UrnerBarry CONSULTING

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Surimi Paste Supply Track
Executive Summary, Q3 2023

Prepared by Urner Barry Consulting for the Genuine Alaska Pollock Producers, GAPP

Highlights

- Global surimi production estimates suggest overall volumes declined 4 percent through Q3 '23 year-over-year.
- Despite the decline, Alaska Pollock production increased by 21 percent year-over-year in 2023.
- Russian pollock surimi production decreased by 34 percent through Q3 '23 compared to last year.
    - However, this figure could be misleading as quarterly averages remain within the growth thresholds.
- Japanese pollock surimi production estimates suggest a steep decline of 28 percent year-over-year through Q3 '23.
    - Please read Tom Asakawa's commentary on the Japanese surimi market (paste and products).
- Overall, tropical surimi production estimates contracted by about ~7 percent year-over-year through Q3 '23.
- Itoyori surimi production decreased 29 percent through Q3 '23, year-over-year, but remains above the 45K metric ton mark; this species is the immediate substitute for Alaska Pollock surimi production.
- Carp surimi production estimates suggest a decrease of about 11 year-over-year through Q3 '23.
- Overall, pricing of the main benchmark species, like Alaska Pollock and Itoyori surimi, to the main markets showed considerable decreases in Q2 and Q3, with partial data for Q4 suggesting a potential floor at multi-year lows.

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.

Important notice: we added Russian pollock surimi estimates. Revisions were made to Malaysian and Chinese production and trade

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World Production, Q2 2023

Global surimi production estimates through Q3 2023 suggest a decrease of approximately ~4 % percent, or roughly ~35 thousand metric tons, compared to the same period last year. Despite the decrease, Alaska Pollock surimi production increased ~19 percent year-over-year, recording the largest production through Q3 since 2019, or pre-pandemic. Preliminary total numbers for Alaska Pollock surimi production revealed 195 thousand metric tons, or about 21 percent above the previous year. Production estimates of Japanese Pollock showed an alarming ~29 percent decrease year-over-year. Production of Itoyori surimi, the most immediate substitute of AK Pollock surimi, registered a decrease of ~29 percent year-over-year; however, at ~51 thousand metric tons, itoyori surimi production through Q3 2023 was larger than in 2020 and 2019.

(continued on page 24)

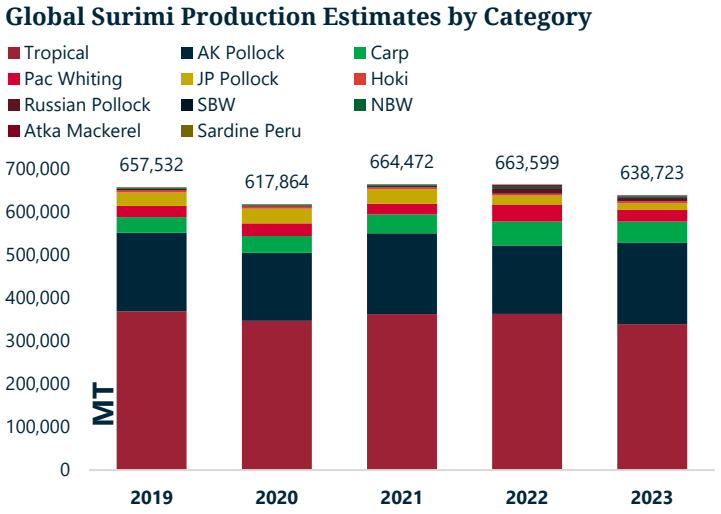

Figure 0. Overall surimi production estimates by species' category. Source: Customs, Urner Barry Consulting, GAPP.

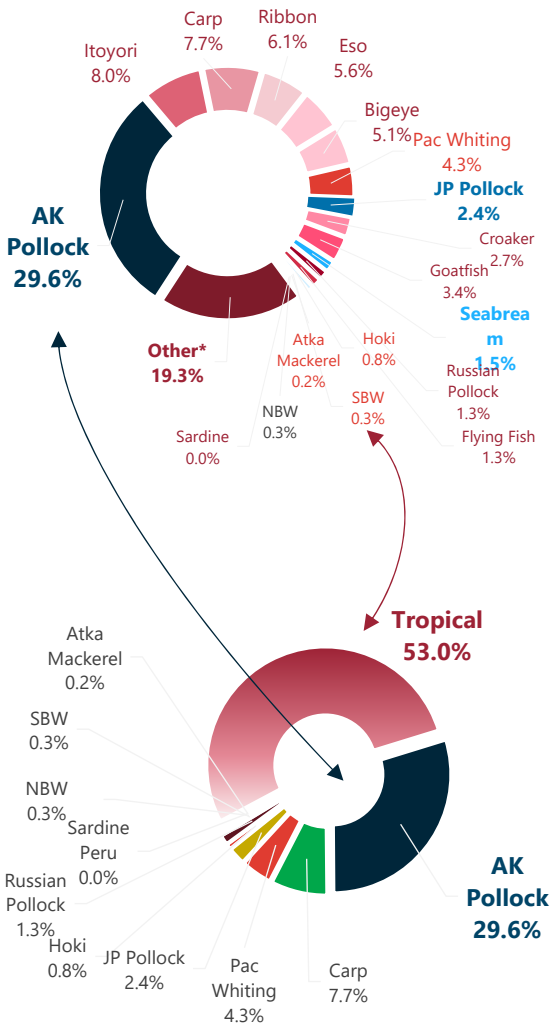

Figure 1 and 2. Pie chart of world surimi production by species and category. Source Urner Barry Consulting, GAPP.

