonstrate robust growth of 23.6 percent y-o-y through Q3.
- Price dynamics for key benchmark species, notably Alaska Pollock and Itoyori surimi, exhibited significant volatility in primary markets, with substantial declines in Q1 followed by modest recovery in Q2 and Q3, though remaining at historically subdued levels.



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PhD Humberto Godinez
Humberto.Godinez@gmail.com
(646)-645-4572

MS, Angel Rubio
angeldrubio@gmail.com
(201)-921-2664

Notes and Considerations:

In our last edition of this report, we corrected Russian pollock surimi from using trade figures as a proxy to figures reported publicly by trade associations and producers. Still, we added trade figures from reporting countries from Russia since export figures from the latter have not been publicly available since early 2022. Production figures were recalculated from recently published data (see page 28) by Russian authorities, and an estimated seasonal factor relative to trade behavior was applied; the latter was lagged to match the Russian catch season. These numbers may continue to be revised as Russia ramps up its production. Regarding trade, Japan, South Korea, France, and China are the main markets.

Disclaimer

The following report is only an executive summary of all the data points analyzed. Because of the many ways the data analyzed can be presented, these summaries only provide a general overview of each data series. However, the data requested by the members is available in many ways in the Excel files provided. All data can be easily manipulated to fit each member's presentation preference, whether in tables, charts, or raw data.

The nuances for many calculations are many, as these vary widely from species to species, origins, and destinations, among other variables. The methodologies for many species are relatively simple since trade data can be assumed to be a function of its production in many cases. However, this is not always the case for specific countries and species. Also, some calculations with limited data and rudimentary methods had to be used to arrive at a "best estimate." Please contact the analyst directly to make changes, suggestions, or corrections for details on each species or market. After exhausting most options available to obtain reliable data, we firmly believe that the estimates presented here are a good approximation of the species, origins, and destinations requested.



World Production

Global surimi production estimates contracted ~6.5 percent through Q3 2024 compared to the prior year. The most pronounced declines persisted in the Tropical and US Alaska Pollock surimi segments, declining ~11.4 and ~11.2 percent, respectively. The latter continued its downward trajectory despite historical seasonal recovery patterns in Q3. Russian Pollock production registered another significant expansion of 30 percent year-over-year, contributing to shifting supply dynamics. Chinese carp surimi production demonstrated robust growth of ~23.6 percent year-over-year, partially offsetting broader market contractions.

In terms of lower-volume species, Hoki, Southern Blue Whiting, Northern Blue Whiting, Atka Mackerel, and Sardine all experienced notable volume reductions through Q3 compared to the previous year.

Global Surimi Production Estimates by Category

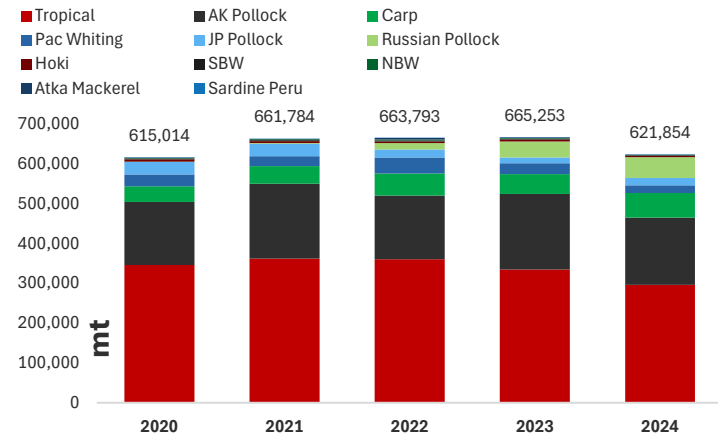


Figure 1. Overall surimi production estimates by species' category. Source: Customs, PlutusIQ, GAPP.

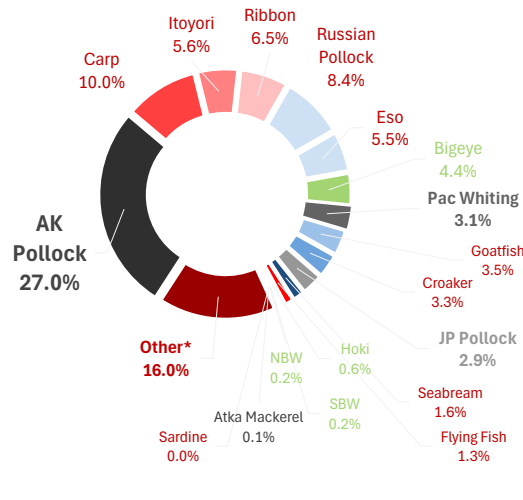
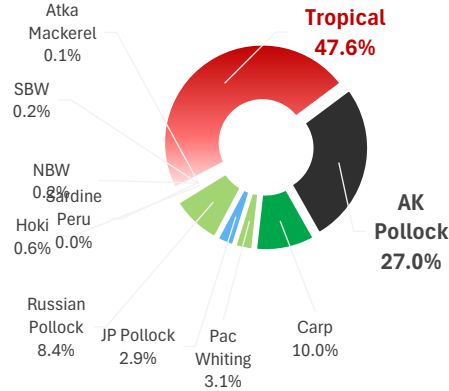


Figure 2 and 3. Pie chart of world surimi production by species and category. Source: PlutusIQ, GAPP.

	2020	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg	2024	Y-o-Y % Chg
Tropical	345,531	361,315	+4.6%	359,850	-0.4%	334,055	-7.2%	295,834	-11.4%
AK Pollock	158,093	187,769	+18.8%	159,267	-15.2%	189,136	+18.8%	167,906	-11.2%
Carp	39,297	43,804	+11.5%	55,854	+27.5%	50,178	-10.2%	62,032	+23.6%
Pac Whiting	29,221	24,853	-14.9%	39,495	+58.9%	27,315	-30.8%	19,046	-30.3%
JP Pollock	32,201	31,716	-1.5%	19,942	-37.1%	14,275	-28.4%	18,310	+28.3%
Russian Pollock	244	1,680	+587.3%	16,065	+856.0%	40,162	+150.0%	52,444	+30.6%
Hoki	4,980	4,209	-15.5%	4,106	-2.5%	4,895	+19.2%	3,503	-28.4%
SBW	2,489	2,415	-3.0%	2,487	+3.0%	2,029	-18.4%	1,161	-42.8%
NBW	1,635	2,625	+60.5%	2,764	+5.3%	1,402	-49.3%	1,032	-26.4%
Atka Mackerel	809	847	+4.8%	3,675	+333.8%	1,542	-58.0%	370	-76.0%
Sardine Peru	514	551	+7.2%	288	-47.7%	264	-8.3%	216	-18.2%
Total	615,014	661,784	+7.6%	663,793	+0.3%	665,253	+0.2%	621,854	-6.5%

Table 1. World surimi production estimates by species. Source: PlutusIQ, GAPP.

	2020	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg	2024	Y-o-Y % Chg
AK Pollock	158,093	187,769	+18.8%	159,267	-15.2%	189,136	+18.8%	167,906	-11.2%
Carp	39,297	43,804	+11.5%	55,854	+27.5%	50,178	-10.2%	62,032	+23.6%
Itoyori	43,760	61,010	+39.4%	71,450	+17.1%	49,380	-30.9%	34,614	-29.9%
Ribbon	35,615	36,860	+3.5%	41,053	+11.4%	44,156	+7.6%	40,707	-7.8%
Russian Pollock	244	1,680	+587.3%	16,065	+856.0%	40,162	+150.0%	52,444	+30.6%
Eso	34,002	34,348	+1.0%	37,766	+10.0%	34,749	-8.0%	34,122	-1.8%
Bigeye	27,560	29,102	+5.6%	30,751	+5.7%	27,342	-11.1%	27,164	-0.7%
Pac Whiting	29,221	24,853	-14.9%	39,495	+58.9%	27,315	-30.8%	19,046	-30.3%
Goatfish	23,113	23,510	+1.7%	24,013	+2.1%	21,605	-10.0%	21,834	+1.1%
Croaker	22,075	23,109	+4.7%	23,180	+0.3%	19,076	-17.7%	20,229	+6.0%
JP Pollock	32,201	31,716	-1.5%	19,942	-37.1%	14,275	-28.4%	18,310	+28.3%
Seabream	11,070	12,237	+10.5%	11,390	-6.9%	9,458	-17.0%	10,044	+6.2%
Flying Fish	8,556	9,396	+9.8%	9,345	-0.5%	7,418	-20.6%	7,804	+5.2%
Hoki	4,980	4,209	-15.5%	4,106	-2.5%	4,895	+19.2%	3,503	-28.4%
SBW	2,489	2,415	-3.0%	2,487	+3.0%	2,029	-18.4%	1,161	-42.8%
NBW	1,635	2,625	+60.5%	2,764	+5.3%	1,402	-49.3%	1,032	-26.4%
Atka Mackerel	809	847	+4.8%	3,675	+333.8%	1,542	-58.0%	370	-76.0%
Sardine	514	551	+7.2%	288	-47.7%	264	-8.3%	216	-18.2%
Other*	139,780	131,743	-5.7%	110,903	-15.8%	120,870	+9.0%	99,317	-17.8%
Total	615,014	661,784	+7.6%	663,793	+0.3%	665,253	+0.2%	621,854	-6.5%

Other* includes all tropical surimi produced in China, as well as sardine and other species not listed mainly for tropical surimi

Table 2. World surimi production estimates by species' category. Source: PlutusIQ, GAPP.

Alaska Pollock Surimi Production, US

Alaska Pollock surimi production, based on NMFS data, declined by ~12.6 percent through Q4 2024 versus the prior year. This decline positions current production volumes notably below the 5-year average by approximately 10 thousand metric tons. Production in Q3 2024 decreased 15.4 percent compared to Q3 2023, while Q4 registered a 56.9 percent decline, marking one of the most significant quarterly contractions in recent years. While 2023 represented a multi-year peak in production volumes, the magnitude of the 2024 correction extends beyond typical cyclical adjustments, suggesting more fundamental shifts in production dynamics.

US Production, Alaska Pollock Surimi (MT)									
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1	73,647	59,033	-19.8%	65,191	+10.4%	75,954	+16.5%	64,806	-14.7%
Q2	14,511	32,804	+126.1%	15,211	-53.6%	19,798	+30.2%	24,067	+21.6%
Q3	69,935	95,932	+37.2%	78,865	-17.8%	93,384	+18.4%	79,033	-15.4%
Q4	19,048	5,919	-68.9%	2,030	-65.7%	5,971	+194.1%	2,572	-56.9%
Total	177,141	193,688	+9.3%	161,297	-16.7%	195,107	+21.0%	170,478	-12.6%
YTD	177,141	193,688	+9.3%	161,297	-16.7%	195,107	+21.0%	170,478	-12.6%

Table 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA Fisheries, PlutusIQ.

US Production

Alaska Pollock Surimi from week 1 to week 53

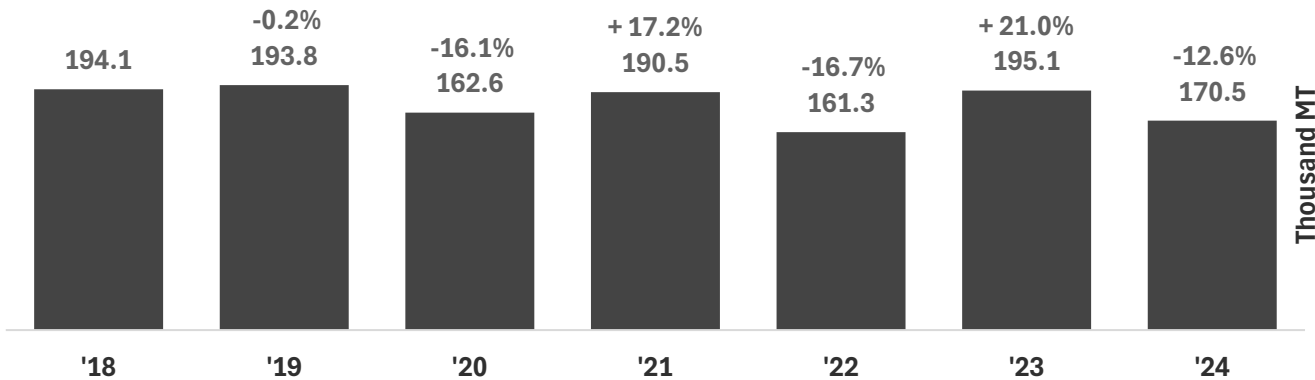


Figure 4. Alaska Pollock Surimi Production and YTD through week 53. Source: NOAA Fisheries, PlutusIQ.



US Production

Alaska Pollock Surimi

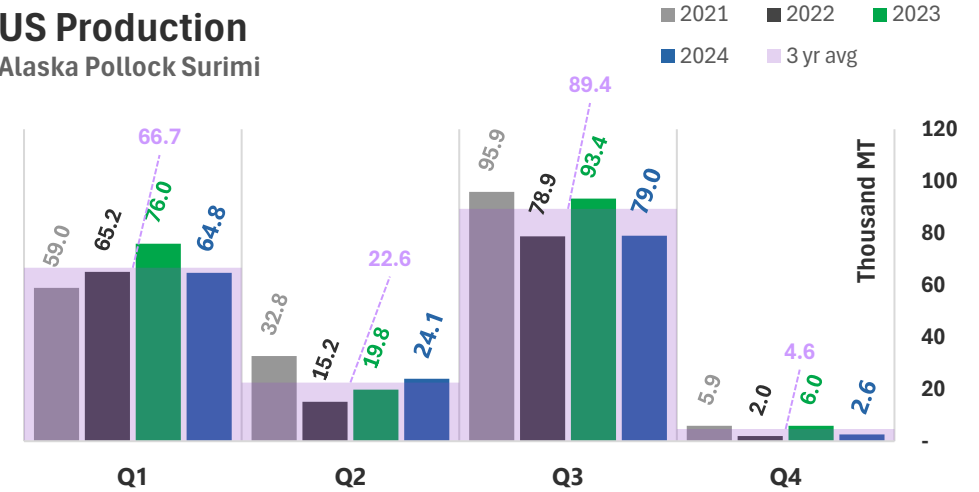


Figure 5. Alaska Pollock Surimi Production by Quarter. Source: NOAA, PlutusIQ.

US Production

Alaska Pollock Surimi

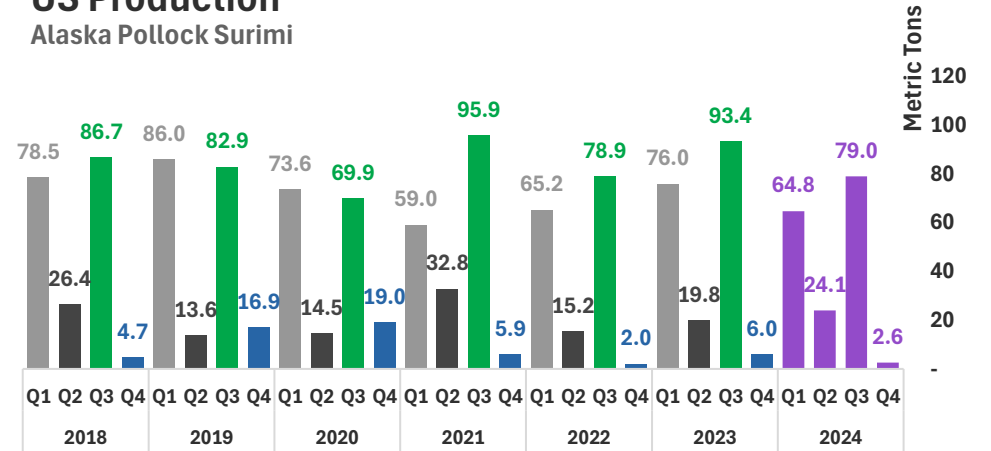


Figure 6. Alaska Pollock Surimi Production by Quarter, linear. Source: NOAA Fisheries, PlutusIQ.



Alaska Pollock Surimi Trade, US

Countries declaring imports from the US

Countries declaring imports of AKP surimi from the US registered a modest increase of 1.4 percent year-over-year through Q3. Japan, the primary destination market, demonstrated a 7.9 percent decline through Q3, with volumes decreasing from 63.8 to approximately 58.8 thousand metric tons.

Alaska Pollock Surimi Imports		*YTD from (Q1 to Q3)						
All Countries		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1		17,201	21,060	+ 22.4%	14,460	-31.3%	24,095	+ 66.6%
Q2		49,340	39,260	-20.4%	44,898	+ 14.4%	43,446	-3.2%
Q3		34,694	38,309	+ 10.4%	35,164	-8.2%	28,301	-19.5%
Q4		52,598	31,748	-39.6%	49,116	+ 54.7%		
Total		153,833	130,377	-15.2%	143,638	+ 10.2%		
*YTD		101,235	98,629	-2.6%	94,522	-4.2%	95,842	+ 1.4%

Table 4. Alaska Pollock Surimi Imports. Aggregate by declaring countries' customs.

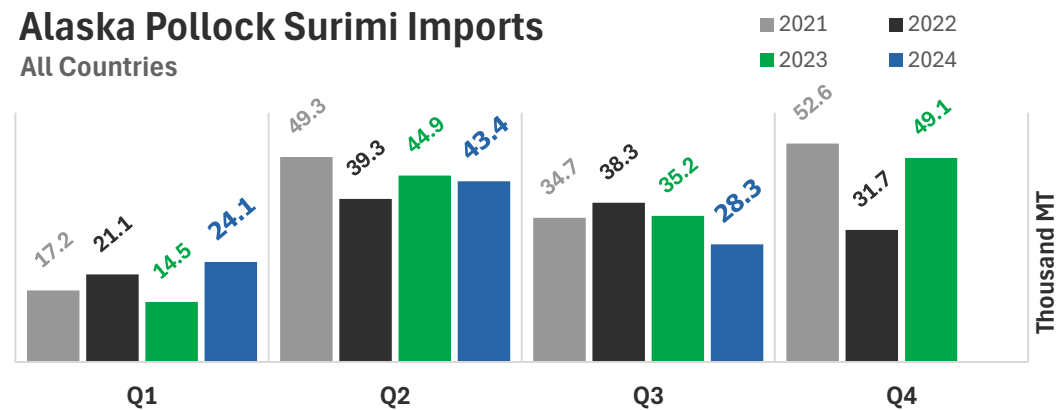


Figure 7. Alaska Pollock Surimi Imports. Aggregate of declaring countries by quarter.

Alaska Pollock Surimi Imports		(Q1 to Q3)						
By Declaring Country through Q3		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan		60,888	58,023	-4.7%	63,803	+ 10.0%	58,763	-7.9%
S. Korea		15,649	16,376	+ 4.6%	11,649	-28.9%	12,357	+ 6.1%
France		10,234	11,855	+ 15.8%	9,076	-23.4%	8,362	-7.9%
Lithuania		5,178	4,383	-15.4%	3,428	-21.8%	7,276	+ 112.3%
Thailand		2,008	3,161	+ 57.4%	2,354	-25.5%	3,363	+ 42.9%
Spain		4,600	2,667	-42.0%	2,237	-16.1%	3,926	+ 75.5%
Taiwan		1,023	1,037	+ 1.4%	1,229	+ 18.5%	1,155	-6.0%
Poland		930	676	-27.3%	507	-25.0%	182	-64.1%
Belarus		525	297	-43.4%				
Norway		160	114	-28.8%	178	+ 56.1%	381	+ 114.0%
Ukraine		40	40	-	61	+ 52.5%	77	+ 26.2%
Total		101,235	98,629	-2.6%	94,522	-4.2%	95,842	+ 1.4%

Table 5. Alaska Pollock Surimi Imports by declaring country.

The remainder of importing nations showed mixed performance, with particularly strong growth from Lithuania, posting a 112.3 percent expansion through Q3. France continued its downward trend with imports contracting 7.9 percent year-over-year through Q3.