	2019	2020	Y-o-Y % Chg	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg
AK Pollock	182,523	158,093	- 13.4%	187,769	+18.8%	159,267	- 15.2%	189,136	+18.8%
Itoyori	46,253	45,142	- 2.4%	61,394	+36.0%	72,006	+17.3%	51,049	- 29.1%
Carp	36,655	39,156	+6.8%	43,646	+11.5%	55,653	+27.5%	49,316	- 11.4%
Ribbon	40,910	39,562	- 3.3%	36,735	- 7.1%	40,959	+11.5%	39,256	- 4.2%
Eso	44,639	39,435	- 11.7%	33,731	- 14.5%	42,283	+25.4%	35,713	- 15.5%
Bigeye	29,250	26,265	- 10.2%	33,517	+27.6%	33,593	+0.2%	32,859	- 2.2%
Pac Whiting	26,027	29,221	+12.3%	24,853	- 14.9%	39,495	+58.9%	27,315	- 30.8%
JP Pollock	31,096	34,278	+10.2%	33,762	- 1.5%	21,097	- 37.5%	15,163	- 28.1%
Croaker	24,766	26,577	+7.3%	23,778	- 10.5%	21,997	- 7.5%	17,003	- 22.7%
Goatfish	12,848	12,101	- 5.8%	18,836	+55.7%	19,933	+5.8%	21,765	+9.2%
Seabream	14,368	9,805	- 31.8%	15,484	+57.9%	12,344	- 20.3%	9,664	- 21.7%
Russian Pollock	3	36	+1006.1%	1,418	+3794.1%	12,883	+808.3%	8,421	- 34.6%
Flying Fish	11,267	8,550	- 24.1%	10,424	+21.9%	10,173	- 2.4%	8,242	- 19.0%
Hoki	6,024	4,980	- 17.3%	4,209	- 15.5%	4,048	- 3.8%	4,881	+20.6%
SBW	2,779	2,489	- 10.4%	2,415	- 3.0%	2,449	+1.4%	2,019	- 17.6%
Atka Mackerel	527	716	+35.9%	750	+4.8%	3,146	+319.4%	1,308	- 58.4%
NBW	2,431	1,640	- 32.5%	2,633	+60.5%	2,772	+5.3%	2,217	- 20.0%
Sardine	844	514	- 39.1%	551	+7.2%	288	- 47.7%	264	- 8.3%
Other*	*144,322*	*139,303*	*- 3.5%*	*128,565*	*- 7.7%*	*109,211*	*- 15.1%*	*123,131*	*+12.7%*
Total	**657,532**	**617,864**	**- 6.0%**	**664,472**	**+7.5%**	**663,599**	**- 0.1%**	**638,723**	**- 3.7%**

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

Table 1. World surimi production estimates by species. Source: Urner Barry Consulting, GAPP.

	2019	2020	Y-o-Y % Chg	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg
Tropical	368,623	346,741	- 5.9%	362,465	+4.5%	362,500	+0.0%	338,683	- 6.6%
AK Pollock	182,523	158,093	- 13.4%	187,769	+18.8%	159,267	- 15.2%	189,136	+18.8%
Carp	36,655	39,156	+6.8%	43,646	+11.5%	55,653	+27.5%	49,316	- 11.4%
Pac Whiting	26,027	29,221	+12.3%	24,853	- 14.9%	39,495	+58.9%	27,315	- 30.8%
JP Pollock	31,096	34,278	+10.2%	33,762	- 1.5%	21,097	- 37.5%	15,163	- 28.1%
Hoki	6,024	4,980	- 17.3%	4,209	- 15.5%	4,048	- 3.8%	4,881	+20.6%
Russian Pollock	3	36	+1006.1%	1,418	+3794.1%	12,883	+808.3%	8,421	- 34.6%
SBW	2,779	2,489	- 10.4%	2,415	- 3.0%	2,449	+1.4%	2,019	- 17.6%
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Atka Mackerel	527	716	+35.9%	750	+4.8%	3,146	+319.4%	1,308	- 58.4%
Sardine Peru	844	514	- 39.1%	551	+7.2%	288	- 47.7%	264	- 8.3%
Total	**657,532**	**617,864**	**- 6.0%**	**664,472**	**+7.5%**	**663,599**	**- 0.1%**	**638,723**	**- 3.7%**

Table 2. World surimi production estimates by species' category. Source: Urner Barry Consulting, GAPP.

Alaska Pollock Surimi Production

AK Pollock surimi production, as reported by NMFS, suggests an increase of 21 percent year-over-year. This increase places production figures at the highest point since 2019 at about ~195 thousand metric tons, or pre-pandemic, where production hit ~199 thousand metric tons. Such a production increase came with a steep decrease in export and import prices, albeit from near-record highs.

US Production, Alaska Pollock Surimi (MT)									
	2019	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	86,026	73,647	-14.4%	59,033	-19.8%	65,191	+ 10.4%	75,954	+ 16.5%
Q2	13,639	14,511	+ 6.4%	32,804	+ 126.1%	15,211	-53.6%	19,798	+ 30.2%
Q3	82,858	69,935	-15.6%	95,932	+ 37.2%	78,865	-17.8%	93,384	+ 18.4%
Q4	16,928	19,048	+ 12.5%	5,919	-68.9%	2,030	-65.7%	5,971	+ 194.1%
Total	199,451	177,141	-11.2%	193,688	+ 9.3%	161,297	-16.7%	195,107	+ 21.0%
YTD	199,451	177,141	-11.2%	193,688	+ 9.3%	161,297	-16.7%	195,107	+ 21.0%

Table 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA Fisheries, Urner Barry. Q4 2023 data is complete.

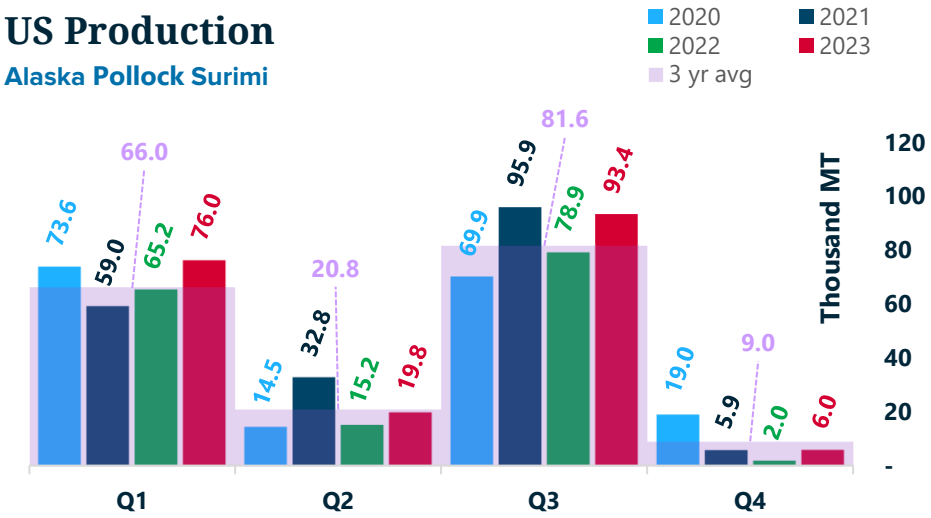

Figure 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA, Urner Barry.

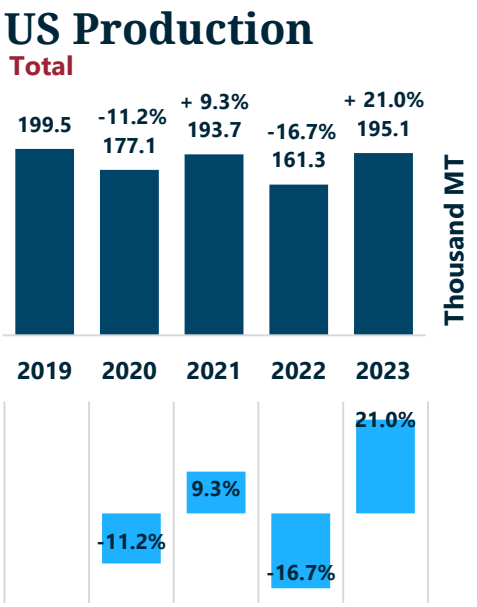

Figure 4. Total Alaska Pollock Surimi Production Source: NOAA Fisheries, Urner Barry Consulting.

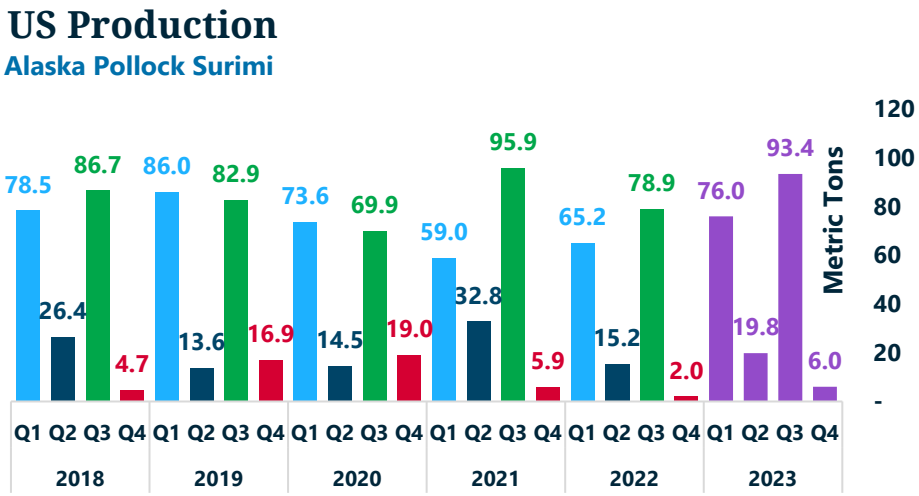

Figure 5. Alaska Pollock Surimi Production by Quarter, linear. Source: NOAA Fisheries, Urner Barry.

Alaska Pollock Surimi Trade (Imports)

Alaska Pollock Surimi Trade *Imports*

After a year-over-year recovery in Q2, countries declaring import volumes again contracted in Q3 with an ~8 percent decrease year-over-year. On a year-to-date basis, imports are only 4 percent below year-ago levels through Q3. Given the production and shipping lag time, declared imports and registered exports must be adjusted accordingly. As a result, we can expect imports to increase into Q4 '23, supported by the increase in production mentioned above.

Alaska Pollock Surimi Imports	*YTD from (Q1 to Q3)						
All Countries							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	15,333	17,201	+ 12.2%	21,060	+ 22.4%	14,460	-31.3%
Q2	53,638	49,340	-8.0%	39,260	-20.4%	44,898	+ 14.4%
Q3	30,683	34,694	+ 13.1%	38,309	+ 10.4%	35,164	-8.2%
Q4	46,338	52,598	+ 13.5%	31,748	-39.6%		
Total	145,992	153,833	+ 5.4%	130,377	-15.2%		
*YTD	99,654	101,235	+ 1.6%	98,629	-2.6%	94,522	-4.2%

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

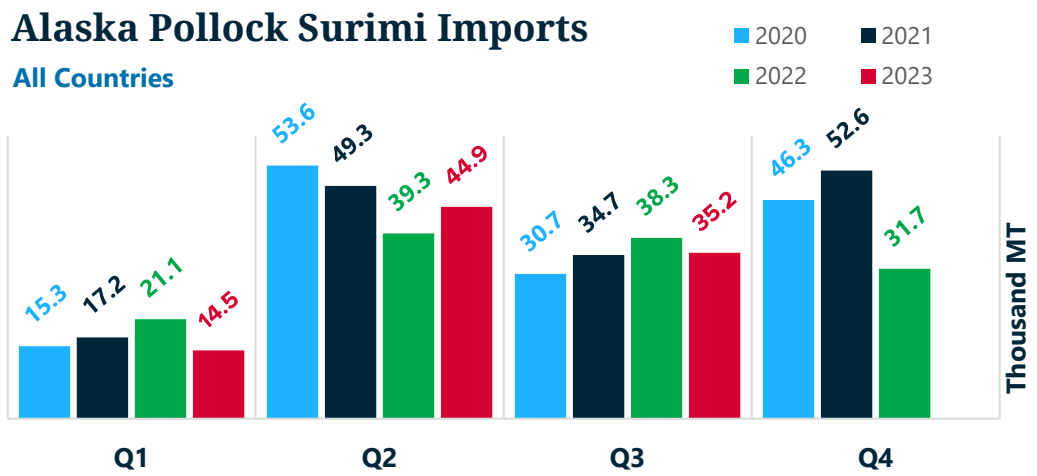

Figure 6. Alaska Pollock Surimi Imports. Aggregate of declaring countries by quarter.

Alaska Pollock Surimi Imports	(Q1 to Q3)						
By Declaring Country through Q3							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	56,560	60,888	+ 7.7%	58,023	-4.7%	63,803	+ 10.0%
S. Korea	15,465	15,649	+ 1.2%	16,376	+ 4.6%	11,649	-28.9%
France	11,412	10,234	-10.3%	11,855	+ 15.8%	9,076	-23.4%
Lithuania	4,021	5,178	+ 28.8%	4,383	-15.4%	3,428	-21.8%
Thailand	3,573	2,008	-43.8%	3,161	+ 57.4%	2,354	-25.5%
Spain	4,926	4,600	-6.6%	2,667	-42.0%	2,237	-16.1%
Taiwan	1,728	1,023	-40.8%	1,037	+ 1.4%	1,229	+ 18.5%
Poland	741	930	+ 25.5%	676	-27.3%	507	-25.0%
Belarus	836	525	-37.2%	297	-43.4%		
Norway	154	160	+ 3.9%	114	-28.8%	178	+ 56.1%
Ukraine	238	40	-83.2%	40	-	61	+ 52.5%
Total	99,654	101,235	+ 1.6%	98,629	-2.6%	94,522	-4.2%

Table 5. Alaska Pollock Surimi Imports by declaring country.