Alaska Pollock Surimi Imports

By Declaring Country through Q2

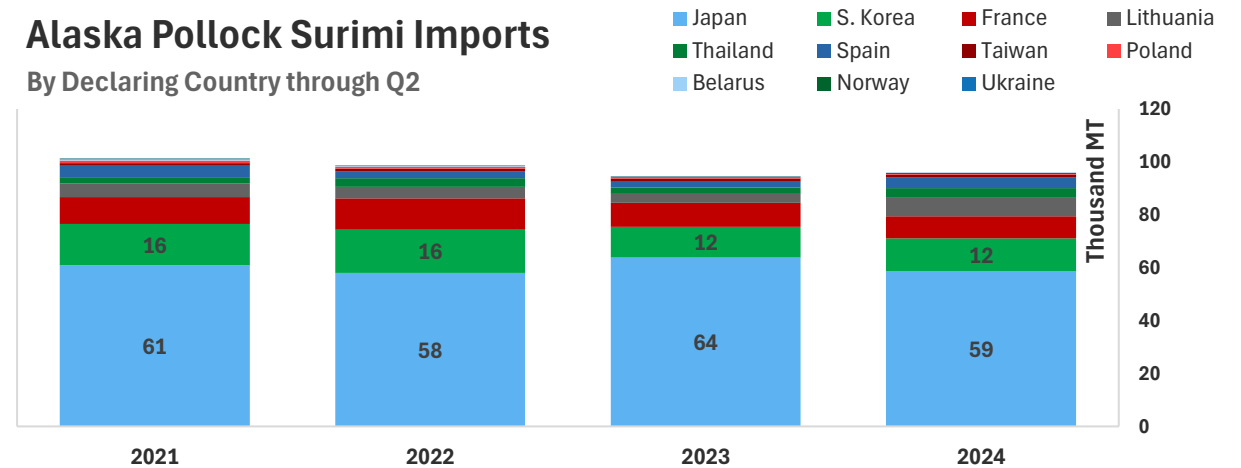
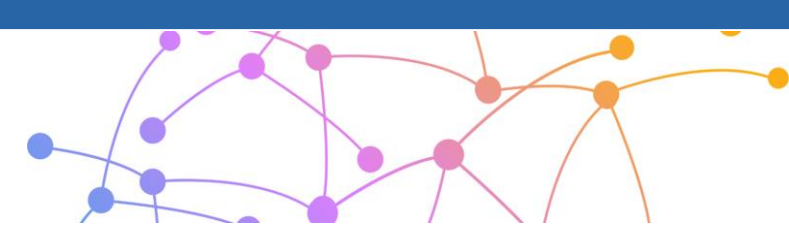


Figure 8. Alaska Pollock Surimi Imports by declaring country.

Alaska Pollock Surimi Trade, US

Countries declaring imports from the US + Pricing



Through Q3, countries importing Alaska Pollock surimi show only a marginal increase of 1.4 percent compared to 2023, contrasting with the significant decline in production. This behavior could be explained by inventory rotation dynamics and seasonality, as detailed in previous report analyses. Furthermore, this pattern aligns with the overall downward trend in price over the last 18 months, which suggests an increase in quantity demanded when prices are relatively low, all else equal.

For example, prices of Alaska Pollock surimi into Japan declined to the lowest level in at least seven years and remain hovering at those levels when expressed in USD. Average prices reached multi-year lows in Q1 '24 and Q2 '24, with Q3 '24 showing modest signs of stabilization, though still remaining at historically subdued levels.

Declaring Countries' imports

Alaska Pollock surimi

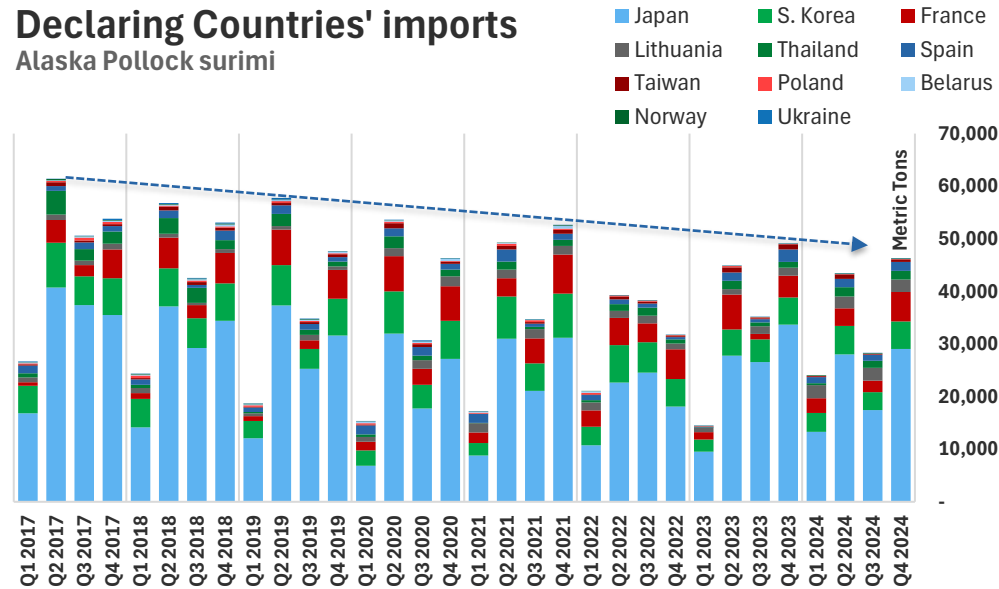


Figure 9. Alaska Pollock Surimi Imports. Linear imports by declaring countries. *Q4 '24 is incomplete.

Declaring Countries' imports

Alaska Pollock surimi

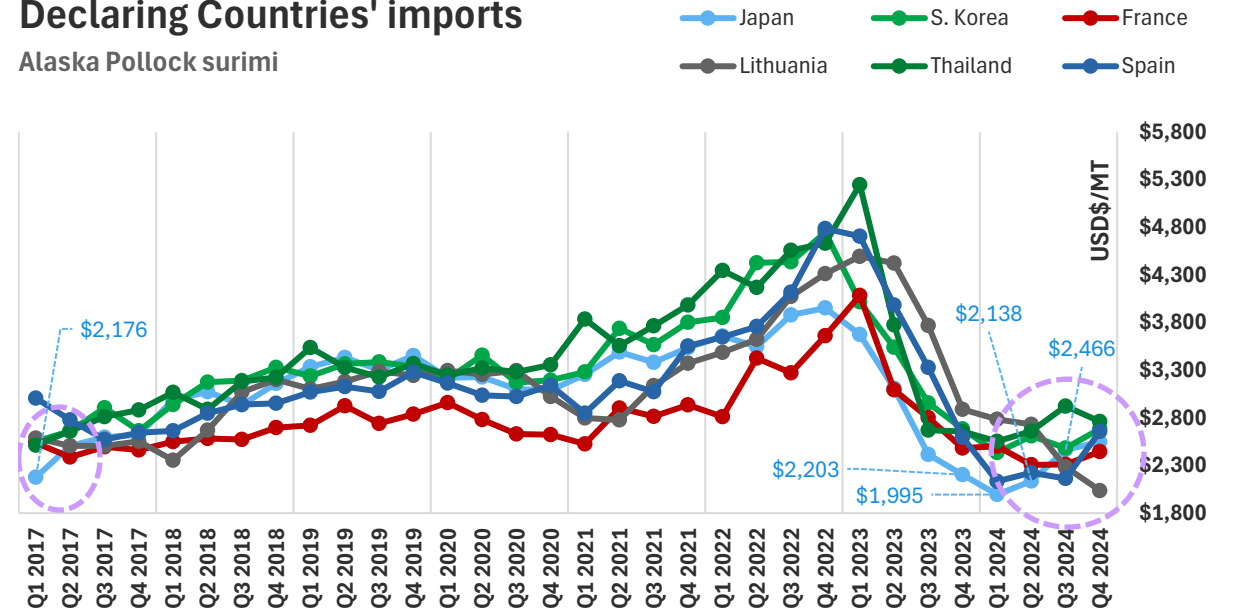


Figure 10. Alaska Pollock Surimi Import Price per MT by declaring country. Q4 '24 data is incomplete.

Alaska Pollock Surimi Trade, US

US Exports (by US Customs)

U.S. customs export data showed a 13 percent increase in 2024 (total) year-over-year, down from 177 thousand metric tons to 154 thousand metric tons. As is seasonally typical, a disconnect exists between export and import declarations, suggesting Q4 data may reveal further adjustments when countries report their import figures.

U.S. Alaska Pollock Surimi Exports *YTD from (Q1 to Q4)							
All Countries							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1	34,010	44,420	+ 30.6%	46,237	+ 4.1%	40,122	-13.2%
Q2	34,944	19,898	-43.1%	29,642	+ 49.0%	34,742	+ 17.2%
Q3	72,953	67,581	-7.4%	76,434	+ 13.1%	66,129	-13.5%
Q4	25,525	11,161	-56.3%	24,695	+ 121.3%	13,098	-47.0%
Total	167,432	143,060	-14.6%	177,008	+ 23.7%	154,091	-12.9%
*YTD	167,432	143,060	-14.6%	177,008	+ 23.7%	154,091	-12.9%

Table 6. Alaska Pollock Surimi Exports (US) by quarter. U.S. Customs, PlutusIQ.

U.S. Alaska Pollock Surimi

All Countries

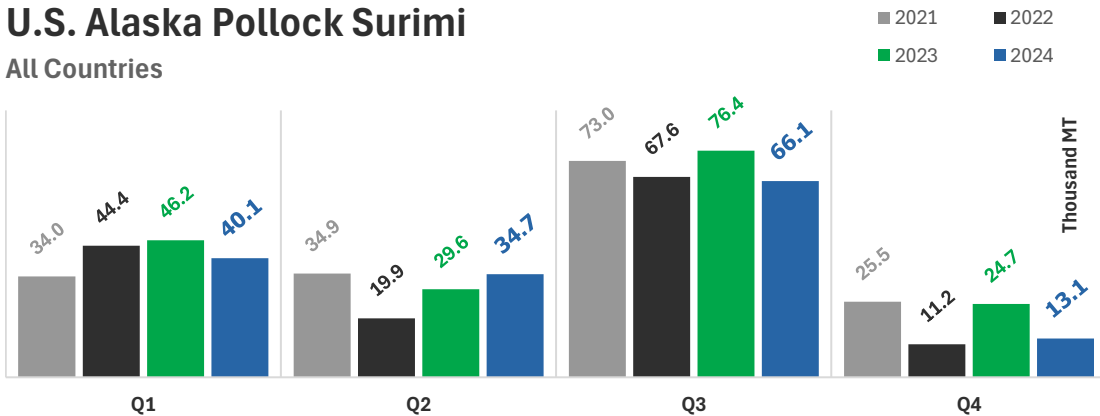


Figure 11. Alaska Pollock Surimi Exports. Aggregate of destination countries by quarter. *Q2 '24 is incomplete



U.S. Alaska Pollock Surimi Exports (Q1 to Q4)							
By Declaring Country through Q4							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
S. Korea	72,199	56,063	-22.3%	64,107	+ 14.3%	58,479	-8.8%
Japan	55,481	48,783	-12.1%	69,730	+ 42.9%	51,975	-25.5%
France	14,088	12,139	-13.8%	12,379	+ 2.0%	10,274	-17.0%
Lithuania	5,193	7,596	+ 46.3%	10,143	+ 33.5%	10,195	+ 0.5%
China	3,035	5,771	+ 90.1%	2,680	-53.6%	1,354	-49.5%
Netherlands	9,007	4,392	-51.2%	5,940	+ 35.2%	6,747	+ 13.6%
Thailand	3,074	4,184	+ 36.1%	3,511	-16.1%	4,543	+ 29.4%
Taiwan	1,837	1,355	-26.2%	2,096	+ 54.7%	1,419	-32.3%
India	941	630	-33.0%	23	-96.3%	2,153	+ 9260.9%
Spain	790	346	-56.2%	4,478	+ 1194.2%	4,200	-6.2%
Germany	400	95	-76.3%			493	
Total	167,432	143,060	-14.6%	177,008	+ 23.7%	154,091	-12.9%

Table 7. Alaska Pollock Surimi Exports (US) by destination declared.

Shipments to South Korea and Japan continue to dominate the export landscape, representing approximately 72 percent of total volumes. Notably, shipments to Japan contracted by 25.5 percent year-over-year, while those to South Korea declined by 9 percent year-over-year. Meanwhile, exports to Lithuania remained flat year-over-year but at an elevated level compared to 2022 and 2021.

U.S. Alaska Pollock Surimi Exports

By Declaring Country through Q4

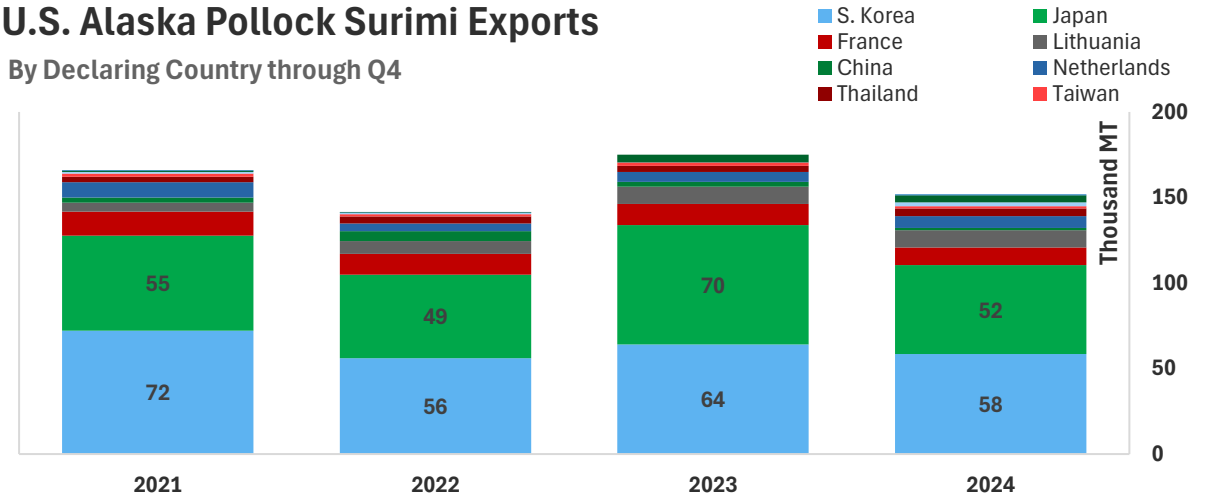


Figure 12. Alaska Pollock Surimi Exports by destination country.



Japan

Japanese Pollock Surimi & Atka Mackerel Surimi Production

Japanese Pollock

Final estimates for 2023 marked the lowest yearly production from this origin since at least 1992. This historically low output aligned with Japanese Pollock harvest volumes, which reached their lowest level since at least 2010. However, our estimates for 2024 indicate a 4 percent increase for the entire year, though with notable volatility between quarters.

Japanese Pollock Surimi Production

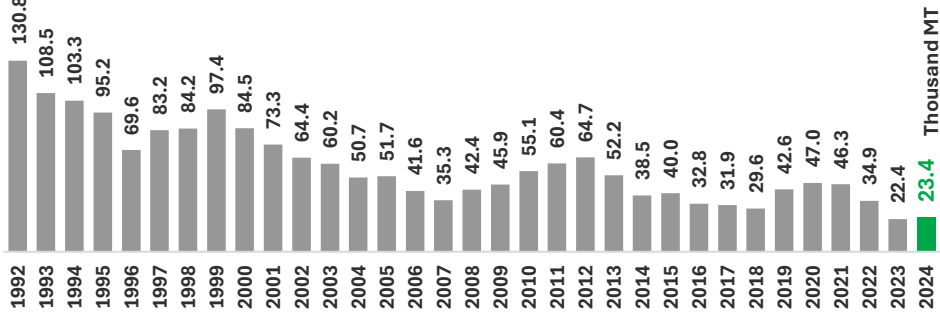


Figure 13. Japanese surimi production estimates. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, PlutusIQ.

Japanese Pollock TAC vs. Harvest

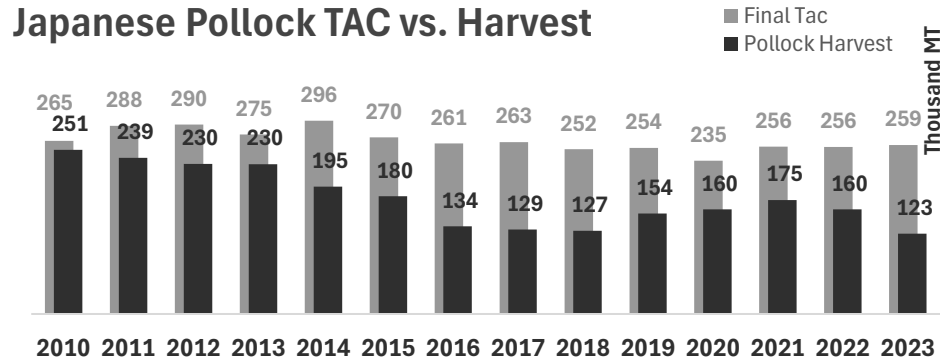


Figure 14. Japanese pollock harvest vs. TAC. Source: Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News.

Japanese Pollock Surimi Production

TOTAL ESTIMATE

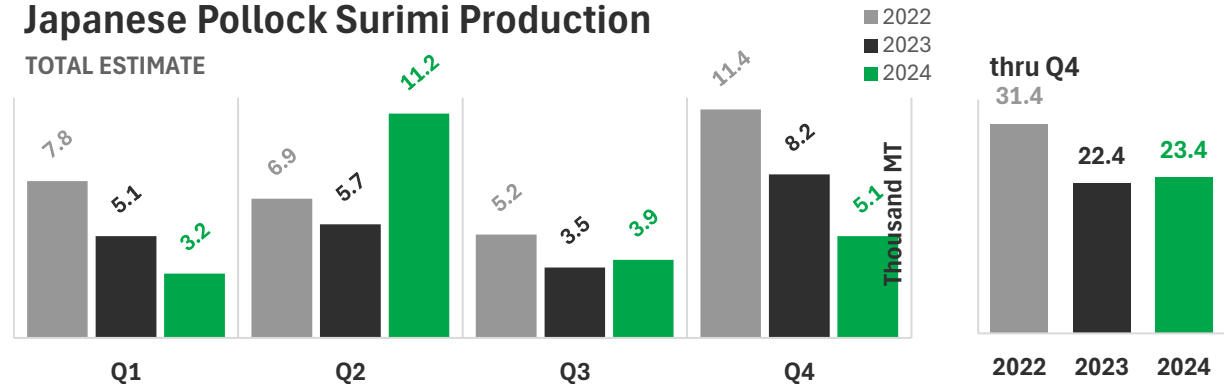


Figure 15. Japanese pollock surimi production estimates. Source: Tom Asakawa, TA Pacific Co., and Kambako News, PlutusIQ.

A significant observation is the persistent divergence between pollock surimi inventories and other species, with this gap widening substantially since Q2 '23 and maintaining breadth. Multiple factors could explain this pattern, but given the historically low prices for Alaska Pollock surimi, it is logical to assume that demand, as a function of holdings, would shift towards AKP surimi from any origin relative to other species. In other words, Japanese holdings of pollock surimi would be greater relative to other species if overall prices are low.

All Surimi Inventory, Japan

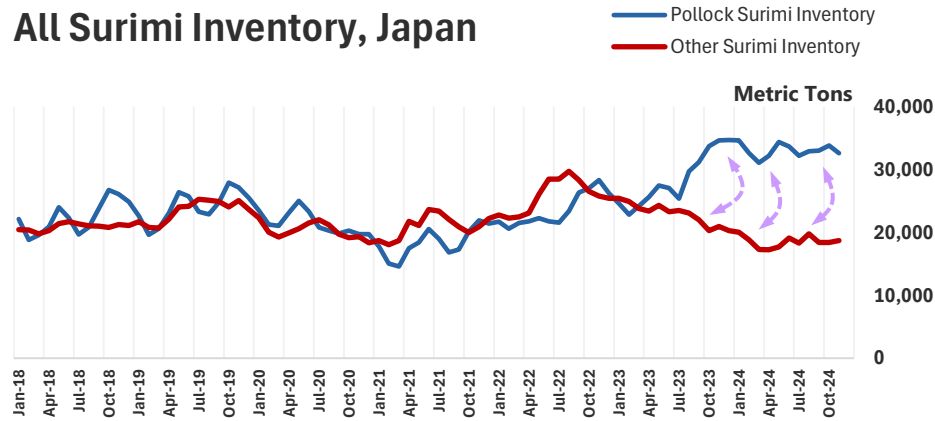


Figure 16. All surimi inventory in Japan. Tom Asakawa, TA Pacific Co., Japan MOF. PlutusIQ. Monthly through Nov 2024



Japan

Japanese Atka Mackerel Surimi + Tom Asakawa

Atka Mackerel

Production estimates for this species, focusing on Hokkaido output, show significantly lower volumes in 2024 compared to at least the previous two years. While historical data suggested an upward trend, the consistent declines over the past four quarters may indicate a structural shift in production patterns.

Atka Mackerel Surimi Production

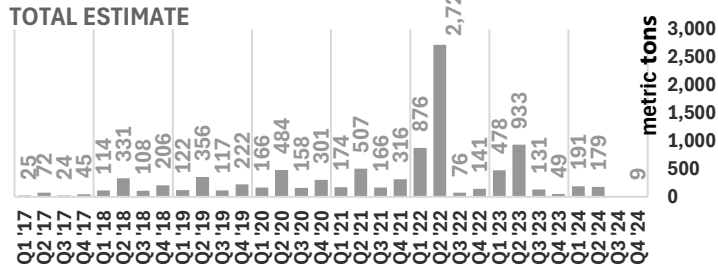


Figure 17. Japanese Atka Mackerel Harvest. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, PlutusIQ.

Atka Mackerel Surimi Production

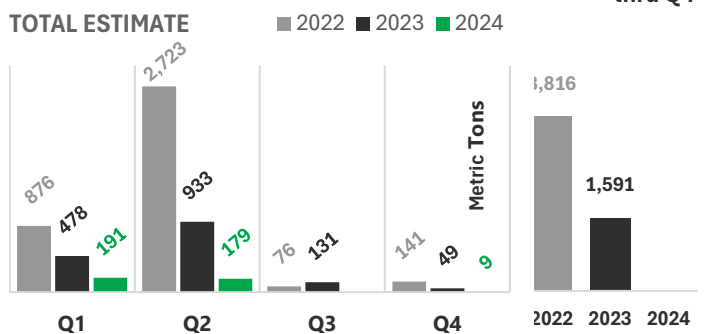


Figure 18. Atka Mackerel surimi production, Tom Asakawa, TA Pacific Co., and Kambako News, PlutusIQ.



Japanese Market, by Tom Asakawa

Japanese Pollock Catch and TAC

The Fishery Agency of Japan increased the total Pollock TAC for JFY 2024 to 272,660 MT in September from the initial 271,900 MT, an increase of 760 MT or 0.28%.

In 2022, Japan increased import duty on Russian seafood from 3.5% to 5% in response to Russia's invasion of Ukraine. Still, Japan keeps importing Russian pollock surimi, and in 2024 Q1-4, Japan imported 18,071 MT worth JPY 5,848 million (\$38.62 million), up 45.8% and 33.1% respectively over 2023.

Hokkaido surimi production

According to the National Surimi Association, Hokkaido's surimi production in 2024 totaled 7,273 MT, up 2.4% from a year ago. Pollock surimi was 6,937 MT, up 10.6%, Atka mackerel 99 MT, down 80.6%, and other fish 237 MT, down 25.9%. Shipment volume was 7,455 MT, up by 6.0%.

According to the association member reports, the total surimi inventory in Hokkaido at the end of December 2024 was 710 MT, down 20.4% from last year. No breakdown by species was available as of this writing. In addition, according to the Fisheries Agency of Japan's statistics, national surimi inventories at the end of November 2024 were 51,321 MT (32,603 MT of Alaska pollock surimi and 18,718 MT of other species surimi), up 1.6% from the previous month and down 10.6% from the same month last year.

Surimi paste imports

Surimi imports in 2024 were 212,060 MT, a 2.3% decrease compared to the previous year. From the United States, it decreased by 10.7% to 89,473 MT. Russia increased by 45.8% to 18,071 MT. Thailand increased by 29.9% to 16,890 MT. China increased by 2.2% to 16,018 MT. Argentina decreased by 47.8% to 2,969 MT. Chile decreased by 13.0% to 2,185 MT. India decreased by 5.8% to 42,130 MT. Vietnam increased by 1.6% to 14,991 MT.

Surimi Products Production

According to the Food Marketing Research and Information Center, the national production of surimi products in January-November 2024 was 393,980 MT, an increase of 19.0% compared to a year ago. It exceeded the 2023 total (January-December) of 366,023 MT. Still, it is far below the 2015-2022 production, ranging from 410,000-470,000 MT.

The price of the main ingredient, surimi, has remained stable. Still, product price increases sufficient to absorb rising costs have yet to be achieved. Surimi product manufacturers face a challenging situation regarding earnings and expenditure.

Continued on next page



Japan (cont.)

Japanese Market, by Tom Asakawa (cont.)

Household Spending Survey

According to the Statistics Bureau, Ministry of Internal Affairs and Communications, the average household expenditure with two or more family members on surimi products in Q1-3 2024 was 1,946 yen (\$12.57), a slight increase of 0.8% compared to the same period a year ago 1,930 yen (\$12.47). Since the beginning of the year, there have been no notable changes in sales of surimi products, and they have continued to move at the same pace as usual.

According to the Ministry, the average household consumption expenditure in November 2024 was 295,518 yen (\$1,910.64), down 0.4% from the previous year. Spending on surimi products was 790 yen (\$5.10), up 0.4%.

88% of Retailers Raise Surimi Product Prices

According to a survey on sales trends of surimi products conducted by the Minato Shimbun at the beginning of this year, targeting 25 major supermarkets and cooperatives nationwide, when asked about this year's price policy for fish paste products, amid the continued rise in costs such as labor and logistics for manufacturers, 22 of the 25 retailers that responded, or 88%, indicated their intention to either raise prices or raise prices effectively due to changes in specifications or both.

Passing on rising costs to prices

In the context of the extremely high costs of the past few years, all 27 retailers that responded to the same survey two years ago and 96% of the 23 retailers that responded the previous year indicated their intention to raise prices. This year, the number is 8 points lower than last, but as many as 90% of mass retailers are willing to pass on the manufacturers' increased costs.

A surimi industry blog noted the price increase of surimi products in March-April by the primary surimi product manufacturers: Maruha Nichiro 4-14%, Nissui 3-10%, Sugiyo 5-15%, Kanesada 5-15%, Fushimi 5-10%, Horikawa 5-15%, Kanetetsu 5-10%, Fujijimitsu 5-10%, and Ichimasa 5-15%.

Fish Protein

All Japan Kamaboko Makers Association continues promoting surimi products as an excellent source of protein. It states, "Surimi products contain a good balance of essential amino acids and are a treasure trove of high-quality protein. They are also easy to digest, so children and the elderly can eat them with peace of mind. The great thing about surimi products is that they can be used quickly without any preparation, and you can get a quick dose of nutrition. They are low in fat and contain high-quality protein, making them a great choice for health-conscious people." Only products that meet the fish protein content standards the Association sets (8.1g/100g or more, or 4.1g/100 kcal or more) can use the fish protein logo.



Fish Protein Logo
by the Kamaboko Makers Assoc.

Pacific Whiting Surimi Production

Production estimates of Pacific Whiting surimi exhibit a substantial decrease of 35.9 percent year-over-year through Q4, falling from ~36 to about ~23 thousand metric tons in 2024. This decline positions volumes well below the average for the past nine years.

Due to the discontinuation of public data availability, our estimates' margin of error has increased substantially. Nevertheless, the historically strong correlation between landings and surimi production data previously released by NMFS's regional offices suggests that our production estimates maintain reasonable accuracy.

Additional modifications in 2022 to NMFS regional offices' reporting methodologies have further complicated the estimation process. Consequently, we have implemented more fundamental methods to calculate surimi production by category. Please refer to the disclaimer for additional details.

Pacific Whiting Surimi Production

Estimates

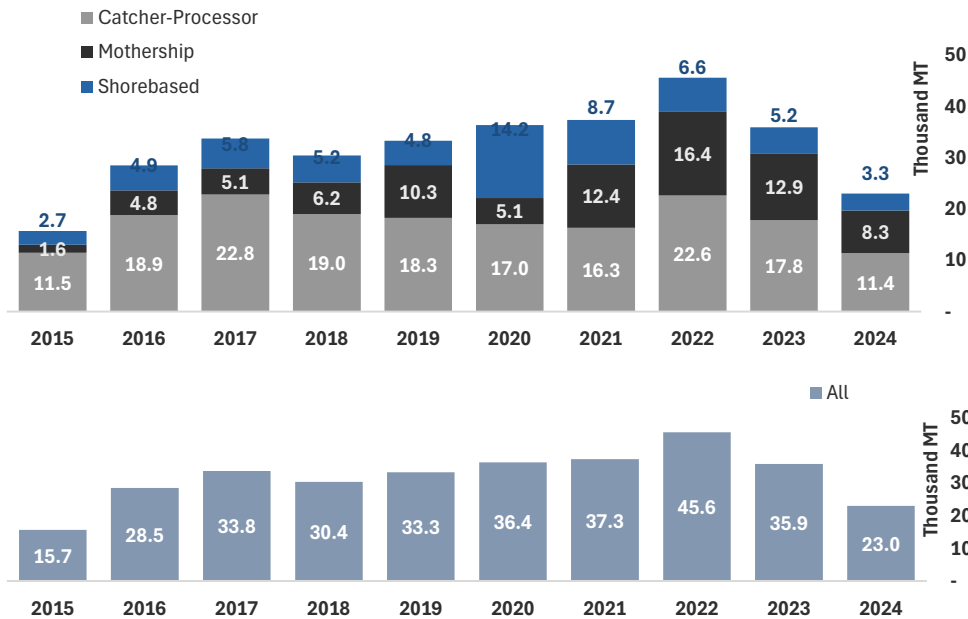
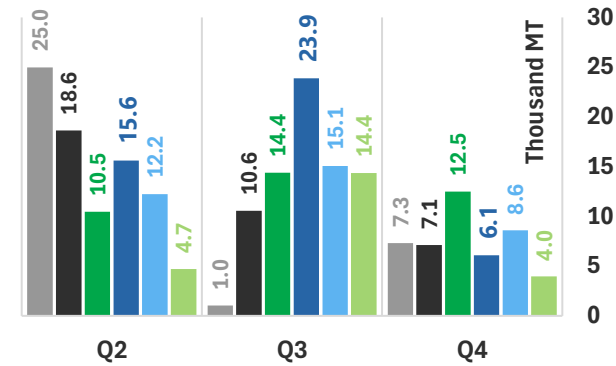


Figure 19. Pacific Whiting Surimi Production. NOAA Fisheries, Northwest Fisheries Science Center, and estimates for *2020, *2021, *2022, *2023, 2024.

PW Surimi Production Estimate

NW PW Surimi Prod Est.

2019 2020 2021 2022 2023 2024



Year-to-date through Q4

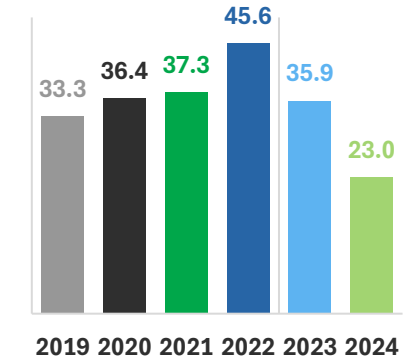


Figure 20. PW Surimi Production Estimate. NOAA, Northwest Fisheries Science Center, PlutusIQ . Data for 2024 considers complete preliminary data through Q2.

Disclaimer: There have been no updates on NOAA's Northwest Fisheries Science Center data beyond 2020. As a refresher, although shore-based production figures were suppressed before the most recent update that included 2020 production figures, total production figures were available, making it easy to calculate the remaining variable. However, "All" was also suppressed in the update mentioned above, making it difficult to approximate the missing values. As a result, we had to estimate the remaining figures by using a previously used method. Although this method is relatively rudimentary due to the lack of available data, we feel this approximation is a decent "best estimate" given the limitations.

As of August 2021, the FISHEYE app is no longer being regularly updated. Data were last updated on August 4, 2021. Therefore, our estimate method changed again.

UB Estimated Production, Pacific Whiting Surimi		**YTD (Q2 to Q4)							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1				3					
Q2	18,648	10,458	-43.9%	15,620	+49.4%	12,233	-21.7%	4,692	-61.6%
Q3	10,573	14,395	+36.2%	23,872	+65.8%	15,081	-36.8%	14,354	-4.8%
Q4	7,133	12,495	+75.2%	6,099	-51.2%	8,601	+41.0%	3,973	-53.8%
Total (UB Est.)	36,354	37,349	+2.7%	45,594	+22.1%	35,916	-21.2%	23,019	-35.9%
*Official thru '20	36,354	37,349	+2.7%	45,594	+22.1%	35,916	-21.2%	23,019	
**YTD	36,354	37,349	+2.7%	45,591	+22.1%	35,916	-21.2%	23,019	-35.9%
* UB Estimates.	'23 data complete								

Table 8. Estimated Production from Pacific Whiting Monthly Landings. NOAA Fisheries, Northwest Fisheries Science Center, PlutusIQ .



Pacific Whiting Surimi Trade, US

Countries declaring imports from the US + Pricing

Countries declaring imports of Pacific whiting surimi showed a marked decline of 44.4 percent through Q3 2024, with year-to-date figures falling approximately 40 percent below prior year levels. All primary destination markets registered significant contractions, with Lithuania experiencing a particularly sharp 51.9 percent decrease year-over-year through Q3. This decline correlates with Lithuania's increased imports of Alaska Pollock surimi, suggesting a substitution effect driven by price and preference factors. Spain, the dominant market, also recorded a substantial decrease of 40 percent. The overall trade pattern aligns with the significant contraction in production volumes.

From a pricing perspective, similar to Alaska Pollock, price levels reached multi-year lows across Q1, Q2, and Q3 2024, with preliminary data suggesting continued price pressure.

Pacific Whiting Surimi Imports		*YTD from (Q1 to Q3)						
All Countries		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1		3,379	3,299	-2.4%	5,805	+76.0%	3,681	-36.6%
Q2		3,291	4,737	+43.9%	4,314	-8.9%	2,382	-44.8%
Q3		5,214	6,230	+19.5%	5,274	-15.3%	2,489	-52.8%
Q4		6,373	6,781	+6.4%	3,295	-51.4%		
Total		18,257	21,047	+15.3%	18,688	-11.2%		
*YTD		11,884	14,266	+20.0%	15,393	+7.9%	8,552	-44.4%

Table 9. Pacific Whiting Surimi Imports, all declaring countries, from the U.S.—each country's customs, PlutusIQ.

Pacific Whiting Surimi Imports		*(Q1 to Q3)						
By Declaring Country		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Spain		4,275	5,028	+17.6%	6,956	+38.3%	4,173	-40.0%
Lithuania		4,373	3,538	-19.1%	4,630	+30.9%	2,228	-51.9%
Japan		1,356	2,891	+113.2%	1,225	-57.6%	160	-86.9%
France		536	1,310	+144.4%	457	-65.1%	251	-45.1%
Poland		824	891	+8.1%	1,358	+52.4%	1,397	+2.9%
Canada		285	278	-2.5%	369	+32.7%	258	-30.1%
Taiwan		229	188	-17.9%	234	+24.5%	84	-64.1%
Latvia		6	95	+1483.3%	69	-27.4%		
S. Korea			46		3	-93.5%		
*Total		11,884	14,266	+20.0%	15,393	+7.9%	8,552	-44.4%

Table 10. Pacific Whiting Surimi Imports, by declaring country, from the U.S.—each country's customs, PlutusIQ.



Pacific Whiting Surimi Imports

All Countries

■ 2021 ■ 2022 ■ 2023 ■ 2024

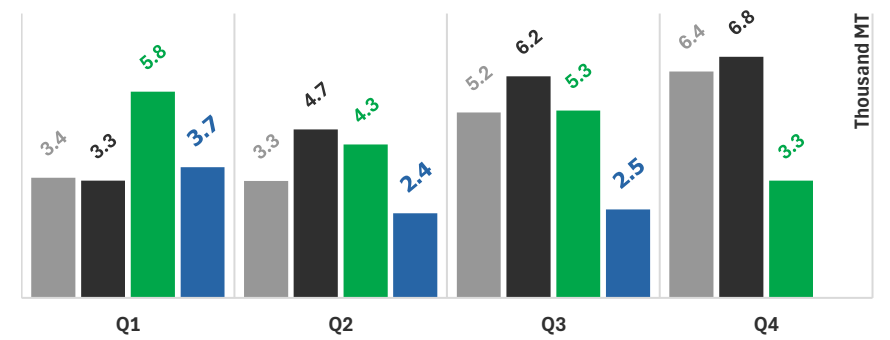


Figure 21. PW surimi imports, all countries by quarter from the U.S.—each country's customs, PlutusIQ.

Declaring Countries, Imports

Pacific Whiting Surimi

— Spain — Lithuania
— Japan — France

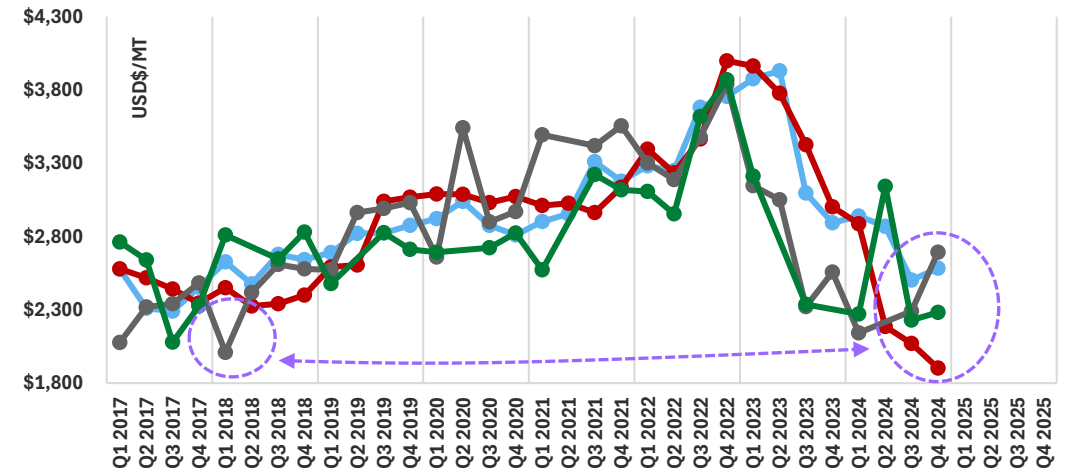


Figure 22. PW surimi import \$/MT—each country's customs, PlutusIQ.



Pacific Whiting Surimi Trade, US

Exports (US Customs)

U.S. export data presents a markedly different picture from countries declaring imports. The data shows alignment with seasonal production patterns, which logically follows, but these patterns are not similarly reflected in countries' import declarations. Consequently, Q1 shipments typically register lower volumes compared to subsequent quarters. However, in 2024, U.S. exports of Pacific Whiting surimi showed extraordinary growth in Q1 and Q2 '24, increasing 238.6 and 565.8 percent year-over-year, respectively. Yet, these figures can be deceiving only from a seasonal year-over-year perspective because 2023 was an atypical year. In addition, for this species, these figures must be evaluated in a larger time frame to avoid considering quarterly anomalies, which are not uncommon. Therefore, when evaluating the entire year, exports were 12 percent higher compared to 2023, which may seem like a significant increase.

Still, overall exports in 2024 ended at their second-lowest level in several years, with 2023 ranking as the lowest. While this could reflect inventory movements or data anomalies, these disparities must be evaluated against production levels and countries declaring imports for a complete assessment. When such discrepancies become particularly pronounced, discounting these outliers may be appropriate. The substantial disconnect between countries declaring imports and U.S. export data reveals significant inconsistencies in reporting codes for this species. Additionally, this suggests that export volumes could be overstated compared to surimi production figures, while import declarations might be underreported—beyond fundamental misclassification issues. A purely analytical evaluation of this data presents considerable challenges.

Pacific Whiting Surimi Exports		*YTD from (Q1 to Q4)						
All Countries		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1		1,778	238	-86.6%	303	+27.3%	1,026	+238.6%
Q2		3,218	1,521	-52.7%	199	-86.9%	1,325	+565.8%
Q3		742	3,085	+315.8%	813	-73.6%	829	+2.0%
Q4		6,789	3,875	-42.9%	4,907	+26.6%	3,792	-22.7%
Total		12,527	8,719	-30.4%	6,222	-28.6%	6,972	+12.1%
*YTD		12,527	8,719	-30.4%	6,222	-28.6%	6,972	+12.1%

Tables 11. Pacific Whiting Surimi Exports. All countries. U.S. Customs, PlutusIQ.

Pacific Whiting Surimi Exports

All Countries

■ 2021 ■ 2022
■ 2023 ■ 2024

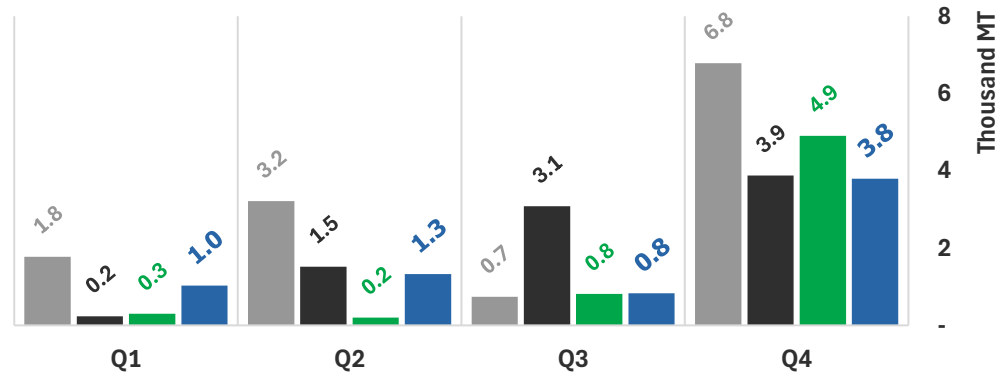


Figure 23. Pacific Whiting surimi exports by quarter. U.S. Customs, PlutusIQ.