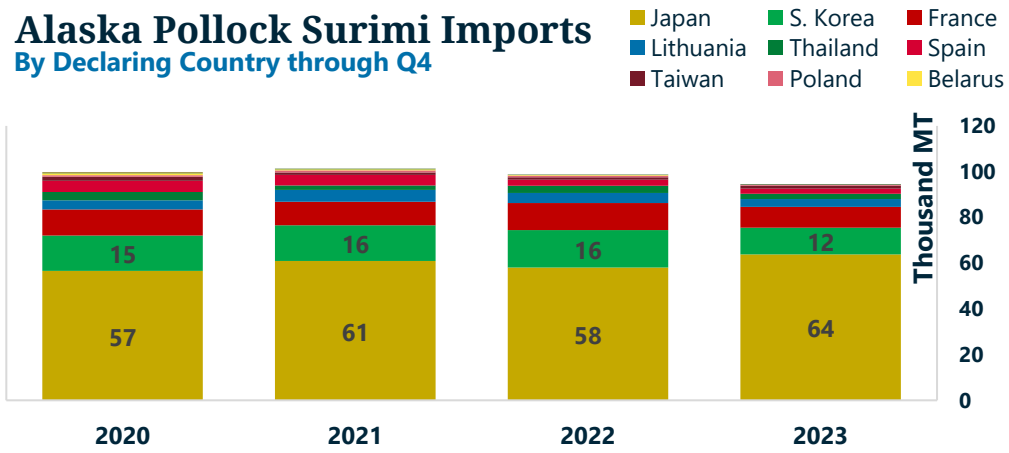

Figure 7. Alaska Pollock Surimi Imports by declaring country.

Alaska Pollock Surimi Trade (Imports), cont.

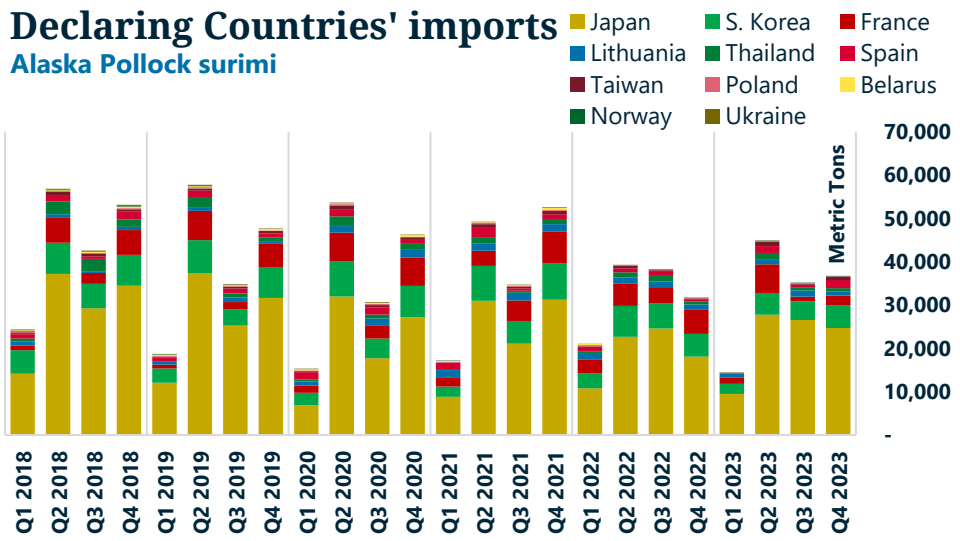

Figure 8. Alaska Pollock Surimi Imports. Linear imports by declaring countries. *Q4 '23 is incomplete.

Declaring Countries' imports vs. U.S. Exports

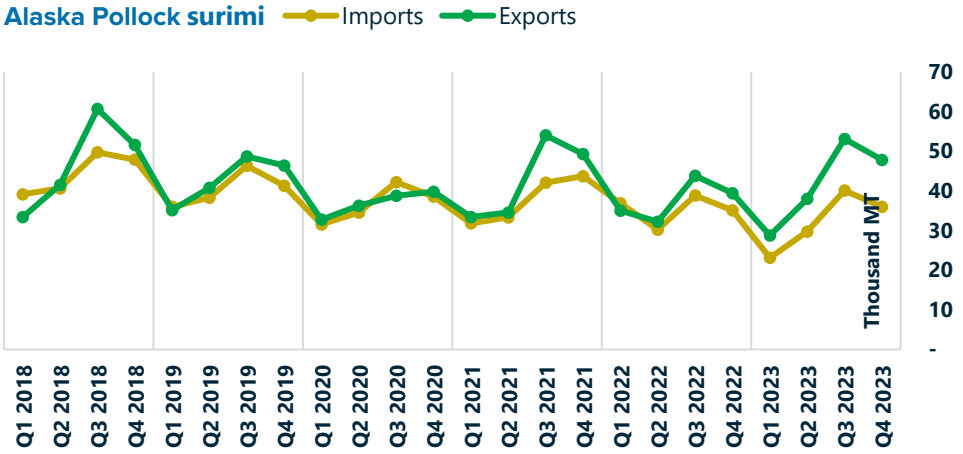

Figure 9. Alaska Pollock Surimi Imports vs. U.S. Alaska Pollock Surimi Exports. Smoothed average. *Q4 data is incomplete

Declaring Countries'

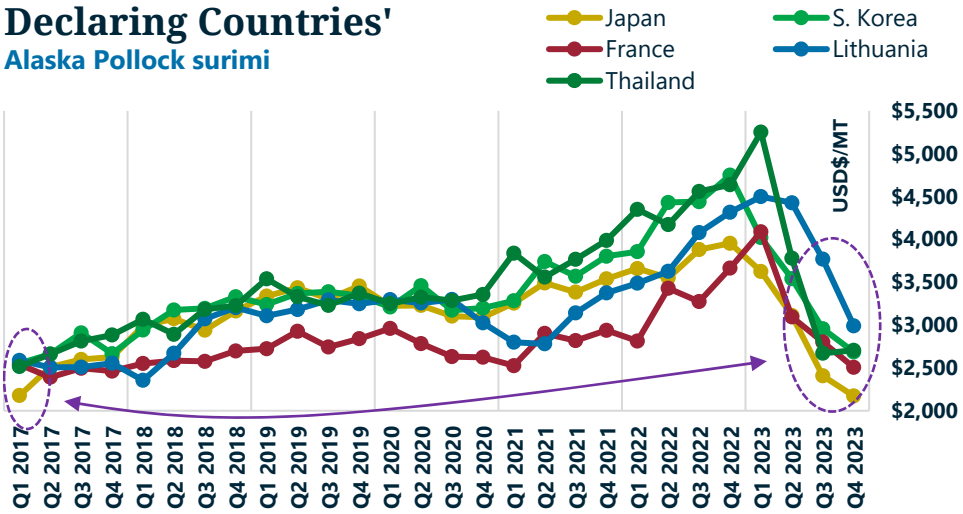

Figure 10. Alaska Pollock Surimi Import Price per MT by declaring country. Q4 '23 data is incomplete.

Furthermore, the continuous trend of imports and production relative to price is inverse, as expected.

As chart 10 illustrates, average prices have declined to multi-year levels in Q3 and Q4 '23 using data through October and November in some cases.

Alaska Pollock Surimi Trade (U.S. Exports)

Alaska Pollock Exports

U.S. customs export figures revealed a ~13 percent increase year-over-year in Q3 '23. Although export and declaring country import figures differ, we can see that exports to Japan and South Korea increased considerably year-over-year. On a year-to-date basis, we can notice a 15.5 percent increase in volumes shipped.