Pacific Whiting Surimi Exports		*(Q1 to Q4)						
By Reported Destination Country through Q4		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Spain		5,233	4,151	-20.7%	3,877	-6.6%	1,747	-54.9%
Netherlands		4,650	1,277	-72.5%	1,367	+7.0%	2,921	+113.7%
Lithuania		11	1,269	+11436.4%				
S. Korea		1,253	653	-47.9%	96	-85.3%	486	+406.3%
Canada		709	629	-11.3%	707	+12.4%	551	-22.1%
Japan		211	334	+58.3%	69	-79.3%	903	+1208.7%
Thailand		332	137	-58.7%	42	-69.3%	42	-
China			29				23	
Poland					46			
*Total		12,527	8,719	-30.4%	6,222	-28.6%	6,972	+12.1%

Table 13. Pacific Whiting Surimi exports by country U.S. Customs, PlutusIQ.

Southern Blue Whiting and Hoki Surimi Production

SBW

Southern blue whiting surimi production estimates decreased 42.8 percent year-over-year through Q3. Argentina, which represents the majority of production, registered a decline of 50.8 percent through Q3. Meanwhile, Chilean production shows an unusual increase of 8,100 percent, though this figure requires year-end validation for meaningful interpretation. New Zealand traditionally reports minimal production in Q1 and Q2.

Hoki

Hoki surimi production estimates contracted 28.4 percent year-over-year through Q3. Argentina's production volumes dropped by 50.8 percent during this period, while New Zealand exhibited growth of 6.7 percent. Production from Chile, though relatively small in volume, showed an increase of 120 percent through Q3. The overall linear trend since 2017 maintains its downward trajectory for both SBW and Hoki surimi production.

Southern Blue Whiting Surimi Production

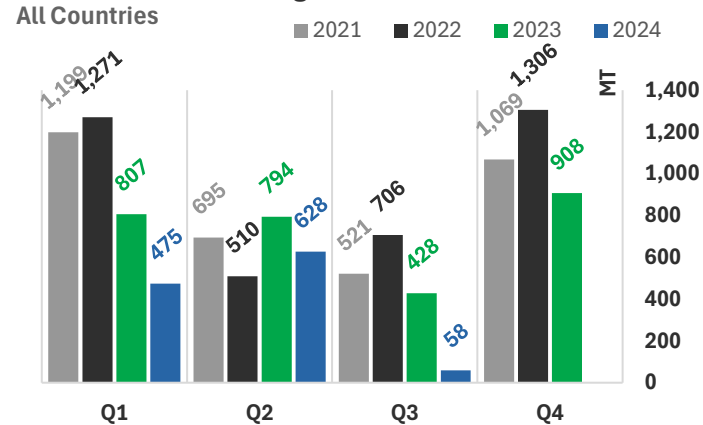


Figure 24. Southern Blue Whiting surimi estimated production by country. *Q4 is complete.

Hoki Surimi Production

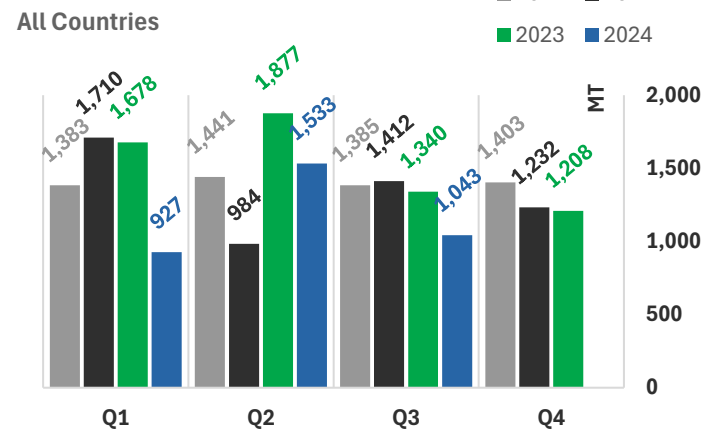


Figure 25. Hoki surimi production estimates. Each country's customs, PlutusIQ. *Q4 is complete.

Southern Blue Whiting Surimi Production				*YTD from (Q1 to Q3)			
All Countries							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1	1,199	1,271	+6.0%	807	-36.5%	475	-41.2%
Q2	695	510	-26.6%	794	+55.6%	628	-20.9%
Q3	521	706	+35.5%	428	-39.4%	58	-86.4%
Q4	1,069	1,306	+22.2%	908	-30.5%		
Total	3,484	3,793	+8.9%	2,936	-22.6%		
*YTD	2,415	2,487	+3.0%	2,029	-18.4%	1,161	-42.8%

Table 14. Southern Blue Whiting surimi estimated production.

Southern Blue Whiting Surimi Production				(Q1 to Q3)			
Production by Country							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Argentina	1,851	2,004	+8.3%	2,027	+1.1%	997	-50.8%
Chile	564	407	-27.8%	2	-99.5%	164	+8100.0%
New Zealand		76					
Total	2,415	2,487	+3.0%	2,029	-18.4%	1,161	-42.8%

Table 15. Southern Blue Whiting surimi estimated production by country, year-to-date.

Hoki Surimi Production				*YTD from (Q1 to Q3)			
All Countries							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Q1	1,383	1,710	+23.6%	1,678	-1.9%	927	-44.8%
Q2	1,441	984	-31.7%	1,877	+90.8%	1,533	-18.3%
Q3	1,385	1,412	+1.9%	1,340	-5.1%	1,043	-22.2%
Q4	1,403	1,232	-12.2%	1,208	-1.9%		
Total	5,612	5,338	-4.9%	6,104	+14.3%		
*YTD	4,209	4,106	-2.5%	4,895	+19.2%	3,503	-28.4%

Table 16. Hoki surimi estimated production by country, year-to-date.

Hoki Surimi Production				(Q1 to Q3)			
Production by Country							
	2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Argentina	2,777	3,007	+8.3%	3,040	+1.1%	1,496	-50.8%
Chile	76	139	+82.9%	25	-82.0%	55	+120.0%
New Zealand	1,356	960	-29.2%	1,830	+90.6%	1,952	+6.7%
Total	4,209	4,106	-2.5%	4,895	+19.2%	3,503	-28.4%

Table 17. Hoki surimi estimated production by country, year-to-date.

Southern Blue Whiting and Hoki Trade

Japanese imports of Argentinean surimi decreased by 50.1 percent through Q3 year-over-year. These trade figures remain incomplete, as Russian imports have been unavailable since mid-2022 due to the Russia-Ukraine war. Despite some data becoming available in 2024, actual trade volumes could be marginally higher than reported.

Surimi Imports from Argentina		*(Q1 to Q3)						
Countries Importing from: Argentina		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan		4,049	4,830	+19.3%	4,899	+1.4%	2,445	-50.1%
Russian Federation		439	157	-64.2%	24	-84.7%	24	-
Spain					144		24	-83.3%
Belarus		115	24	-79.1%				
South Africa		25						
*Total		4,628	5,011	+8.3%	5,067	+1.1%	2,493	-50.8%

Table 18. Surimi imports from Argentina by country.

Surimi Imports from Chile		*YTD from (Q1 to Q3)						
Countries Importing from: Chile		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan		1,843	2,405	+30.5%	1,908	-20.7%	1,537	-19.4%
Russian Federation		159	44	-72.3%	66	+50.0%	21	-68.2%
Spain			26		23	-11.5%	24	+4.3%
Belarus								
*Total		2,002	2,475	+23.6%	1,997	-19.3%	1,582	-20.8%

Table 19. Surimi imports from Chile by country.

Surimi Imports from New Zealand		*(Q1 to Q3)						
Countries Importing from: ew Zealand		2021	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan		267	401	+50.2%	284	-29.2%	166	-41.5%
South Africa		20						
*Total		287	401	+39.7%	284	-29.2%	166	-41.5%

Table 20. Surimi imports from New Zealand by country.

Japanese imports of Chilean surimi declined by approximately 19.4 percent year-over-year through Q3.

Japanese surimi imports from New Zealand decreased by 41.5 percent year-over-year through Q3.

Disclaimer: Southern blue whiting (SBW) and Hoki surimi production were assumed to be a function of trade. There was consensus in which domestic markets for the three leading producers—Argentina, Chile, and New Zealand—were too small to be significant. As such, we utilized the following methodology:

- Use recipient countries' volumes of surimi from Argentina and assume a 60/40 percent split between Hoki and SBW surimi, respectively
- Use Chilean exports as declared, which are divided by species.
- Use New Zealand exports as declared, divided by species.

Countries importing from Argentina All Surimi

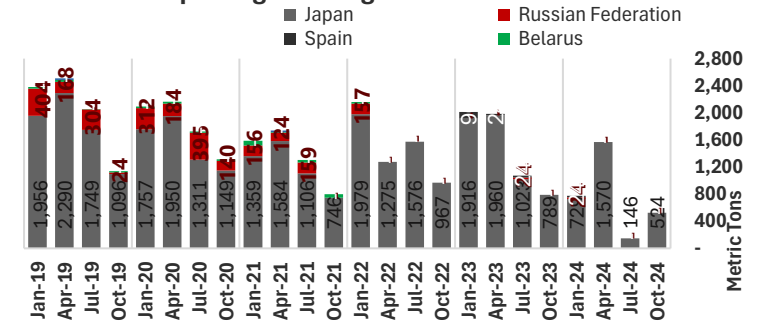


Figure 26. SBW and Hoki Surimi imports from Argentina. *Q1 2024 data is incomplete.

Countries importing from Chile All Surimi

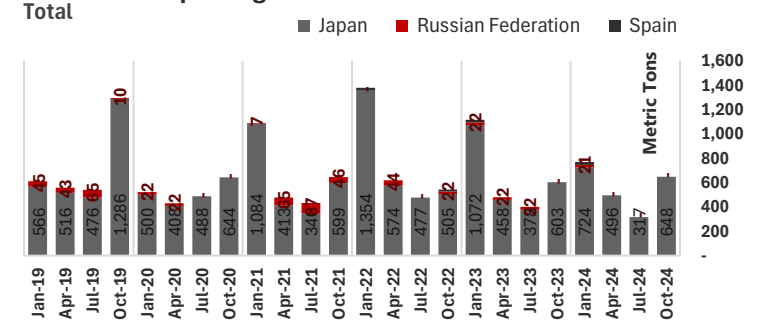


Figure 27. Surimi imports from Chile by country. *Q2 2024 data is incomplete.

Countries importing from New Zealand All Surimi

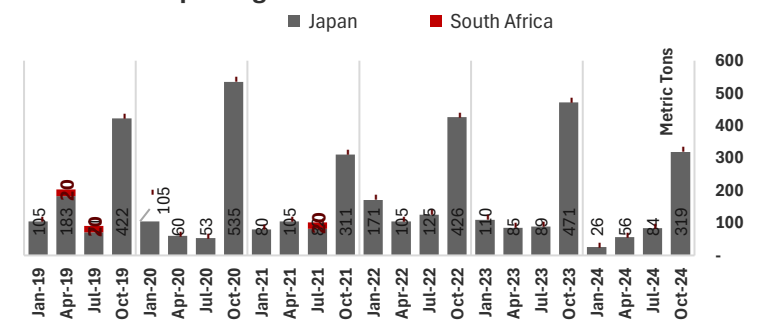


Figure 28. Surimi imports from New Zealand by country. *Q2 2024 data is incomplete.

Northern Blue Whiting Surimi Production, France

Northern blue whiting surimi production estimates indicate a decrease from 835 to 558 metric tons in Q3 year over year. These estimates are derived through trade figure extrapolation.

Countries importing from France from Q1 to Q3		2017	2018	2019	2020	2021	2022	2023	2024
Metric Tons									
nbw surimi	Japan	814	679	958	239	503	1,005	359	477
	Belarus	-	168	359	254	351	156	-	-
	China (People's Republic of)	48	166	71	-	24	-	24	-
	Spain	-	-	65	26	22	60	80	48
	Poland	-	-	-	-	116	-	-	-
	Other	-	-	3	2	-	31	20	33
	Total	863	1,014	1,455	522	1,016	1,253	484	558

Table 21. Imports by declaring countries of northern blue whiting surimi from France.

France's Northern Blue Whiting Surimi Production

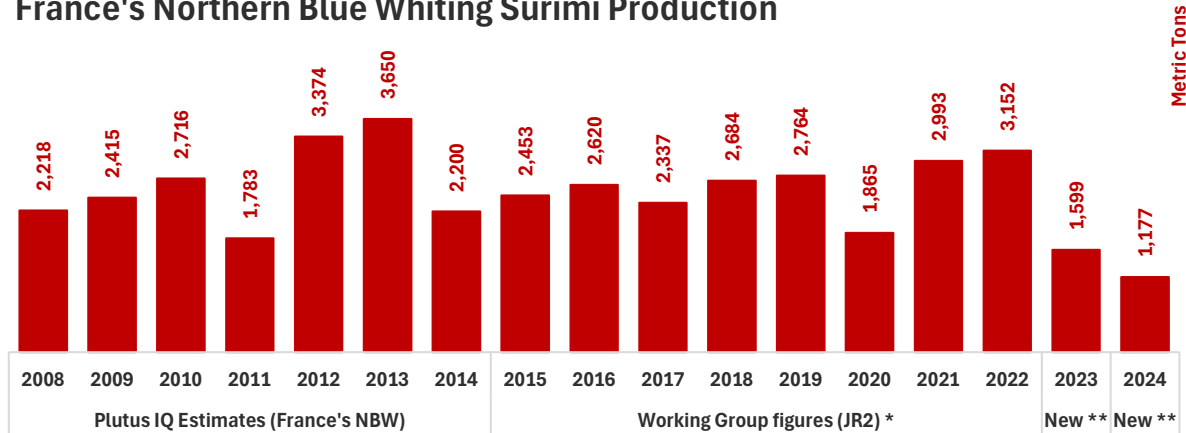


Figure 29. Northern blue whiting surimi production estimates. Source: GAPP, Plutus IQ. *extrapolated + working group feedback.

France's Northern Blue Whiting Surimi Production

(Est. by Quarter)

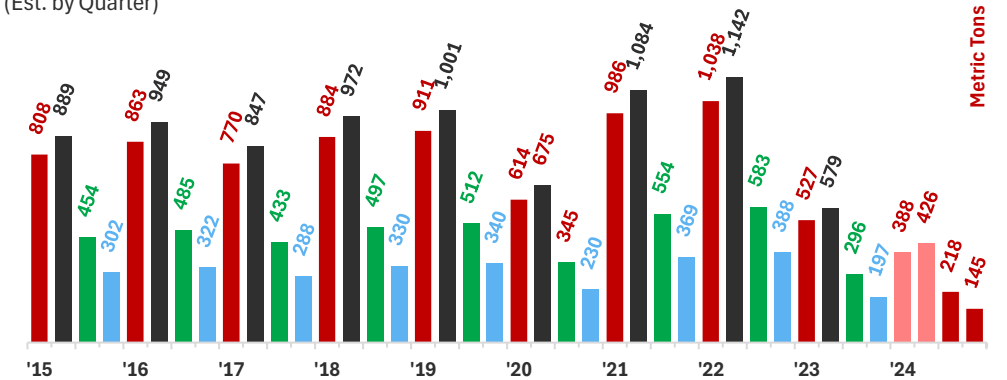


Figure 30. Northern blue whiting surimi production estimates. Source: GAPP, Plutus IQ. *extrapolated + working group feedback, **extrapolated for 2024.



Tropical Surimi, Production and Price

Excluding China from the "Tropical" category, surimi production estimates decreased by about 11.4 percent year-over-year through Q3. The most significant decline originated from Itoyori, falling nearly 30 percent compared to the previous year. Ribbon fish, a major component of this category, contracted by 7.8 percent year-over-year. Production of Eso (lizard fish) showed relative stability with a marginal decline of 1.8 percent.

Regarding pricing, using Itoyori as a benchmark against Alaska Pollock surimi, the downward trend over the past year is evident. When expressed in Japanese Yen, prices in Q1 reached levels not seen since 2017, though showing modest recovery since. However, in US Dollar terms, Q2 and Q3 prices for both Alaska Pollock surimi and Itoyori continue to hover near the lows observed in 2017.

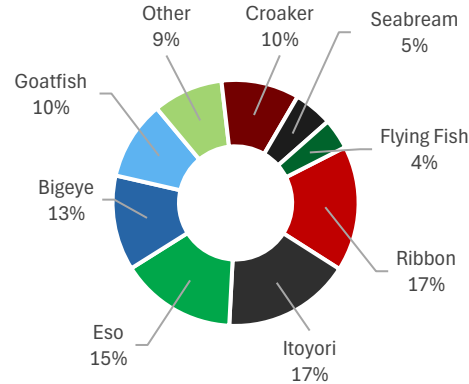


Figure 31. Tropical Surimi estimated breakdown by species. *Does not include China.

thru Q3	2021	2022	'22 vs '21	2023	'23 vs '22	2024	'24 vs '23
Ribbon	10,776	9,917	-8.0%	13,508	36.2%	12,012	-11.1%
Itoyori	16,511	26,402	59.9%	14,717	-44.3%	12,217	-17.0%
Eso	11,168	10,958	-1.9%	11,393	4.0%	11,094	-2.6%
Bigeye	9,752	9,291	-4.7%	9,132	-1.7%	9,093	-0.4%
Goatfish	7,798	7,925	1.6%	7,349	-7.3%	7,532	2.5%
Other	6,706	6,310	-5.9%	6,813	8.0%	6,701	-1.6%
Croaker	8,490	8,148	-4.0%	6,742	-17.3%	7,451	10.5%
Seabream	4,632	4,252	-8.2%	3,380	-20.5%	3,698	9.4%
Flying Fish	3,461	3,309	-4.4%	2,629	-20.5%	2,913	10.8%
Total	79,293	86,512	9.1%	75,664	-12.5%	72,710	-3.9%

Table 22. Tropical surimi production estimates. Year-to-date. Source: GAPP, US Customs, PlutusIQ.

Price Comparison

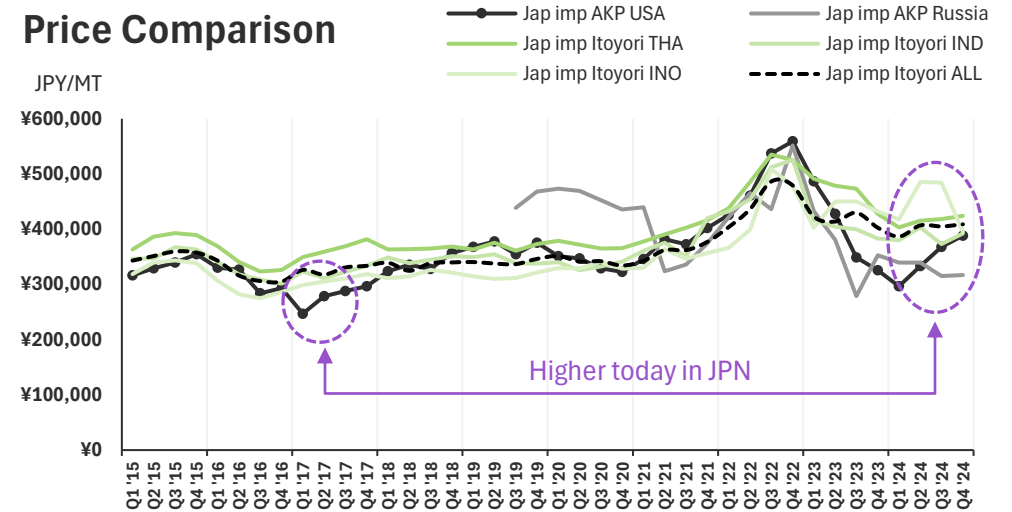


Figure 32. Itoyori vs. AK Pollock of Japan import JPN/mt comparison. Source: PlutusIQ, Q2 '24 data is incomplete.

Price Comparison

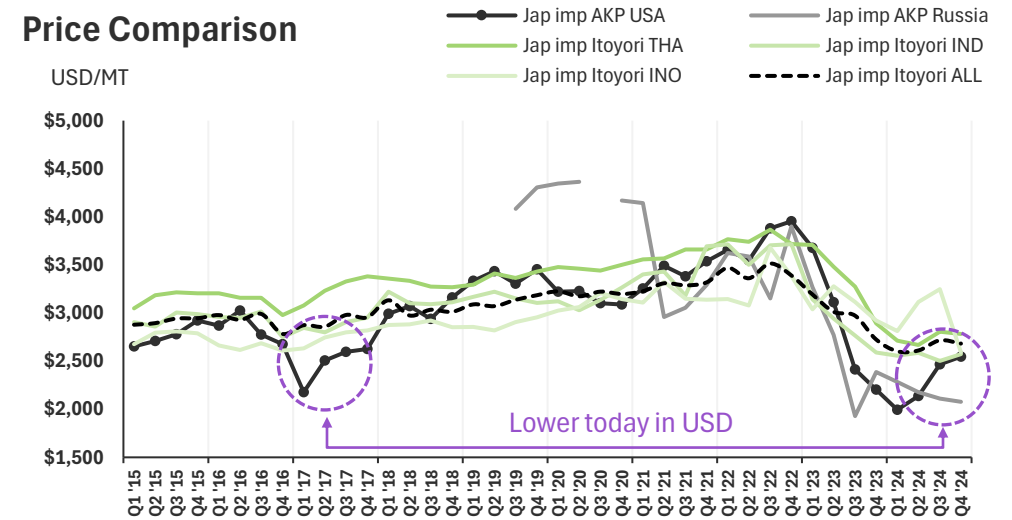


Figure 33. Itoyori vs. AK Pollock of Japan import USD/mt comparison. Source: PlutusIQ, Q2 '24 data is incomplete.

Tropical Surimi Production, Thailand

Production estimates from Thailand indicate a 41 percent year-over-year volume expansion through Q3. This growth is notable considering Thailand's historical role as one of Japan's main suppliers, following reduced catches over the past two years. Japan has increased its imports from Thailand year-over-year, though volumes remain below historical levels needed to offset the 2023 shortfall.

Our estimates indicate Russia imported ~972 metric tons of Thai surimi through Q3 in 2024. Overall, countries declaring imports from Thailand registered an increase of 31.6 percent year-over-year through Q3.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Thailand's est. Production by Species thru Q3

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Other	Total
2010	27,141	8,069	4,987	3,740	3,173	2,720	2,267	4,080	56,176
2011	22,902	8,047	4,973	3,730	3,164	2,712	2,260	4,069	51,857
2012	17,517	9,270	5,728	4,296	3,645	3,125	2,604	4,687	50,872
2013	14,843	6,323	3,907	2,930	2,486	2,131	1,776	3,197	37,594
2014	15,823	6,479	4,004	3,003	2,548	2,184	1,820	3,276	39,136
2015	13,738	5,413	3,345	2,509	2,129	1,825	1,521	2,737	33,217
2016	11,242	5,493	3,395	2,546	2,160	1,852	1,543	2,777	31,008
2017	8,952	3,916	2,420	1,815	1,540	1,320	1,100	1,980	23,043
2018	7,599	4,402	2,720	2,040	1,731	1,484	1,236	2,226	23,439
2019	8,502	4,269	2,638	1,979	1,679	1,439	1,199	2,158	23,863
2020	10,313	4,544	2,808	2,106	1,787	1,532	1,276	2,298	26,664
2021	8,767	3,352	2,752	1,393	1,072	1,667	1,337	1,979	22,319
2022	7,624	4,344	2,836	1,087	1,273	547	512	1,258	19,483
2023	5,551	2,829	1,748	1,311	1,112	954	795	1,430	15,730
2024	9,993	3,363	2,078	1,559	1,322	1,133	945	1,700	22,093

Table 22. Yearly estimates of Thailand's surimi production by species.

Thailand's est. Production by Species thru Q3

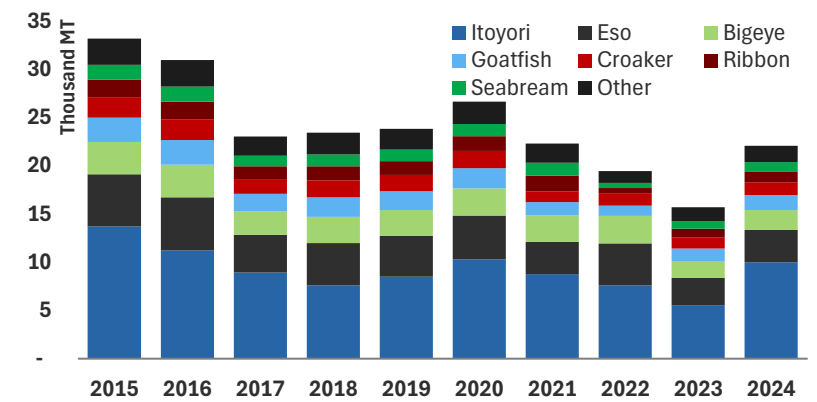


Figure 34. Yearly estimates of Thailand's surimi production by species.

Countries declaring surimi imports from Thailand from Q1 to Q3

Reporter Name	Species	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan	Barrac, Sea Breams, Kingclip	19	-48.6%	9	-52.6%	13	+44.4%	14	+7.7%	44	+214.3%	135	+206.8%	108	-20.0%
	Itoyori	5,024	-37.4%	5,545	+10.4%	6,143	+10.8%	6,058	-1.4%	5,661	-6.6%	3,079	-45.6%	5,642	+83.2%
	Other	11,020	-23.4%	10,705	-2.9%	9,720	-9.2%	9,185	-5.5%	8,478	-7.7%	5,518	-34.9%	6,743	+22.2%
	Sardine, Other	3	+50.0%					6		12	+100.0%	8	-33.3%		
Russia	All	1,761	+25.2%	2,125	+20.7%	2,469	+16.2%	2,525	+2.3%	1,582	-37.4%	997	-36.9%	1,361	+36.4%
S. Korea	All	1,032	-43.4%	984	-4.7%	907	-7.8%	768	-15.3%	1,488	+93.8%	864	-41.9%	1,248	+44.4%
Malaysia*	All	174	-67.1%	314	+80.8%	327	+4.1%	242	-25.8%	259	+6.7%	166	-35.7%	163	-1.9%
China	All	336	+46.7%	294	-12.5%	527	+79.3%	752	+42.7%	408	-45.7%	623	+52.7%	538	-13.6%
Taiwan	All	91	-5.2%	270	+196.7%	515	+90.7%	611	+18.6%	461	-24.5%	337	-26.9%	537	+59.3%
Hong Kong	All	112	-23.3%	212	+89.3%	308	+45.3%	425	+38.0%	400	-5.9%	337	-15.8%	317	-5.9%
Canada	All	66		124	+87.9%	174	+40.3%	184	+5.7%	764	+315.2%	372	-51.3%	366	-1.6%
Philippines	All	305		210	-31.1%	92	-56.2%	180	+95.7%	159	-11.7%	142	-10.7%		
New Zealand	All	45	-43.0%	56	+24.4%	44	-21.4%	39	-11.4%	12	-69.2%	23	+91.7%	23	+0.0%
Lithuania	All	129	+138.9%	421	+226.4%	219	-48.0%	186	-15.1%	69	-62.9%	5	-92.8%	89	+1680.0%
France	All	350	-32.7%	307	-12.3%									24	
Other												548		157	-71.4%
Total		20,415	-26.0%	21,493	+5.3%	21,342	-0.7%	20,957	-1.8%	19,041	-9.1%	13,155	-30.9%	17,316	+31.6%

Table 23. Countries declaring surimi imports from Thailand. Source: each country's customs, authority, PlutusIQ. Russian figures were imputed.

*Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

Tropical Surimi Production, India

Production estimates from India show a 14.9 percent decrease year-over-year through Q3, though volumes remain above the nine-year average. These estimates reflect a decline from 82.7 to 70.1 thousand metric tons.

Regarding trade flows, aggregate volumes from countries declaring imports from India decreased 14.9 percent year-over-year through Q3. Given comparable levels relative to exports, Russian values were not imputed as done for other producing countries. China, the largest market after Japan, registered a significant decline of 60 percent year-over-year through Q3. Japan's imports decreased by approximately 10 percent, while Taiwan saw a decline of around 20 percent. South Korea showed positive growth with an 18 percent increase year-over-year through Q3.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

India's est. Production by Species thru Q3

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Other	Total
2015	9,607	6,652	4,410	2,646	-	13,890	4,158	41,362
2016	6,637	8,850	5,866	3,520	-	18,478	5,531	48,882
2017	8,355	12,627	8,371	5,022	-	26,367	7,892	68,635
2018	14,141	11,870	7,868	4,721	-	24,784	7,418	70,802
2019	7,184	12,364	8,196	4,917	-	25,816	7,727	66,203
2020	2,082	11,424	7,573	4,544	-	23,853	7,140	56,615
2021	10,282	11,557	7,661	4,597	-	24,132	7,223	65,451
2022	17,445	14,162	9,388	5,633	-	29,571	8,851	85,050
2023	10,123	16,603	11,005	6,603	-	34,667	10,377	89,378
2024	3,117	14,629	9,697	5,818	-	30,545	9,143	72,949

Table 24. Yearly estimates of India's surimi production by species.

India's est. Production by Species thru Q3

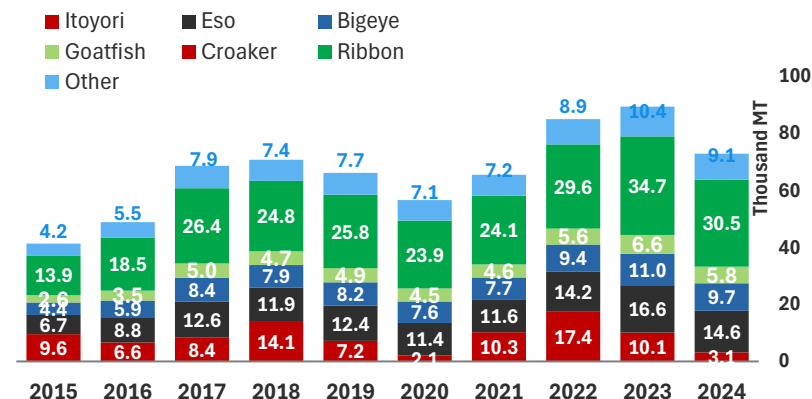


Figure 35. Yearly estimates of India's surimi production by species.

Countries declaring surimi imports from India from Q1 to Q3

Reporter Name	Species	Yearly Estimates (2018-2024)													
		2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan	Itoyori	5,530	+2.2%	2,951	-46.6%	928	-68.6%	4,097	+341.5%	6,745	+64.6%	3,634	-46.1%	1,239	-65.9%
	Other	24,399	-26.1%	26,459	+8.4%	23,711	-10.4%	25,865	+9.1%	33,837	+30.8%	31,289	-7.5%	29,949	-4.3%
Taiwan	Sardine, Other			67											
	All	11,377	-23.6%	10,427	-8.4%	9,172	-12.0%	9,178	+0.1%	9,701	+5.7%	13,117	+35.2%	10,481	-20.1%
Thailand	All	3,077	-39.7%	4,829	+56.9%	4,689	-2.9%	10,792	+130.2%	12,836	+18.9%	13,048	+1.7%	8,085	-38.0%
	Other	229	-49.7%	53	-76.9%	416	+684.9%	75	-82.0%						
S. Korea	All	4,839	-22.6%	4,531	-6.4%	3,905	-13.8%	3,789	-3.0%	4,598	+21.4%	4,581	-0.4%	5,405	+18.0%
Russia	All	6,837	-18.4%	5,407	-20.9%	2,046	-62.2%	4,711	+130.3%	1,673	-64.5%	798	-52.3%	561	-29.7%
Malaysia	All	2,869	-46.2%	1,253	-56.3%	2,239	+78.7%	2,101	-6.2%	3,093	+47.2%	3,994	+29.1%	2,341	-41.4%
China	All	1,938	-57.3%	2,237	+15.4%	1,901	-15.0%	1,166	-38.7%	1,845	+58.2%	4,724	+156.0%	3,477	-26.4%
Belarus*	All	3,385	-21.4%	3,316	-2.0%	4,080	+23.0%	3,022	-25.9%	2,475	-18.1%				
Lithuania	All	1,183	-33.3%	844	-28.7%	584	-30.8%	533	-8.7%	2,245	+321.2%	2,240	-0.2%	1,050	-53.1%
Singapore	All	917	-29.6%	1,775	+93.6%	1,529	-13.9%	2,175	+42.2%	108	-95.0%	575	+432.4%	2,086	+262.8%
Spain	All	631	-42.6%	508	-19.5%	244	-52.0%	269	+10.2%	772	+187.0%	360	-53.4%	242	-32.8%
Potland	All			72		600	+733.3%	888	+48.0%	680	-23.4%	1,044	+53.5%	792	-24.1%
Other		1,149	-33.1%	793	-31.0%	1,215	+53.2%	1,427	+17.5%	2,138	+49.8%	2,997	+40.2%	4,402	+46.9%
Total		68,360	-26.9%	65,522	-4.2%	57,259	-12.6%	70,088	+22.4%	82,746	+18.1%	82,401	-0.4%	70,110	-14.9%

Table 25. Countries declaring surimi imports from India. Source: each country's customs, authority, PlutusIQ.

*Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

Tropical Surimi Production, Vietnam

Production estimates from Vietnam indicate a 8.2 percent decrease year-over-year through Q3, from 109.4 to 100.6 thousand metric tons. This places production estimates at the lowest level since at least 2015 on a year-to-date basis.

In terms of trade, countries declaring surimi imports from Vietnam decreased by 6.8 percent year-over-year through Q3. South Korea's imports increased by 2.6 percent year-over-year through Q3, while China's imports rose by 2.4 percent during the same period. Notably, imports by Indonesia decreased by 14.7 percent year-over-year through Q3.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Viet-Nam's est. Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	22,078	13,657	13,358	12,160	14,855	7,907	7,907	6,739	7,188	105,848
2016	15,062	14,051	13,743	12,510	15,284	8,135	8,135	6,933	7,395	101,248
2017	18,767	13,410	13,116	11,940	14,586	7,764	7,764	6,617	7,058	101,022
2018	16,745	15,375	15,037	13,689	16,723	8,901	8,901	7,586	8,092	111,049
2019	19,605	16,603	16,239	14,782	18,059	9,612	9,612	8,192	8,738	121,442
2020	23,254	14,781	14,457	13,160	16,078	8,557	8,557	7,293	7,779	113,917
2021	33,314	17,365	16,984	15,461	18,888	10,053	10,053	8,568	9,139	139,827
2022	39,359	17,438	17,055	15,526	18,968	10,096	10,096	8,604	9,178	146,319
2023	27,578	13,331	13,039	11,869	14,500	7,718	7,718	6,578	7,016	109,347
2024	15,287	13,867	13,563	12,347	15,084	8,028	8,028	6,842	7,299	100,345

Table 26. Yearly estimates of Vietnam's surimi production by species.

Viet-Nam's est. Production by Species thru Q3

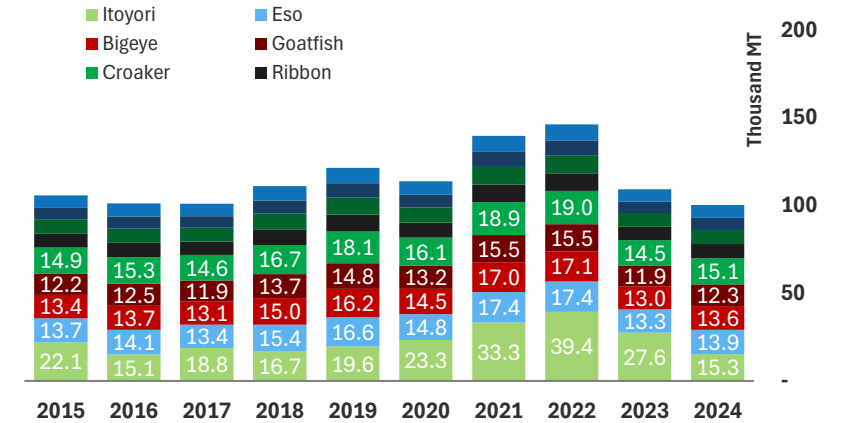


Figure 36. Yearly estimates of Vietnam's surimi production by species.

Reporter Name		Species	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
S. Korea	All	All	41,377	-20.7%	39,627	-4.2%	38,559	-2.7%	39,273	+1.9%	38,299	-2.5%	31,504	-17.7%	32,335	+2.6%
Thailand	All	All	24,609	-12.8%	22,020	-10.5%	20,103	-8.7%	27,816	+38.4%	32,098	+15.4%	21,752	-32.2%	22,270	+2.4%
		Other	1,572	-45.4%	372	-76.3%	119	-68.0%	50	-58.0%			3		7	+133.3%
China	All	All	12,914	-11.6%	18,042	+39.7%	20,884	+15.8%	21,618	+3.5%	18,118	-16.2%	12,820	-29.2%	12,558	-2.0%
Japan	Barrac, Sea Breams, Kingclip		613	+41.2%	228	-62.8%	208	-8.8%	225	+8.2%	500	+122.2%	132	-73.6%	203	+53.8%
		Itoyori	1,758	-33.4%	2,068	+17.6%	2,081	+0.6%	3,051	+46.6%	4,094	+34.2%	2,574	-37.1%	1,595	-38.0%
		Other	9,878	-22.3%	10,850	+9.8%	7,930	-26.9%	9,634	+21.5%	11,075	+15.0%	7,544	-31.9%	8,915	+18.2%
		Sardine, Other			3		26	+766.7%	7	-73.1%	4	-42.9%			15	
Russia	All	All	4,075	-39.5%	6,841	+67.9%	5,397	-21.1%	9,310	+72.5%	7,901	-15.1%	7,901	+0.0%	4,556	-42.3%
Malaysia*	All	All	4,352	-22.1%	5,713	+31.3%	5,472	-4.2%	9,927	+81.4%	9,322	-6.1%	5,519	-40.8%	2,827	-48.8%
	All	All	3,098	-16.2%	4,161	+34.3%	3,943	-5.2%	5,513	+39.8%	7,047	+27.8%	3,102	-56.0%	3,122	+0.6%
Belarus	All	All	566	-44.8%	1,482	+161.8%	896	-39.5%	3,008	+235.7%	891	-70.4%				
Lithuania	All	All	559	-72.9%	1,595	+185.3%	1,284	-19.5%	1,334	+3.9%	1,274	-4.5%	983	-22.8%	223	-77.3%
Indonesia	All	All	703	-69.4%	1,271	+80.8%	736	-42.1%	1,825	+148.0%	10,607	+481.2%	11,798	+11.2%	10,064	-14.7%
		Other									75		625	+733.3%	650	+4.0%
Other	All	All	4,975	-24.4%	7,169	+44.1%	6,279	-12.4%	7,236	+15.2%	458	-93.7%	6,344	+1285.7%	5,561	-12.3%
Total	All	All	111,049	-21.6%	121,442	+9.4%	113,917	-6.2%	139,827	+22.7%	141,763	+1.4%	112,601	-20.6%	104,901	-6.8%

Table 27. Countries declaring surimi imports from Vietnam. Source: each country's customs, authority, PlutusIQ. Russian figures were imputed.

*Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

Tropical Surimi Production, Indonesia

Production estimates from Indonesia increased by 20 percent year-over-year through Q3. However, volumes remain subdued despite this expansion compared to historical levels, indicating a persistent downward trend over the past nine years.

Regarding trade flows, countries declaring imports decreased about 5.3 percent year-over-year through Q3, with China's most pronounced decline at approximately 59 percent.

Indonesia's est. Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	5,776	1,653	1,879	1,972	1,894	1,392	619	696	2,030	17,908
2016	6,615	1,684	1,914	2,009	1,930	1,418	630	709	2,068	18,976
2017	3,452	1,002	1,139	1,195	1,148	843	375	422	1,230	10,805
2018	4,624	1,240	1,409	1,479	1,421	1,044	464	522	1,522	13,725
2019	6,236	1,571	1,786	1,874	1,800	1,323	588	661	1,929	17,768
2020	5,488	1,665	1,893	1,986	1,908	1,402	623	701	2,045	17,711
2021	5,117	998	1,135	1,191	1,144	840	374	420	1,226	12,444
2022	2,998	831	945	991	952	700	311	350	1,020	9,098
2023	3,205	821	933	979	941	691	307	346	1,008	9,230
2024	3,471	1,037	1,178	1,237	1,188	873	388	436	1,273	11,081

Table 28. Yearly estimates of Indonesia's surimi production by species.