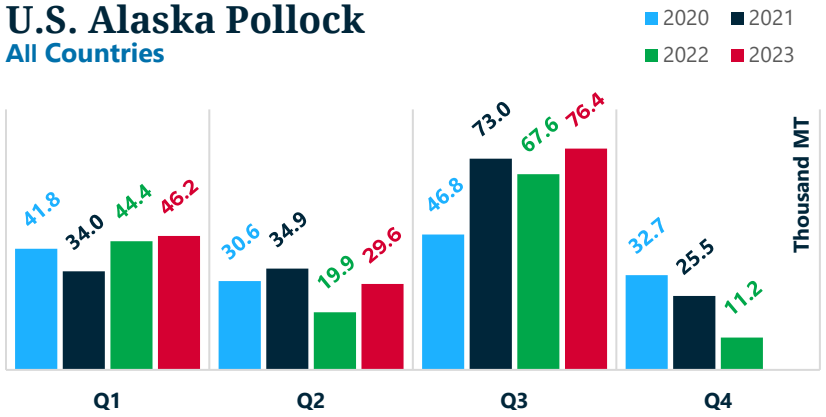

Figure 11. Alaska Pollock Surimi Exports. Aggregate of destination countries by quarter. *Q4 is incomplete

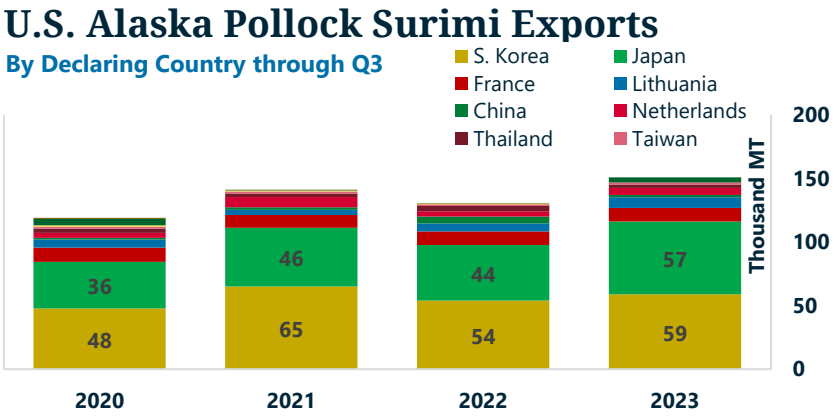

Figure 12. Alaska Pollock Surimi Exports by destination country.

U.S. Alaska Pollock Surimi Exports *YTD from (Q1 to Q3) All Countries	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	41,806	34,010	-18.6%	44,420	+ 30.6%	46,237	+ 4.1%
Q2	30,634	34,944	+ 14.1%	19,898	-43.1%	29,643	+ 49.0%
Q3	46,755	72,953	+ 56.0%	67,581	-7.4%	76,434	+ 13.1%
Q4	32,705	25,525	-22.0%	11,161	-56.3%		
Total	151,900	167,432	+ 10.2%	143,060	-14.6%		
*YTD	119,195	141,907	+ 19.1%	131,899	-7.1%	152,314	+ 15.5%

Table 6. Alaska Pollock Surimi Exports (U.S.) by quarter. U.S. Customs, Urner Barry.

U.S. Alaska Pollock Surimi Exports (Q1 to Q3) By Declaring Country through Q3	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
S. Korea	47,784	64,928	+ 35.9%	53,934	-16.9%	58,745	+ 8.9%
Japan	36,498	46,185	+ 26.5%	43,596	-5.6%	57,254	+ 31.3%
France	11,163	10,056	-9.9%	10,626	+ 5.7%	10,681	+ 0.5%
Lithuania	6,487	4,019	-38.0%	6,355	+ 58.1%	8,386	+ 32.0%
China	1,260	1,960	+ 55.6%	5,328	+ 171.8%	1,831	-65.6%
Netherlands	3,900	8,075	+ 107.1%	4,196	-48.0%	5,480	+ 30.6%
Thailand	3,319	2,825	-14.9%	4,137	+ 46.4%	2,644	-36.1%
Taiwan	1,615	1,602	-0.8%	1,355	-15.4%	1,628	+ 20.1%
India	909	730	-19.7%	630	-13.7%		
Spain	5,085	333	-93.5%	346	+ 3.9%	4,028	+ 1064.2%
Germany	812	335	-58.7%	95	-71.6%		
Total	119,195	141,907	+ 19.1%	131,899	-7.1%	152,314	+ 15.5%

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

Japanese Pollock Surimi

Japanese Pollock

Japanese pollock surimi production estimates contracted significantly again in Q3 '23 by about 33 percent year-over-year. On a year-to-date basis, production estimates are down by about 6 thousand metric tons or 28 percent. Inventories as of October 2023 rank the 3rd highest since at least 2018, with Alaska Pollock surimi inventory at a record high.

Atka Mackerel

Production estimates of Atka Mackerel surimi dropped to 135 metric tons from 847 the quarter before. Still, on a YTD basis, 2023 added about 1.3 thousand metric tons. While this drop translates into a 58 percent decline, these production levels are higher than historical norms.

Japanese Surimi Market
by Tom Asakawa

Japanese Pollock Catch and TAC

The Total Pollock TAC remained at around 250,000 MT in JFY 2019-2022, except for 224,700 MT in JFY 2020. The Pollock TAC for JFY 2023 is 258,675 MT, as revised in June 2023. As of this writing, the TAC for JFY 2024 has yet to be announced.

Annual Pollock catch has gradually increased since the recent bottom at 127,497 MT in 2018 to 174,300 MT in 2021. It dipped again in 2022 to 160,200 tons, about 25% below 2008-13, when the catch was above 200,000 MT.

In response to Russia's invasion of Ukraine, Japan has placed an embargo on certain electronic parts and semiconductors as part of sanctions against Russia. Still, seafood products have been excluded in consideration of the damage to domestic industry.

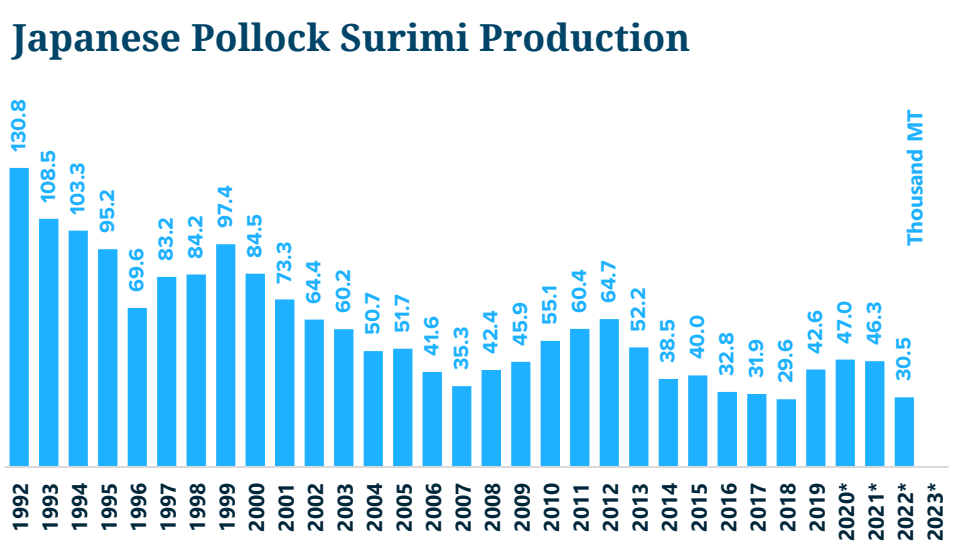

Figure 13. Japanese surimi production estimates. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry Consulting.