Indonesia's est. Production by Species thru Q3

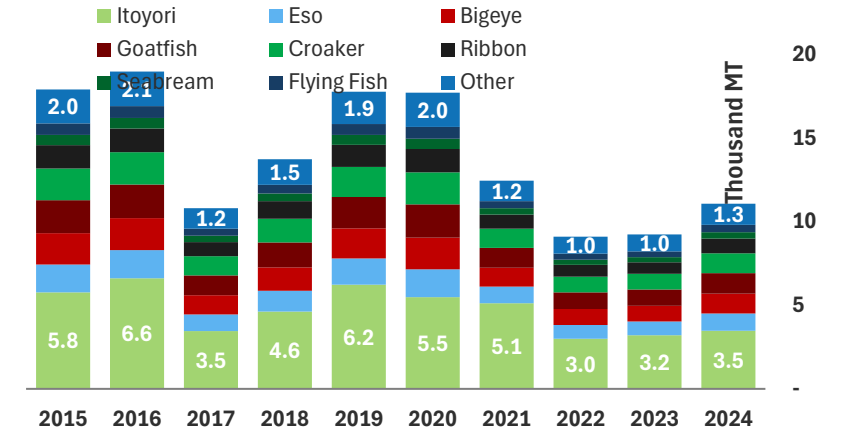


Figure 37. Yearly estimates of Indonesia's surimi production by species.

Countries declaring surimi imports from Indonesia from Q1 to Q3

Reporter Name	Species	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Malaysia	All	2,531	-26.2%	3,059	+20.9%	4,639	+51.7%	4,524	-2.5%	3,845	-15.0%	2,813	-26.9%	4,299	+52.8%
S. Korea	All	1,704	-61.8%	3,230	+89.6%	3,709	+14.8%	2,381	-35.8%	2,486	+4.4%	2,019	-18.8%	2,058	+1.9%
Japan	Itoyori	1,130	-59.1%	1,088	-3.7%	918	-15.6%	1,130	+23.1%	858	-24.1%	372	-56.6%	237	-36.3%
	Other	2,647	-21.5%	2,306	-12.9%	1,315	-43.0%	737	-44.0%	887	+20.4%	543	-38.8%	638	+17.5%
Taiwan	Sardine, Other	29	-35.6%												
	All	1,373	-30.9%	1,573	+14.6%	1,322	-16.0%	952	-28.0%	400	-58.0%	240	-40.0%	444	+85.0%
China	All	1,757	-19.4%	3,312	+88.5%	4,787	+44.5%	2,487	-48.0%	1,063	-57.3%	1,589	+49.5%	652	-59.0%
Thailand	All	865	+34.3%	2,782	+221.6%	1,723	-38.1%	1,738	+0.9%	275	-84.2%	275	+0.0%	225	-18.2%
	Other	16	-73.8%	31	+93.8%	2	-93.5%	2	+0.0%	15	+650.0%	20	+33.3%		
Hong Kong	All	144	+9.1%	178	+23.6%	198	+11.2%	233	+17.7%	212	-9.0%	212	+0.0%	252	+18.9%
Australia	All	82	-5.7%	71	-13.4%	70	-1.4%	115	+64.3%	63	-45.2%	85	+34.9%	110	+29.4%
Philippines	All	168		209	+24.4%	114	-45.5%	196	+71.9%	166	-15.3%	57	-65.7%		
USA	All									72		447	+520.8%	580	+29.8%
Singapore	All			50		54	+8.0%			75		157	+109.3%	515	+228.0%
Other															
Total		9,963	-48.9%	14,860	+49.2%	14,221	-4.3%	9,996	-29.7%	6,599	-34.0%	6,124	-7.2%	5,797	-5.3%

Table 29. Countries declaring surimi imports from Indonesia. Source: each country's customs, authority, PlutusIQ.

*Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Tropical Surimi Production, Malaysia

Production estimates from Malaysia indicate a slight increase of 3 percent year-over-year through Q3. This performance is essentially flat from the previous year, hovering around the lowest year-to-date level since the inception of our production estimates, which are derived from trade data.

Regarding trade, countries declaring imports from Malaysia recorded a 0.4 percent decrease, with notable declines from Indonesia (-38.7%), Hong Kong (-9.0%), and China (-32.7%).

Disclaimer: Trade data for Malaysia sometimes matches between countries declaring imports and official domestic data exports. We used total export figures as a function for **production and used countries declaring imports mainly for trade—although both data sets are included for all analyzed countries.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Malaysia's est. Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	1,178	980	509	1,006	549	274	118	235	362	5,210
2016	1,202	1,000	520	1,027	560	280	120	240	370	5,319
2017	1,010	763	397	783	427	214	92	183	282	4,151
2018	923	768	399	788	430	215	92	184	284	4,083
2019	1,468	1,221	635	1,254	684	342	147	293	452	6,494
2020	1,173	910	473	934	509	255	109	218	337	4,918
2021	627	521	271	535	292	146	63	125	193	2,773
2022	821	423	220	434	237	118	51	102	157	2,563
2023	436	363	189	373	203	102	44	87	134	1,930
2024	492	364	189	374	204	102	44	87	135	1,991

Table 30. Yearly estimates of Malaysia's surimi production by species.

Malaysia's est. Production by Species thru Q3

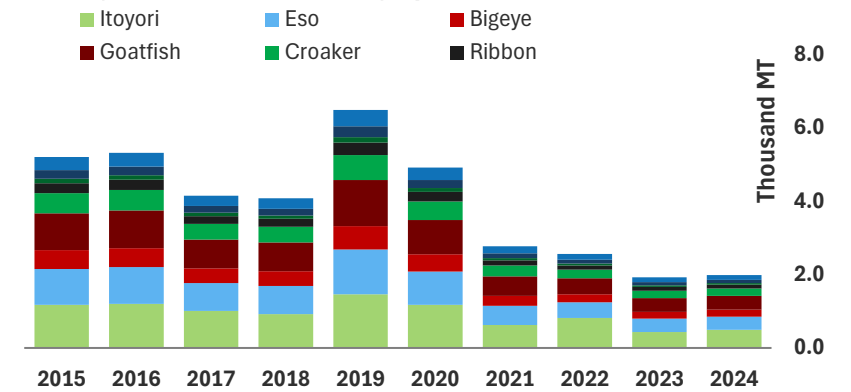


Figure 38. Yearly estimates of Malaysia's surimi production by species.

Countries declaring surimi imports from Malaysia from Q1 to Q3

Reporter Name	Species	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan	Itoyori					12				166				24	
	Other	3,212	-41.5%	3,855	+20.0%	3,736	-3.1%	1,910	-48.9%	2,032	+6.4%	1,401	-31.1%	1,765	+26.0%
	Sardine, Other			20		29	+45.0%	32	+10.3%	35	+9.4%	21	-40.0%	24	+14.3%
Indonesia	All					25		25	+0.0%	473	+1792.0%	452	-4.4%	300	-33.6%
Hong Kong	All	10		63	+530.0%	310	+392.1%	279	-10.0%	171	-38.7%	181	+5.8%	32	-82.3%
China	All	613	-31.7%	623	+1.6%	592	-5.0%	523	-11.7%	277	-47.0%	379	+36.8%	255	-32.7%
Canada	All					34		34	+0.0%	68	+100.0%	70	+2.9%	34	-51.4%
Australia	All			5						45		90	+100.0%	102	+13.3%
Taiwan	All	25	-84.8%	49	+96.0%	78	+59.2%	66	-15.4%						
S. Korea	All	196	-26.9%	215	+9.7%	828	+285.1%	264	-68.1%			144		120	-16.7%
Thailand	All			424		25	-94.1%								
Philippines	Other									23					
	All	33										3	-87.0%		
Singapore	All	68	+3.0%	16	-76.5%	39	+143.8%	13	-66.7%			144		217	+50.7%
Other															
Total		4,157	-40.3%	5,270	+26.8%	5,708	+8.3%	3,146	-44.9%	3,290	+4.6%	2,885	-12.3%	2,873	-0.4%

Table 31. Countries declaring surimi imports from Malaysia. Source: each country's customs, authority, PlutusIQ.

*Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

Tropical Surimi Production, Pakistan

Production estimates from Pakistan show an increase of 0.4 percent year-over-year through Q3. This level approaches the second-highest volume estimate in our records, and while the overall trend over the past nine years remains upward, volumes have stabilized since 2020.

Regarding trade, countries declaring imports registered a 7.0 percent increase year-over-year through Q3. The largest markets, Thailand and China, showed similar trends with year-over-year changes of +31.2% and +56.1%, respectively. Notably, imports by South Korea decreased by 42.3 percent year-over-year through Q3.

Disclaimer: For Pakistan, we included the table that includes Pakistan exports by destination and the production table. Again, exports are a function of production. Still, since we are assuming that nearly 100 percent of production is exported out of this country, we could not cross-examine countries reporting imports and this country's exports before 2020. Still, they are a decent indicator to see, but we only included exports in this report.

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Pakistan's est. Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	2,160	247	124	124	463	-	185	124	309	3,735
2016	1,458	156	78	78	292	-	117	78	195	2,451
2017	2,930	177	89	89	332	-	133	89	222	4,060
2018	3,146	469	235	235	880	-	352	235	587	6,139
2019	2,076	633	317	317	1,188	-	475	317	792	6,114
2020	1,098	644	322	322	1,207	-	483	322	805	5,202
2021	2,648	510	255	255	956	-	382	255	637	5,899
2022	2,784	523	261	261	980	-	392	261	653	6,115
2023	2,322	749	374	374	1,404	-	562	374	936	7,096
2024	1,973	808	404	404	1,515	-	606	404	1,010	7,125

Table 32. Yearly estimates of Pakistan's surimi production by species.

Pakistan's est. Production by Species thru Q3

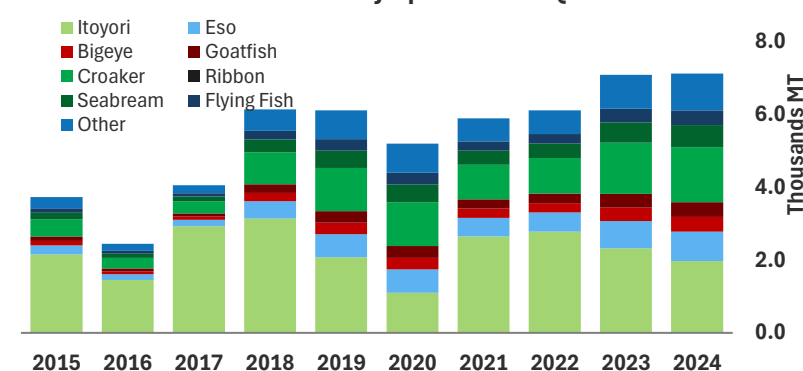


Figure 39. Yearly estimates of Pakistan's surimi production by species.

Countries declaring surimi imports from Pakistan from Q1 to Q3

Reporter Name	Species	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Thailand	All	2,354	+100.3%	2,464	+4.7%	1,857	-24.6%	2,599	+40.0%	2,847	+9.5%	2,059	-27.7%	2,701	+31.2%
	Other					1		167	+16600.0%	50	-70.1%				
S. Korea	All	2,625	-35.0%	1,776	-32.3%	1,285	-27.6%	1,797	+39.8%	1,747	-2.8%	2,840	+62.6%	1,445	-49.1%
Japan	Itoyori	1,045	-22.4%	750	-28.2%	399	-46.8%	1,172	+193.7%	1,463	+24.8%	186	-87.3%	705	+279.0%
	Other	106		396	+273.6%	230	-41.9%	228	-0.9%	299	+31.1%	156	-47.8%	127	-18.6%
China	All	887	-9.8%	1,525	+71.9%	1,848	+21.2%	981	-46.9%	1,133	+15.5%	1,690	+49.2%	2,638	+56.1%
Malaysia	All	249	-4.2%	302	+21.3%	121	-59.9%	454	+275.2%	273	-39.9%	244	-10.6%	192	-21.3%
Hong Kong	All			23		66	+187.0%	68	+3.0%	89	+30.9%	48	-46.1%		
Indonesia	All														
Taiwan	All	24		24	+0.0%										
Philippines	All									26					
Other						25						215		149	-30.7%
Total		7,290	-7.4%	7,260	-0.4%	5,832	-19.7%	7,466	+28.0%	7,927	+6.2%	7,438	-6.2%	7,957	+7.0%

Table 33. Countries declaring surimi imports from Pakistan. Source: each country's customs, authority, PlutusIQ. *Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.

Tropical Surimi Production, Myanmar

Production estimates from Myanmar show a ~7.6 percent increase year-over-year through Q3. This level marks the highest year-to-date through Q3 level since 2019.

Regarding trade, Japanese imports showed a significant recovery, while imports from China increased considerably, making it the top importer of Myanmar's surimi paste through Q3 in 2024.

Myanmar's est. Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	400	27	27	48	456	12	17	17	83	1,086
2016	445	44	44	78	751	20	27	27	136	1,575
2017	402	37	37	66	628	17	23	23	114	1,347
2018	392	39	39	70	666	18	24	24	121	1,395
2019	521	47	47	83	798	22	29	29	145	1,721
2020	352	35	35	61	585	16	21	21	106	1,233
2021	255	45	45	79	757	21	28	28	138	1,394
2022	419	45	45	80	770	21	28	28	140	1,577
2023	165	54	54	96	915	25	33	33	166	1,542
2024	281	54	54	96	916	25	33	33	166	1,659

Table 34. Yearly estimates of Myanmar's surimi production by species.

Myanmar's est. Production by Species thru Q3

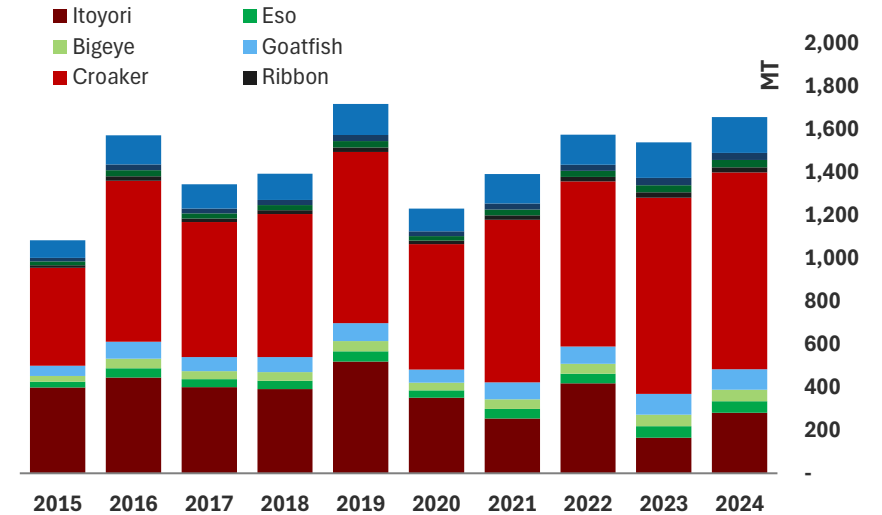


Figure 40. Yearly estimates of Myanmar's surimi production by species.

Countries declaring surimi imports from Myanmar from Q1 to Q3

Reporter Name	Species	Yearly Data													
		2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	2024	'24 vs. '23
Japan	Barrac, Sea Breams, Kingclip	57	+78.1%	39	-31.6%	38	-2.6%	8	-78.9%	39	+387.5%	38	-2.6%	9	-76.3%
	Itoyori	285	-52.8%	522	+83.2%	198	-62.1%	262	+32.3%	189	-27.9%	114	-39.7%	224	+96.5%
	Other	399	-18.4%	392	-1.8%	253	-35.5%	346	+36.8%	359	+3.8%	314	-12.5%	262	-16.6%
Taiwan	All	45		81	+80.0%	171	+111.1%	228	+33.3%	416	+82.5%	193	-53.6%	177	-8.3%
Thailand	All	148	+33.3%	277	+87.2%	38	-86.3%	19	-50.0%	413	+2073.7%	156	-62.2%		
	Other					81		332	+309.9%			100		107	+7.0%
S. Korea	All	403	-40.3%	340	-15.6%	389	+14.4%	155	-60.2%	116	-25.2%	191	+64.7%	97	-49.2%
Singapore	All											230		247	+7.4%
China	All	38	-30.9%	50	+31.6%			19		25	+31.6%	70	+180.0%	467	+567.1%
Other		20	-86.1%	20	+0.0%	65	+225.0%	25	-61.5%	20	-20.0%	136	+580.0%	69	-49.3%
Total		1,395	-33.9%	1,721	+23.4%	1,233	-28.4%	1,394	+13.1%	1,577	+13.1%	1,542	-2.2%	1,659	+7.6%

Table 35. Countries declaring surimi imports from Myanmar. Source: each country's customs, authority, PlutusIQ.

Disclaimer: Myanmar's production is calculated using import data from declaring countries as Myanmar does not publish trade data

**PlutusIQ reassessed previous estimates and revised historical data. Production estimates by species use an internal working group approximation calculated using a new in-house non-linear model. The estimates provided by the working group were collected in 2020 and updated through 2023.

Sardine Surimi Production and Trade

Peru to Japan

Since it is assumed that all Peruvian exports of Peruvian sardine surimi are a production function, we will refer to them interchangeably.

Japanese imports of Peruvian sardine surimi decreased ~18 percent through Q3, with Q3 reporting 120 metric tons versus nil last year. When bundling “other” surimi and “sardine” surimi, overall Japanese imports of Peruvian surimi were up by ~1.5 percent year-over-year through Q3.

Sardine surimi, to Japan, Q1 to Q3

- Japan importing Sardine, Other surimi from Peru
- Japan importing, total surimi from Peru
- Japan importing Other surimi from Peru
- Japan importing Sardine, Other surimi from all countries
- Peru exporting All surimi to Japan

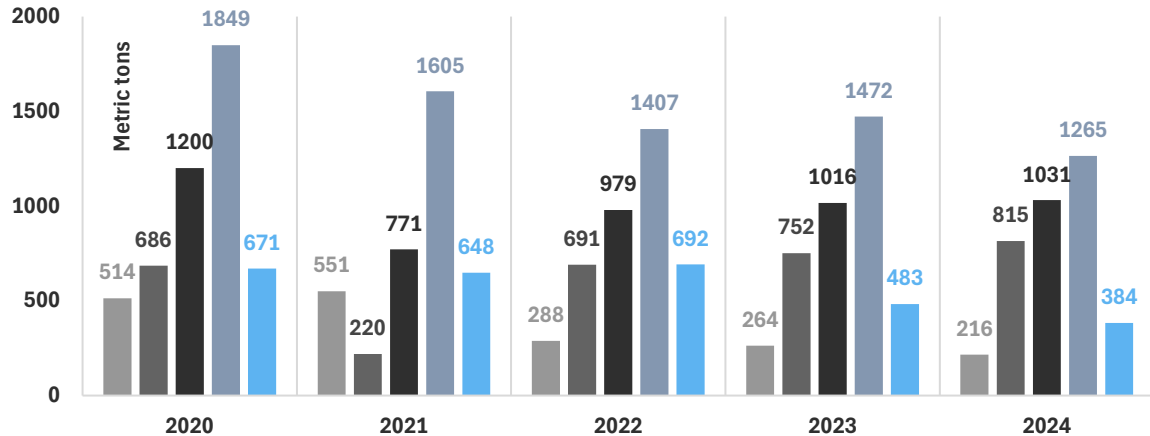


Figure 41. Peruvian sardine surimi trade, specifically to Japan and other markets. Source: each country's customs, PlutusIQ.



China, Surimi Production Estimates and Trade

Although we were able to calculate estimates for China's production, we could not break them down by species for tropical surimi. For carp, we made some assumptions based on price.

These estimates suggest that surimi production from China Chinese production estimates across all Tropical categories contracted by 21 percent y-o-y through Q3. Carp surimi production estimates demonstrate robust growth of 23.6 percent y-o-y through Q3.

Japanese imports of Chinese surimi show a contraction of about 4 percent through Q3 2024 compared to 2023.