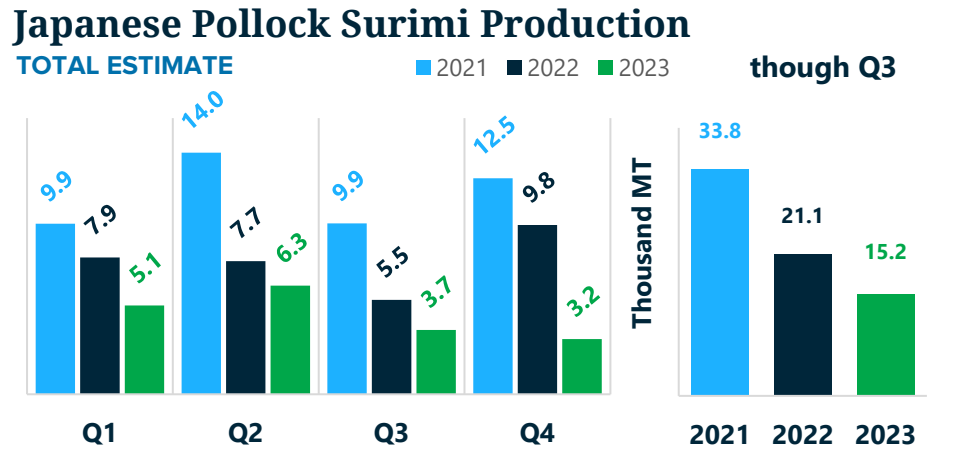

Figure 14. Japanese pollock surimi production estimates. Source: UB Consulting, Tom Asakawa, TA Pacific Co., and Kambako News.

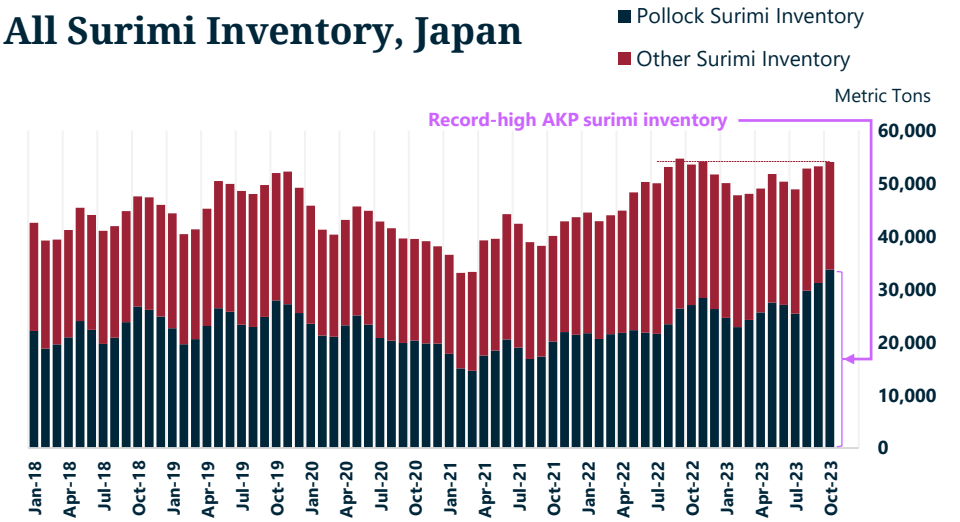

Figure 15. All surimi inventory in Japan. Tom Asakawa, TA Pacific Co., Japan MOF. Urner Barry. Monthly through July 2023.

Japanese Atka Mackerel Surimi, Tom Asakawa

In 2022, Japan increased import duty on Russian seafood from 3.5% to 5% in response to Russia's invasion of Ukraine. Still, Japan imported 284 tons worth $225,000 of pollock from Russia, down 20% from 2021.

Hokkaido Surimi Production

The National Surimi Association announced on December 25 a summary of members' reports: The production volume of surimi in Hokkaido in November 2023 was 385 tons, down by 58% compared to the same month of the previous year. The breakdown was 326 tons of pollock surimi, down 62%, and 9 tons of Atka mackerel surimi, down 86%.

Cumulative production from January to November was 6,060 tons, down 34%. The breakdown was 5,239 tons of pollock surimi, down 33%, and 511 tons of Atka mackerel surimi, down 52%.

Surimi paste imports

The Ministry of Finance announced that imported surimi in November 2023 was 23,885 tons, an increase of 17.6% from the previous year, a three consecutive monthly increase.

Among them, 13,666 tons were imported from the United States, a significant increase of 52.6% from the previous year. Imports from Thailand, India, and Chile also doubled. On the other hand, Vietnam and Indonesia showed a decrease.

As a result, the cumulative total for the January-November period was 197,848 tons, a decrease of 6.2% compared to last year. By country, only three countries - the United States, Argentina, and South Korea - have seen an increase compared to the previous year, while the rest have all seen a decline.

The surimi market has been calming down, but the outlook remains strong.

Surimi products

According to Suisan Keizai Shimbun, the Food Marketing Research and Information Center announced that the national production of surimi products in November last year was 43,278 tons, an increase of

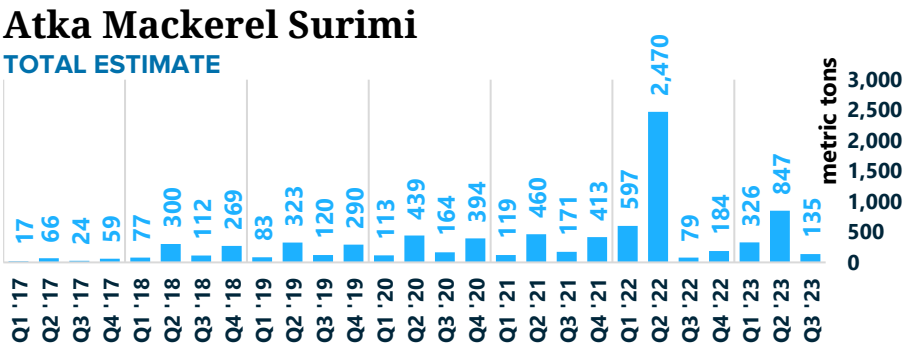

Figure 16. Japanese Atka Mackerel Harvest. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

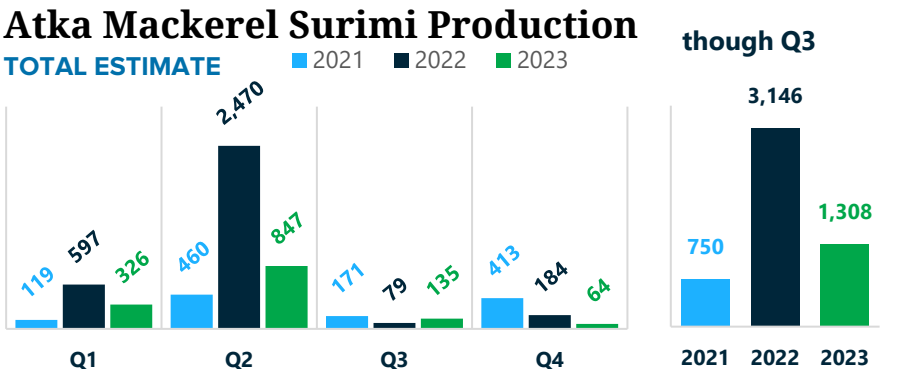

Figure 17. Hokkaido, Atka Mackerel surimi production, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

15.9% compared to the same month a year ago. This marks the 11th consecutive month of positive growth.

In November, most products exceeded the previous year's results, except for packaged kamaboko (hoso kamaboko), down 17.8% to 765 tons, sharply declining for five consecutive months. The other surimi product category, including crab sticks, up 22.9% to 10,271 tons; authentic kamaboko on wooden board (ita-kamaboko), up 22.2% to 5,389 tons; fried surimi products (age-kamaboko), up 15.6% to 17,289 tons; steamed or boiled surimi products (naruto/hampen), up 12.4% to 4,120 tons, saw double-digit increases. The grilled tubes (chikuwa) also increased by 8.5% to 5,444 tons.

--The highest level in 7 years? (Surimi products)

With this, the cumulative production volume from January to November was 417,536 tons, an increase of 13.2% compared to the previous year. December, the year-end sales season, is usually the peak month. Production tends to increase significantly, so if the current trend continues without any downward revisions, it is likely that production will exceed 450,000 tons for the first time in seven years since 2016.

Looking at the breakdown of each product, only packaged kamaboko (9,8hoso-kamaboko) has seen a decline in production by 4.6% to 9,381 tons, the same trend over the past three months.

Most other items have remained positive.

(Continued on page 24)

Pacific Whiting Surimi

Production estimates of Pacific Whiting surimi through Q3 and Q4 show a significant decrease from year-ago levels but depict a regression to what had been historically "normal" when excluding 2022. Preliminary data suggests production figures contracted 21 percent to about 36 thousand metric tons, well within levels seen excluding 2022.

We must disclose that since public data is no longer available, our estimate's margin of error has increased considerably. Still, the relatively decent correlation between landings and surimi production released in the past by NMFS's regional offices suggests that estimates of production figures are likely to be closer to real numbers.

Another round of changes in 2022 in how NMFS regional offices report this information further complicated this process. As a result, we recurred to even more rudimentary methods to calculate surimi production by category. Please refer to the disclaimer for further information.

Pacific Whiting Surimi Production Estimates

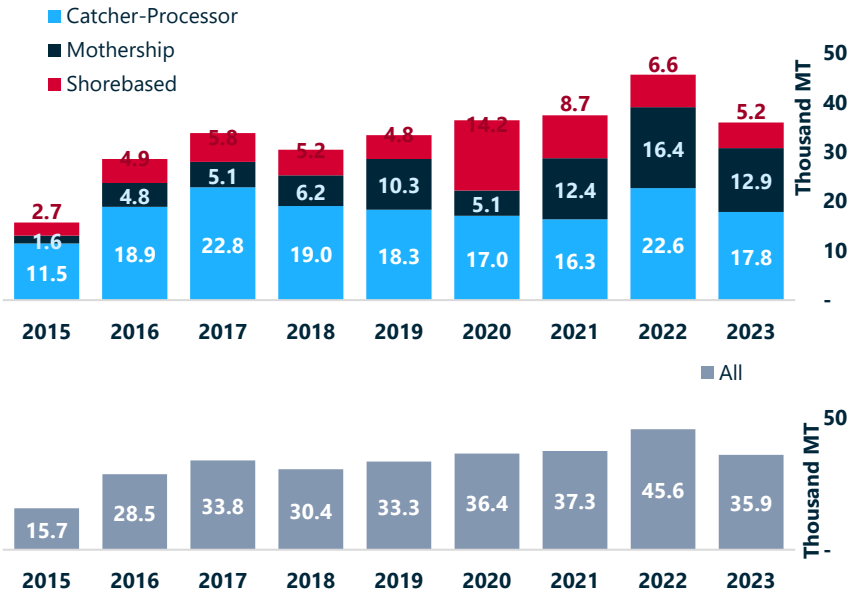

Figure 18. Pacific Whiting Surimi Production. NOAA Fisheries, Northwest Fisheries Science Center, and UB Consulting estimates for *2020, *2021, *2022, and *2023.

PW Surimi Production Estimate

PW Surimi Production Estimate

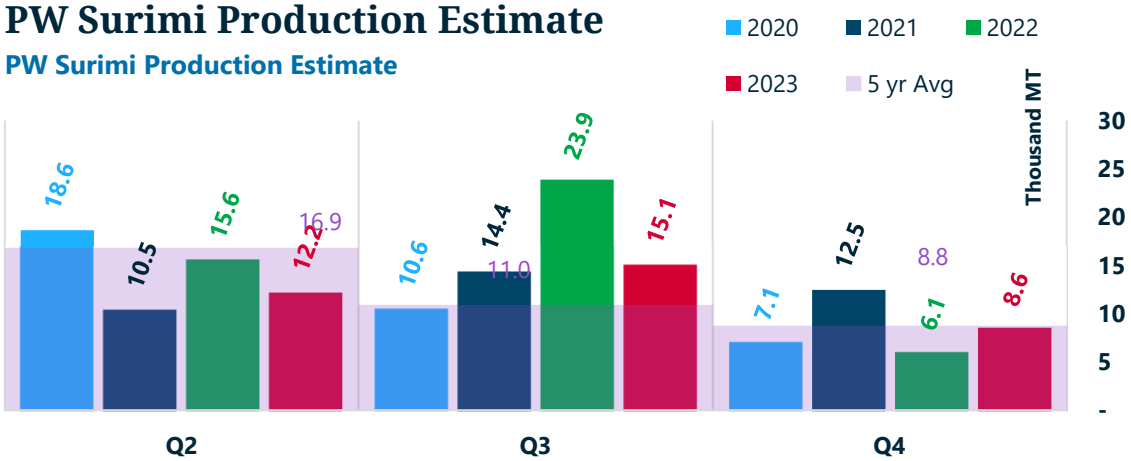

Figure 19. PW Surimi Production Estimate. NOAA, Northwest Fisheries Science Center, Urner Barry Consulting.
Data for 2023 considers complete preliminary data through Q4 and incomplete data the year.