Surimi Production Estimates, China Q1 to Q3

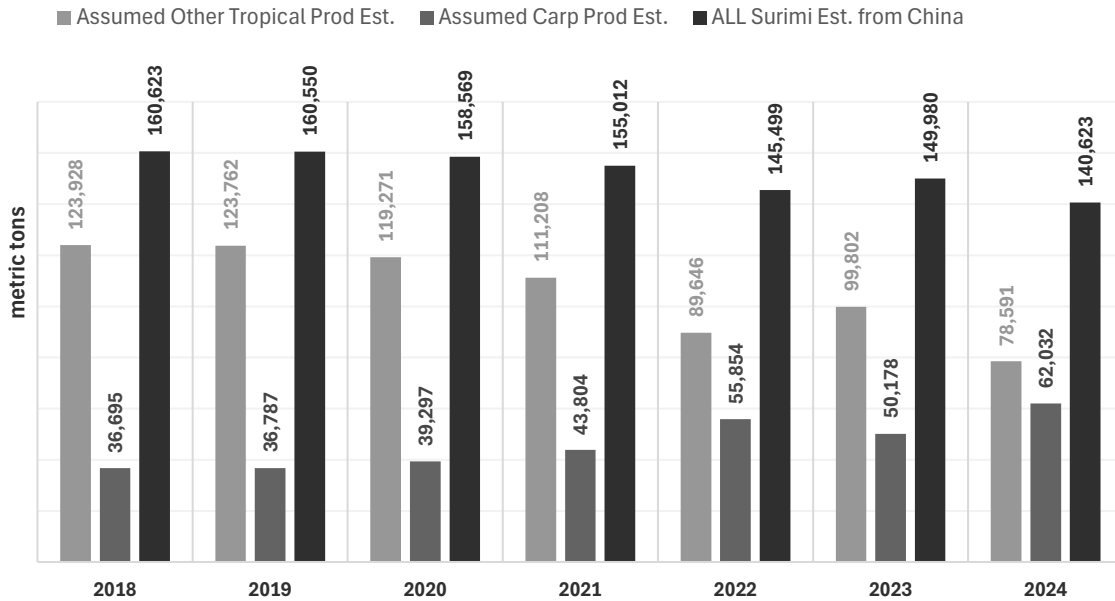


Figure 42. Production estimates of Chinese surimi. Source: Customs, PlutusIQ.

Surimi Imports from China Q1 to Q3

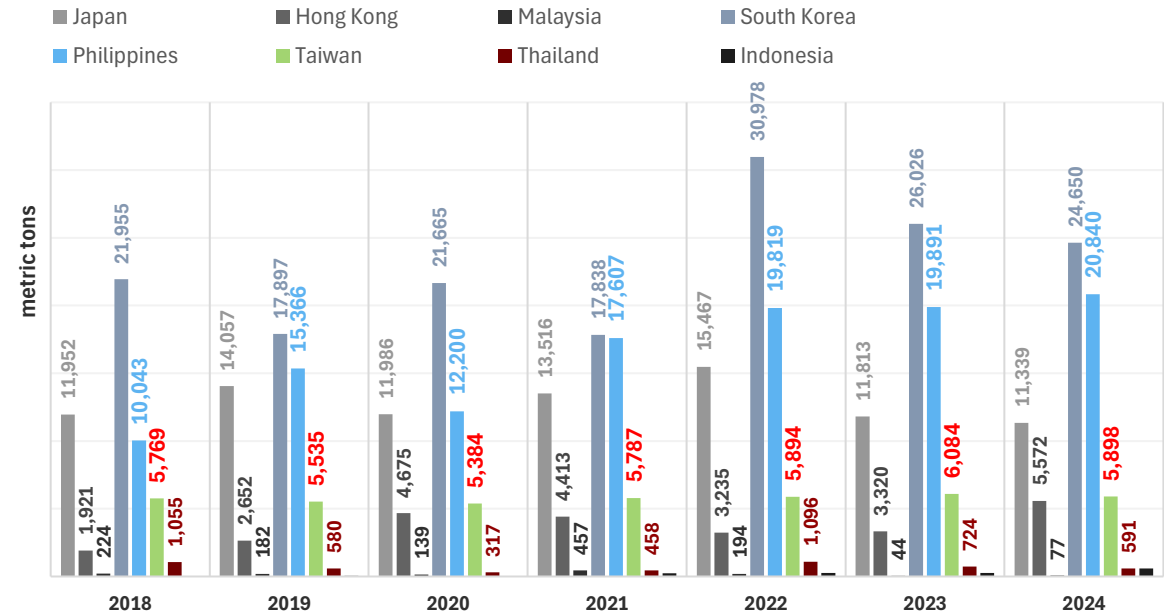


Figure 43. Countries declaring imports of Chinese surimi. Source: Customs, PlutusIQ.

Russian Surimi, Japanese and other imports

In this relatively new iteration of the report, we recalculated these trade figures to represent the growth in production from “official” sources that point to higher levels compared to international trade. These figures show that Russian production through Q3 '24 reached ~42 thousand metric tons, roughly an increase of 5 percent year over year. However, we derive some of these numbers from the estimated production figures of around 58 thousand metric tons through Q4, which are official estimates. **Please read below to provide some context relative to the estimates shown and described above.**

Russian Production of Alaska Pollock Surimi (Est.)

Source: GAPP Surimi Tracker. Importing countries' customs authority
Thousand MT

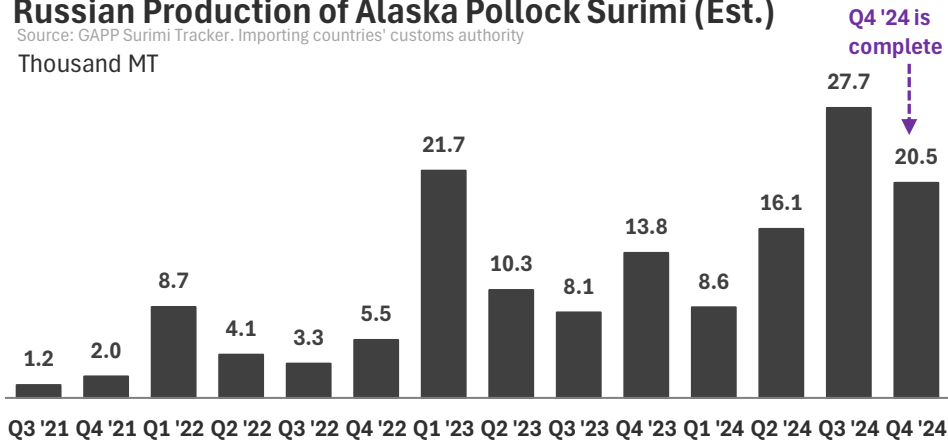


Figure 44. Production estimates of Russian pollock surimi. Source: Customs, PlutusIQ. *Q2 '24 is incomplete

According to a presentation given late last year by the Deputy CEO of Russian Fish Company, Russian surimi paste production in 2023 was 54,000 mt and forecasted to grow to 70,000 mt in 2024. From late 2021 through December 2022, total trade data accounted for about 22 thousand metric tons of Russian Pollock surimi, which matches figures released by the Pollock Catchers Association. Recent reports suggest that production estimates might be lower than previously anticipated. However, it is difficult to confirm the 2023 production when looking at international trade data. For example, some categories disclose if it is surimi, while others only disclose "Meat, whether minced or not," a category as "Minced, other," and "other."

For example, there have been significant increases in imports in categories that may include surimi paste, such as "Minced, other." In 2023, imports from Russia under these categories for all countries totaled ~57.6 thousand metric tons.

If labeled only “surimi,” the number would be around 42 thousand metric tons, while the rest would be considered “meat.” The difference could be product that stays in the Russian domestic market or within categories we are not capturing. There could also be other explanations.

Using countries declaring imports from Russia—since Russia is not making their trade data available—we noticed considerable increases in pollock surimi trade over the last several quarters.

Finally, we will still monitor trade data as this will still be helpful for the overall trend.

Surimi Imports by Declaring countries from Russia

Source: GAPP Surimi Tracker. Importing countries' customs authority

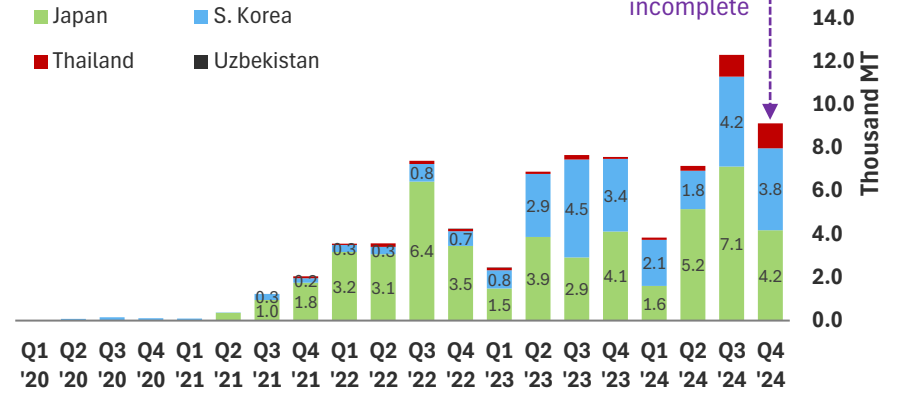


Figure 45. Countries declaring imports of Russian pollock surimi. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

Meat Imports by Declaring countries from Russia

Source: GAPP Surimi Tracker. Importing countries' customs authority

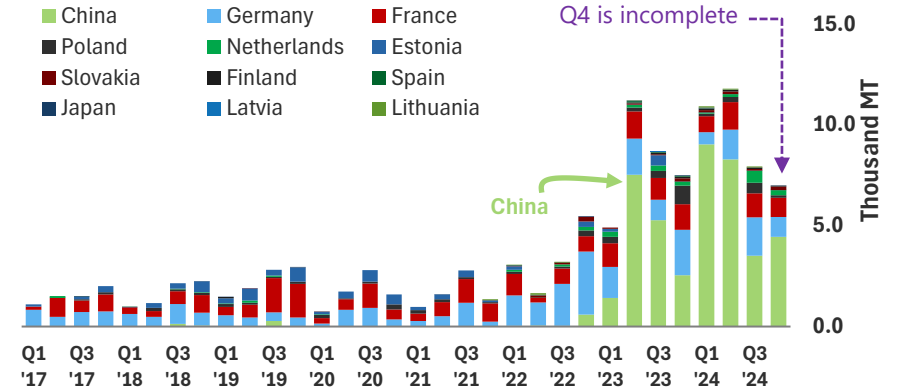


Figure 46. Countries declaring imports of Russian pollock “meat”. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

Introduction

This brief case study aims to provide an in-depth analysis of the Japanese imported surimi market, focusing on production volumes and prices from the US and Russia. Its primary goal is to provide meaningful insights from a quantitative perspective and industry expertise by examining anomalies, trends, and correlations to uncover insights that inform strategic decision-making for industry stakeholders. The analysis will address how import volumes—as a function of production—and price dynamics interact and what implications these interactions have for market strategies.

The following empirical findings were robust, but limitations exist, such as limited observations, and further research must be conducted to test and improve the accuracy of such assessments. In addition, the results highly depend on the strength and accuracy of the underlying data.

Premise

Anomaly detection is a statistical tool that helps data analysis identify rare events, noise, or observations that could be questionable because they differ from standard tendencies. In data analysis, anomalies can also be called outliers, noise, or exceptions.

Empirical anomaly detection analysis should help industry experts analyze data while supporting some predictability levels of future behavior or prices. By understanding the anomaly's impact on price, the reader should expand the toolkit available to inform the production levels targeted with a robust set of information.

The case study focuses on two anomalies that are relevant insights into the Alaska Pollock import trends:

- Japanese imports from the US and Russia,
- Itoyori imports from Thailand over time

These anomalies, whether high or low relative to historical levels, theoretically provide a sign of warning that could affect several factors, in this case, price. We strongly believe these findings hold the potential for more meaningful insights into price movements, promising a deeper understanding of the market dynamics.

Scope:

1. Anomalies in Japanese imports from the US and Russia and Itoyori imports from Thailand.
2. The interplay between production volumes and prices of Alaska Pollock surimi from 2015 to 2025.
3. The impact of lagged price effects on production decisions.
4. A detailed examination of US and Russian combined import volumes and their price correlations into the Japanese market.
5. Regression analysis of imported volumes against lagged prices.

Findings/Results

1. Anomalies in Japanese imports of US and Russian Alaska Pollock Surimi and Itoyori imports from Thailand.

The analysis identified significant anomalies in Japanese imports from the US and Russia and Itoyori imports from Thailand from 2016 to 2023.

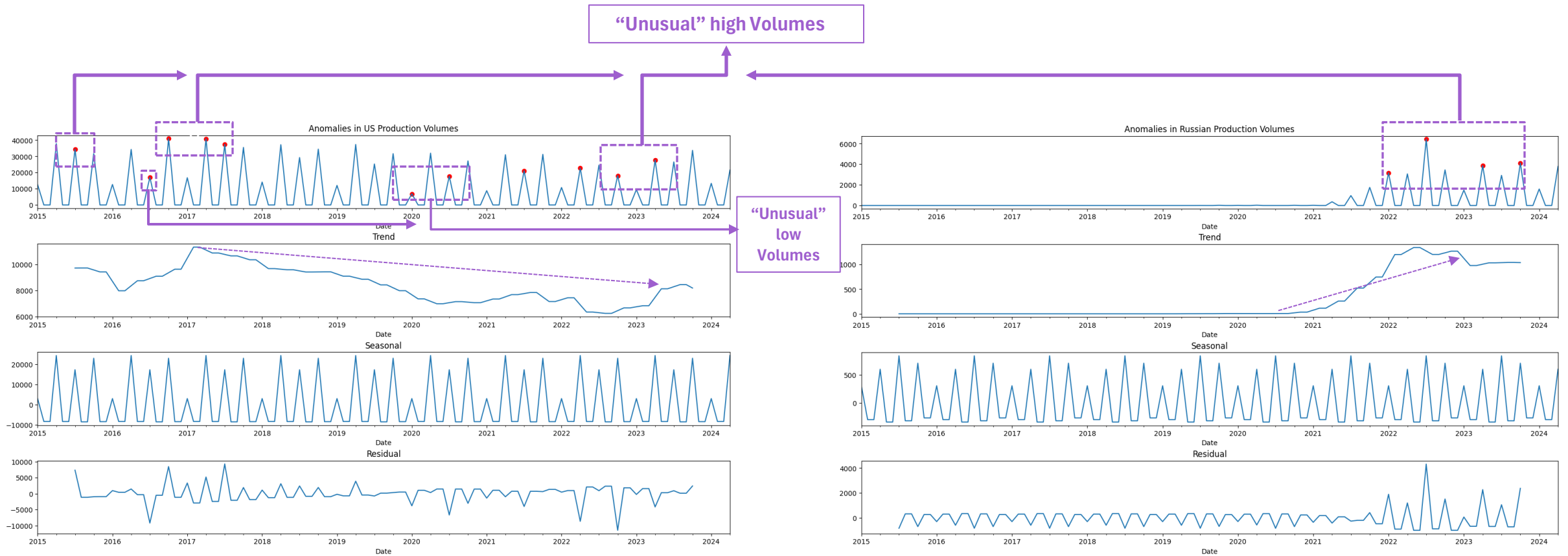
Anomalies detected during 2016-2018 and 2022-2023 suggest periods of overproduction or unexpected supply increases. These deviations from typical patterns are highlighted in the observed values. (See figures 47, 48, 49)

After analyzing quarterly data from 2016 to 2024, important anomalies for Alaska Pollock surimi were detected.

The root cause for those anomalies can be inferred in many cases. For example, all anomalies from 2016 to 2017 and 2020 are probably driven by unusually high volumes. In addition, 2020 anomalies could be easily explained by the global pandemic events.

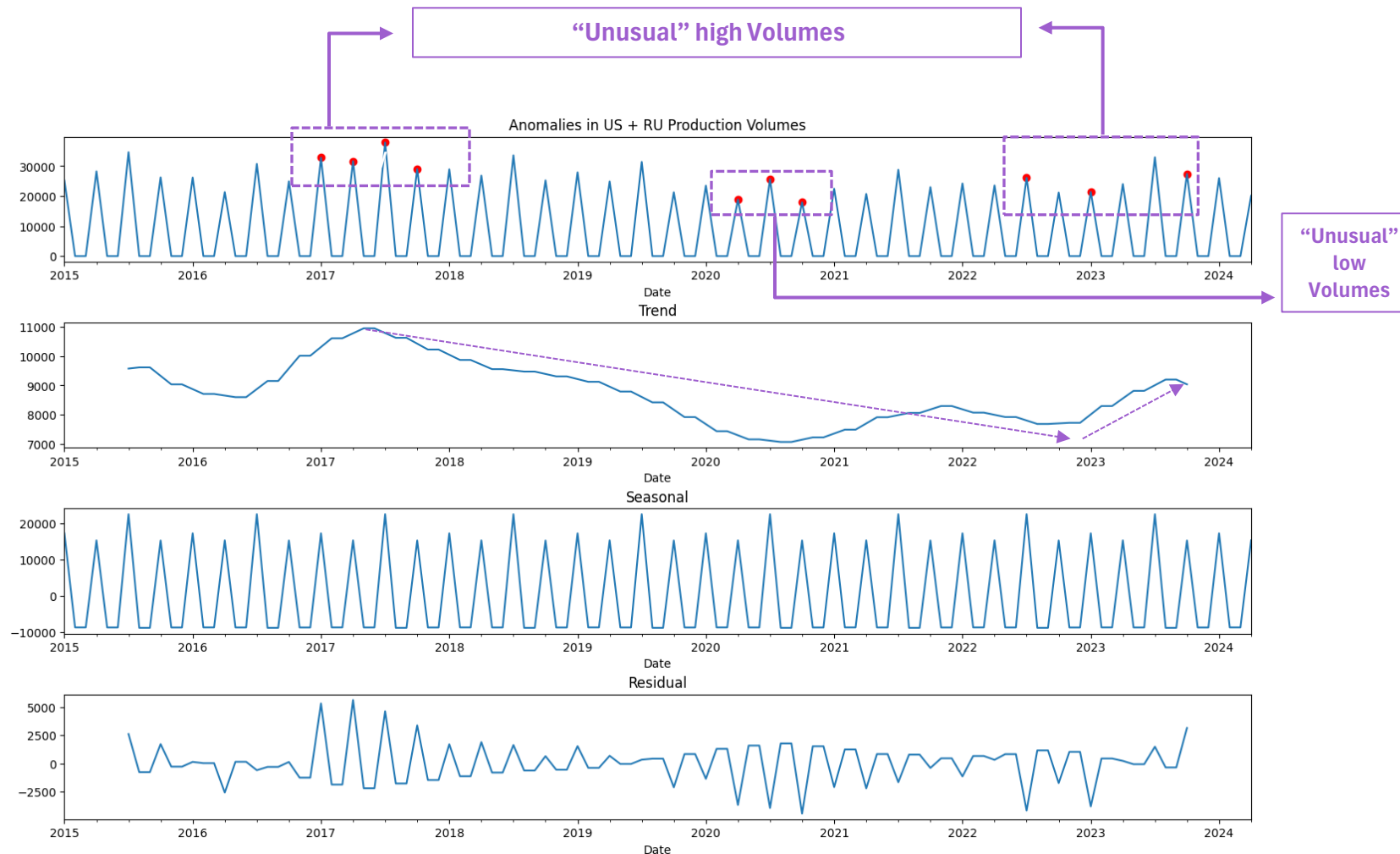
However, the abnormally high volumes presented in 2023 required additional analysis. For that purpose and to identify the trend, additional technical analysis was conducted with the following results:

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi



Figures 47, 48. Anomaly detection on quarterly volumes of Japanese imports of Alaska Pollock Surimi from the US and Russia. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi



Continued from page 28

- A strong inverse correlation between the US and Russian volumes into the Japanese market during the first six months from arrival suggests that market players should closely monitor Russian production since it should have meaningful knock-on implications for prices with notable impacts in the short term. These periods also align similarly with Itoyori surimi imports from Thailand (Figures 47, 48, 49, 50)
- Exacerbated production volumes impact prices for more extended periods of time. An additional smoothed correlation analysis indicates that **price stabilization dynamics could take up to 12 months**, which should be a notable insight to avoid abnormal production levels or plan ahead in light of the implications an exacerbated production and its impact on price could have. Commercial strategies could be adopted to support key players' growth and participation in the market. In addition, a lagged negative correlation between US Alaska Pollock surimi production and price with a lag between **2 to 5 quarters was found**, representing another key insight supporting that a stable production should mitigate price volatility (Figure 51).

Figure 49. Anomaly detection on quarterly volumes of Japanese imports of Alaska Pollock Surimi from the US and Russia combined. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

Imports from Thailand (Itoyori Surimi)

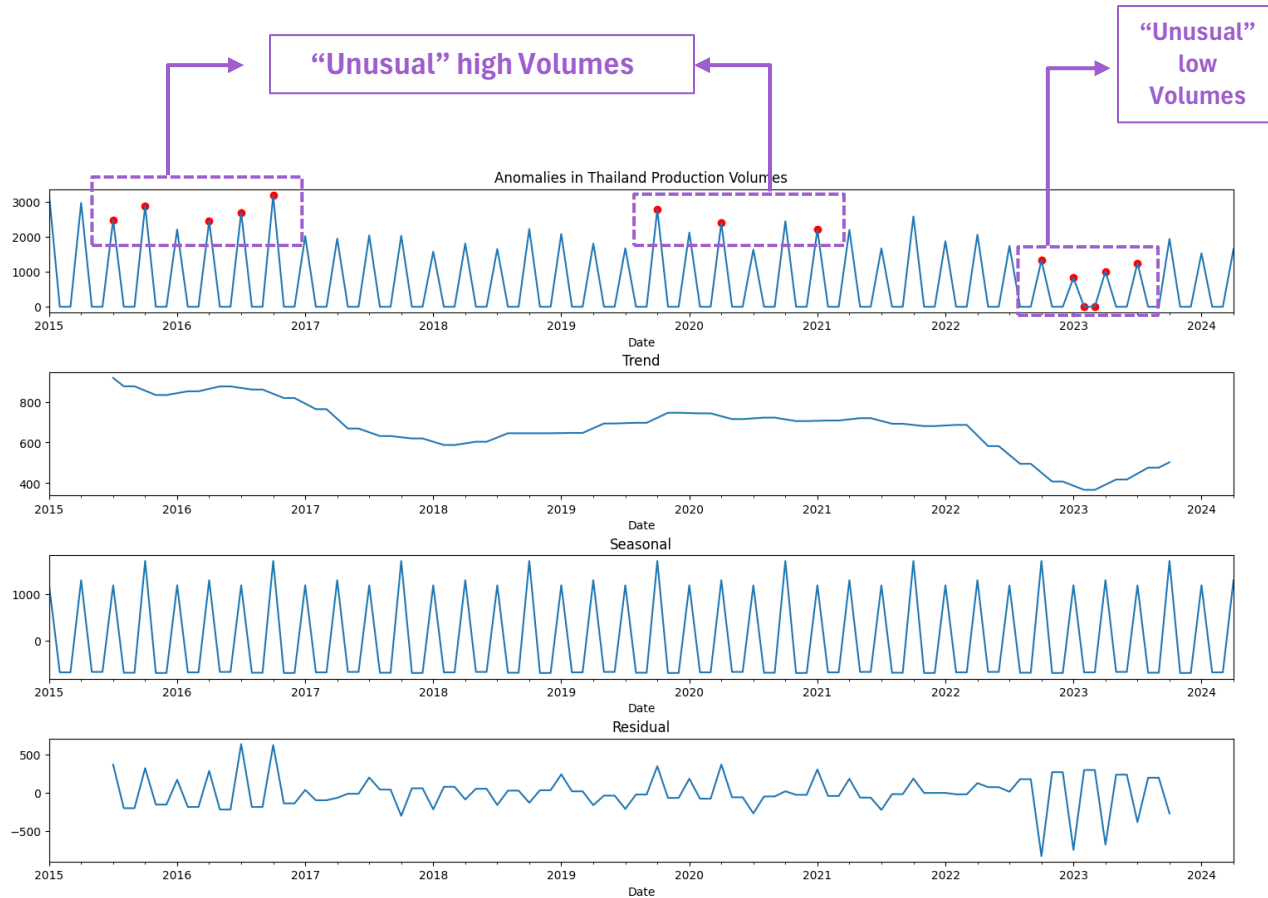


Figure 50. Anomaly detection on quarterly volumes of Japanese imports Itoyori surimi from Thailand. Source: Customs, PlutusIQ. Q2 '24 is incomplete.



2. Lagged Correlations Between Production and Price of the Combined US and Russia Production and Price

The graph illustrating lagged correlations between production volumes and prices shows consistent inverse relationships across most lags (Figure 51).

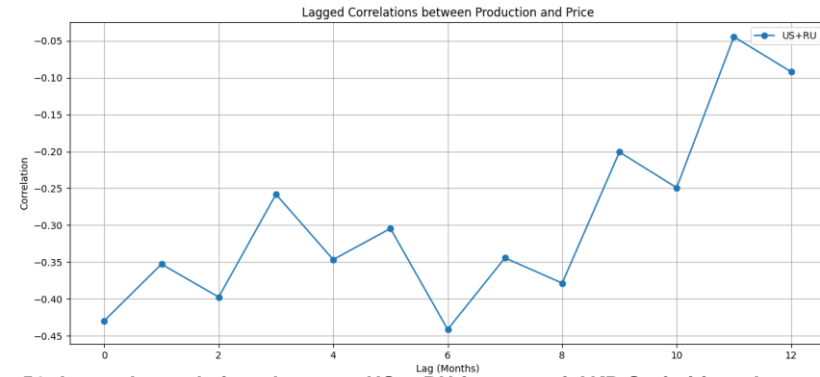


Figure 51. Lagged correlations between US + RU imports of AKP Surimi into Japan. Source: Customs, PlutusIQ

The graph consistently shows a negative correlation between production and prices across most lags. This inverse relationship highlights the typical supply-demand dynamics where increased supply results in lower prices.

The strongest inverse correlations occur at shorter lags (0-4 months), suggesting that production changes have a more immediate impact on prices. As the lag increases, the correlation weakens, indicating delayed market responses to production shifts.

Price Sensitivity: The strong inverse correlations highlight the price sensitivity of the surimi market to production changes. Producers must be cautious of rapid production increases that could trigger price declines.

Short-Term Market Reactions: The prominence of short-term lagged effects underscores the need for timely market interventions to address supply-demand imbalances.



Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

3. Smoothed Trend Lagged Correlations Between Production and Price of the Combined US and Russia Production and Price

The smoothed trend analysis depicts sustained negative correlations across all lags, with pronounced effects at longer lags (see Figure 52). Long-term production increases consistently exert downward pressure on prices, highlighting the importance of sustainable production practices.

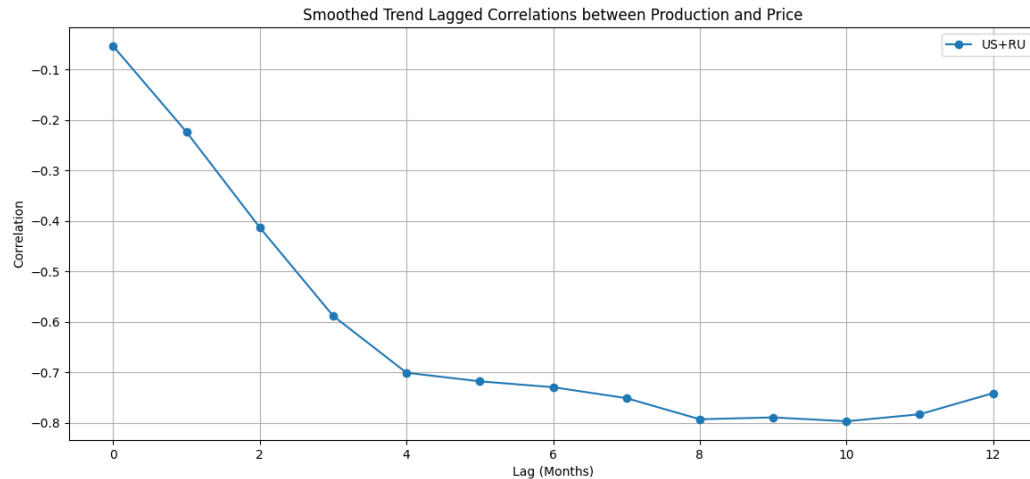


Figure 52. Smoothed and Lagged correlations between US + RU imports of AKP Surimi into Japan. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

Key Points:

- The negative correlation persists across all lags, with the strength of the correlation becoming more pronounced at longer lags. This suggests that long-term production increases consistently exert downward pressure on prices.
- The smoothed trend analysis reveals that production trends have enduring effects on market prices, emphasizing the importance of sustainable production practices.
- Long-Term Market Strategy: The sustained negative correlation indicates that prolonged increases in production can have lasting adverse effects on prices, necessitating strategic planning for sustainable growth.
- Capacity Planning: Understanding production trends' long-term impact can guide planning decisions, ensuring that expansion efforts align with market absorption capacity.



Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

4. Dynamic Interplay Between Production Volumes and Prices

The following chart (Figure 53) analyzes the dynamic interplay between import volumes and prices of Alaska Pollock surimi from 2015 to 2025, as illustrated in the attached graph. The graph depicts various components, including raw price data, lagged effects, and a smoothed mid-trend, offering insights into how production decisions influence market prices.

The graph demonstrates a clear inverse relationship between production volumes and prices, consistent with supply-demand dynamics. Cyclical patterns reveal seasonal fluctuations influenced by fishing cycles and consumer demand.

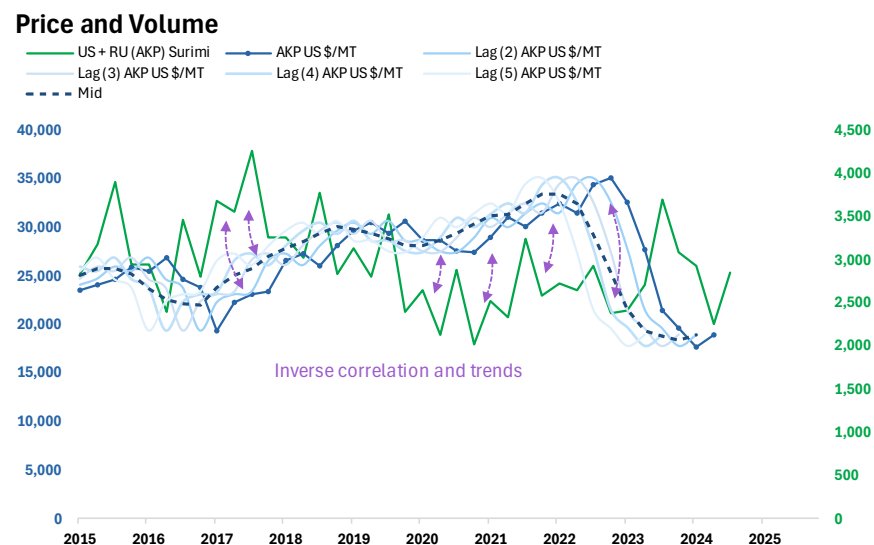


Figure 53. Transformed and lagged imports vs price. Source: Customs, PlutusIQ. Q2 '24 is incomplete.

- **Inverse Relationship:** There is a noticeable inverse relationship between production volumes (green line) and prices (blue line), where periods of increased production often correspond to decreased prices. This inverse relationship is a fundamental principle of supply and demand, where higher supply leads to lower market prices.
- **Price Sensitivity:** The graph indicates that the surimi market is highly sensitive to changes in production volumes. Even slight increases in production can lead to significant price reductions, emphasizing the importance of precise production management.
- **Delayed Price Response:** The lagged price lines (light blue) illustrate the delayed response of market prices to changes in production volumes. This delay can be attributed to several factors, such as supply chain adjustments, inventory management, and market reaction times.
- **Impact of Lagged Prices:** The lagged effects demonstrate that today's production decisions can impact prices in future periods. This highlights the importance of forecasting and planning in mitigating adverse price effects.
- **Cyclical Fluctuations:** The graph reveals cyclical fluctuations in production volumes and prices, likely driven by seasonal fishing patterns, demand cycles, and external market influences.
- **Underlying Trends:** The midline (dashed) captures the underlying trend in the market, smoothing out short-term volatility and revealing long-term growth patterns. This trend line is crucial for identifying shifts in market dynamics and guiding strategic decisions.

Economic Implications:

Market Saturation and Profitability: The inverse correlation between production and prices underscores the risk of market saturation. Producers must carefully balance supply with demand to avoid price declines that can erode profitability.

- **Demand Elasticity and Strategic Planning:** The cyclical nature of the market suggests that demand is elastic, with consumers responsive to price changes. Strategic planning should account for these cycles, aligning production with anticipated demand shifts. (See next section).
- **Risk Management and Forecasting:** The lagged effects emphasize the need for robust forecasting models and risk management strategies. Understanding the delayed impact of production decisions on prices can help producers anticipate market changes and adjust strategies accordingly.

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

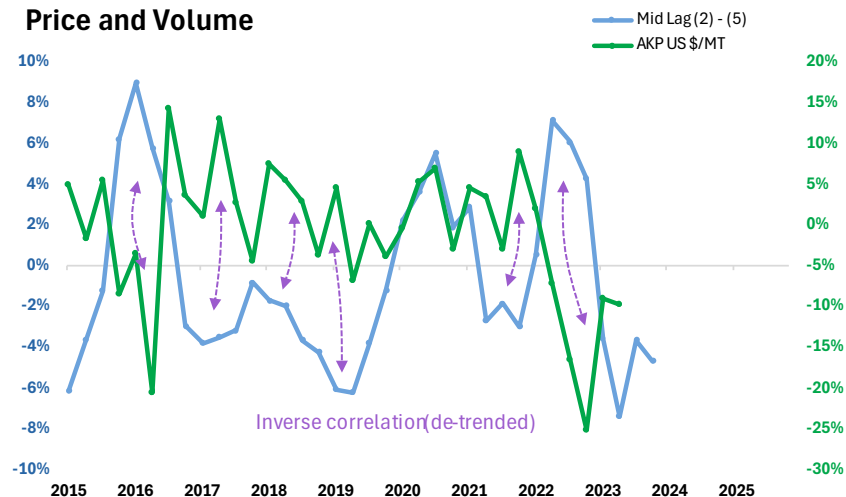
5. Further Transformations, Price Elasticity and Volumes

The logarithmic transformation of surimi production volumes and prices provides insights into percentage changes and relative growth rates (see Figure 52).

The natural logarithm reveals amplified trends, accentuating inverse correlations and highlighting the importance of short-term market dynamics.

We found that, for every 10% (log diff) change in quarter-over-quarter import volumes, prices tend to move in the opposite direction by about 6.7% (log diff).

Other key points include: *(continued on next page)*



- Lagged effects suggest delayed market responses, emphasizing the need for adaptive strategies.
- The graph accentuates trends and fluctuations, revealing more pronounced patterns of inverse correlation. The logarithmic scale makes it easier to detect small but significant changes that could be overlooked in a linear scale.
- Including mid-lagged effects highlights the delayed impact of production changes on prices. This suggests that changes in production volumes may not immediately affect prices but have a ripple effect over subsequent periods.
- **Growth Patterns:** The logarithmic transformation shows that growth patterns in production and prices are not linear. Small percentage changes can have a significant impact over time, influencing long-term market dynamics.
- **Lagged Effects:** The mid-lag analysis indicates that the market may experience delayed responses to production changes. This can be due to supply chain lead times, inventory management, and delayed consumer responses.
- **Sensitivity to Change:** The amplified trends suggest that the surimi market is highly sensitive to even minor changes in production and pricing. This sensitivity underscores the importance of precise market analysis and forecasting.

Coeff	-0.6608652
P-Value	3.5872E-02
R^2	0.1431048

Figure 52. Log differences of lagged and transformed data. Source: Customs, PlutusIQ.

Case Study – Japanese Market of US and Russian Alaska Pollock Surimi

6. Regression Analysis of USA and Russian Combined Production

Regression analyses examine the relationship between combined production volumes and lagged price variables.

This regression shows a moderate negative relationship between current surimi prices and production volumes, indicating that production volumes tend to increase as prices decrease.

Implications:

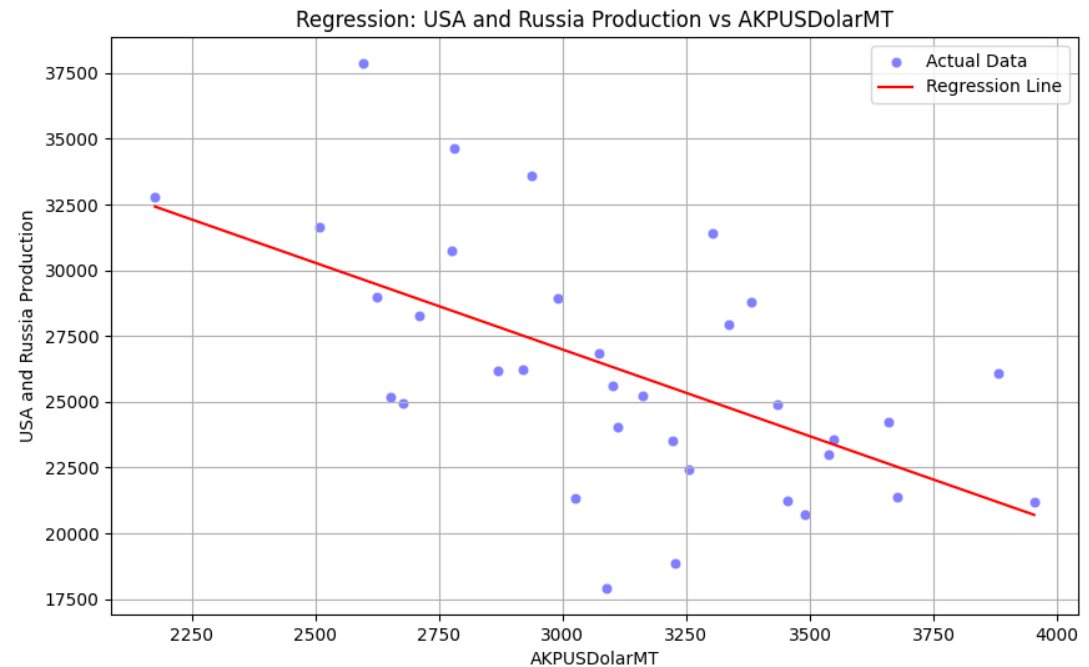
Moderate Price Sensitivity: The R-squared value of 0.336 indicates that current price changes can explain approximately 33.6% of the variation in surimi production. While this is a moderate level of explanation, it suggests that other factors also play a significant role in production decisions.

Supply-Side Influence: The negative coefficient (-6.5918) suggests that producers increase production as prices drop, aligning with supply and demand economic principles.

Actionable Insights:

Responsive Production Planning: Develop adaptive production plans to real-time price changes, allowing for output adjustments to better match market conditions.

Coeff	-6.5918
P-Value	0.000
R^2	0.336



Case Study – Conclusion

The comprehensive analysis of the surimi market, focusing on volumes—as a function of production—and price dynamics of Japanese imports of Alaska Pollock surimi from the US and Russia, has provided critical insights into the underlying market forces. This study has highlighted the significant impact of anomalies, cyclical trends, and lagged correlations on market behavior, emphasizing the importance of strategic planning and adaptive management in the surimi industry.

Key Findings

1. **Anomalies and Market Disruptions:** Identifying anomalies in Alaska Pollock Surimi and Itoyori imports underscores the need for vigilance in monitoring supply chain disruptions. These anomalies, particularly those observed during overproduction, have far-reaching implications for price stability and market equilibrium. The insights gained from these anomalies can guide stakeholders in implementing proactive measures to mitigate market volatility.
2. **Inverse Correlations and Price Sensitivity:** The analysis reveals a strong inverse correlation between production volumes and prices, highlighting the delicate balance between supply and demand. This relationship underscores the need for producers to exercise caution in scaling production, as even minor fluctuations can lead to significant price shifts. Understanding this dynamic is essential for maintaining profitability and competitiveness in the surimi market.
3. **Lagged Effects and Strategic Planning:** Examining lagged correlations demonstrates the importance of timely decision-making and strategic planning. The findings indicate that production decisions have immediate and lagged impacts on market prices, necessitating robust forecasting models and agile production strategies. Stakeholders can optimize their operations and enhance market responsiveness by aligning production with real-time market signals and anticipated demand shifts.
4. **Sustainable Production Practices:** The sustained negative correlation across long-term trends highlights the need for sustainable production practices. As market dynamics evolve, stakeholders must prioritize sustainability to prevent long-term market saturation and price erosion. Embracing environmentally responsible practices and investing in resource management will be key to ensuring the industry's long-term viability.

Implications for the Surimi Market

The findings of this report have profound implications for the surimi market. The observed market sensitivities to production changes underscore the necessity for strategic production management and market diversification. By adopting data-driven decision-making and leveraging advanced analytics, stakeholders can enhance their ability to navigate market complexities and capitalize on emerging opportunities.

Recommendations for Future Action

1. **Responsive Production Strategies:** Implement flexible production strategies that allow for rapid adjustments in response to market conditions. This approach will help mitigate the risks associated with overproduction and align supply with demand fluctuations.
2. **Market Diversification:** Explore new markets and product lines to reduce dependency on traditional markets. Diversification will provide a buffer against market-specific volatility and enhance revenue stability.
3. **Enhanced Forecasting and Analytics:** Invest in advanced forecasting models and data analytics to improve accuracy in predicting market trends. By leveraging real-time data, stakeholders can make informed decisions that optimize production and pricing strategies.

Final Thoughts

The surimi market is characterized by a complex interplay of factors influencing production and pricing dynamics. By understanding these relationships and implementing the recommendations outlined in this report, stakeholders can position themselves for long-term success in the competitive surimi industry. As the market continues to evolve, the ability to adapt and innovate will be crucial in maintaining a competitive edge and achieving sustainable growth.

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Contact PlutusIQ

Please contact, Managing Director, Humberto Godinez (humberto.godinez@gmail.com or 646-645-4572) for additional information.

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