UB Estimated Production, Pacific Whiting Surimi						**YTD (Q1 to Q4)			
	2019	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1						3			
Q2	24,989	18,648	-25.4%	10,458	-43.9%	15,620	+ 49.4%	12,233	-21.7%
Q3	1,038	10,573	+ 918.4%	14,395	+ 36.2%	23,872	+ 65.8%	15,081	-36.8%
Q4	7,314	7,133	-2.5%	12,495	+ 75.2%	6,099	-51.2%	8,601	+ 41.0%
Total (UB Est.)	33,341	36,354	+ 9.0%	37,349	+ 2.7%	45,594	+ 22.1%	35,916	-21.2%
*Official thru '18	33,341	36,354	+ 9.0%	37,349	+ 2.7%	45,594	+ 22.1%	35,916	
**YTD	33,341	36,354	+ 9.0%	37,349	+ 2.7%	45,594	+ 22.1%	35,916	-21.2%
* UB Estimates.	'23 data complete								

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

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.

Pacific Whiting Surimi Trade (Imports)

Imports (countries declaring imports of Pacific whiting Surimi)

Countries declaring imports of Pacific whiting surimi through Q3 '23 revealed an increase of ~8 percent year-over-year. While such an increase makes sense if we assume that the increase in production throughout '22 traded through the first quarter half of 2023, Q2 and Q3 figures contracted by 9 and 15 percent year-over-year, respectively.

Spain and Lithuania, the top two markets, declared considerable year-over-year increases, while Japan, the third largest market, decreased nearly 60 percent but was consistent with levels seen before 2022.

From a price perspective, similar to Alaska Pollock, price levels reached a multi-year low in Q3, and preliminary data for Q4 also showed downward pressure.

Pacific Whiting Surimi Imports *YTD from (Q1 to Q3) All Countries	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	4,883	3,379	-30.8%	3,299	-2.4%	5,805	+ 76.0%
Q2	3,794	3,291	-13.3%	4,737	+ 43.9%	4,314	-8.9%
Q3	7,095	5,214	-26.5%	6,230	+ 19.5%	5,274	-15.3%
Q4	5,622	6,373	+ 13.4%	6,781	+ 6.4%		
Total	21,394	18,257	-14.7%	21,047	+ 15.3%		
*YTD	15,772	11,884	-24.7%	14,266	+ 20.0%	15,393	+ 7.9%

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

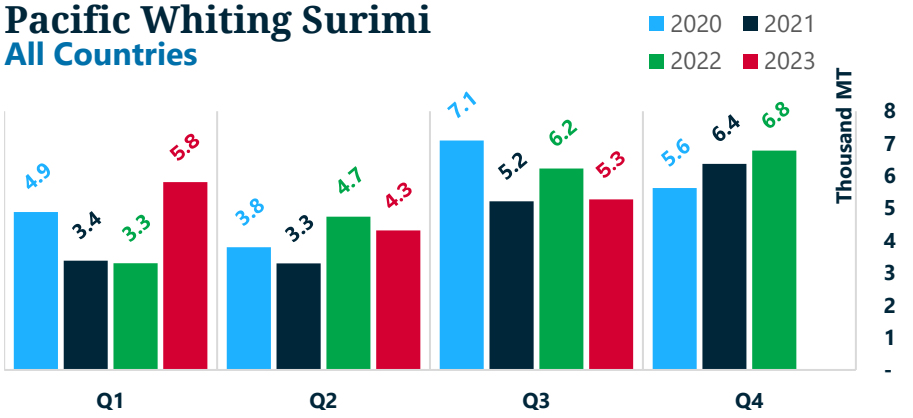

Figure 20. PW surimi imports, all countries by quarter from the U.S. —each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Imports *(Q1 to Q3) By Declaring Country	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	6,052	4,275	-29.4%	5,028	+ 17.6%	6,956	+ 38.3%
Lithuania	4,438	4,373	-1.5%	3,538	-19.1%	4,630	+ 30.9%
Japan	1,968	1,356	-31.1%	2,891	+ 113.2%	1,225	-57.6%
France	1,662	536	-67.7%	1,310	+ 144.4%	457	-65.1%
Poland	1,057	824	-22.0%	891	+ 8.1%	1,358	+ 52.4%
Canada	214	285	+ 33.2%	278	-2.5%	369	+ 32.7%
Taiwan	83	229	+ 175.9%	188	-17.9%	234	+ 24.5%
Latvia	70	6	-91.4%	95	+ 1483.3%	69	-27.4%
S. Korea	223			46		3	-93.5%
*Total	15,772	11,884	-24.7%	14,266	+ 20.0%	15,393	+ 7.9%

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

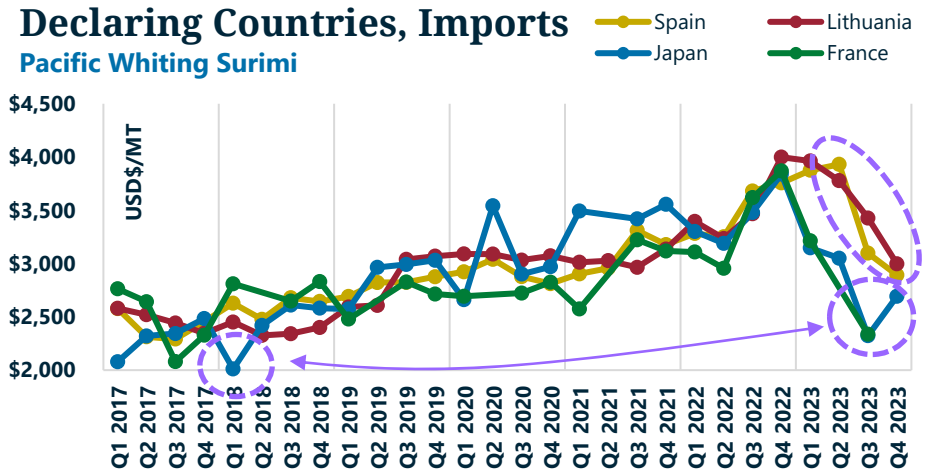

Figure 21. PW surimi import $/MT—each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Trade (Exports)

Pacific Whiting Surimi Exports *YTD from (Q1 to Q3) All Countries	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	495	1,778	+ 259.2%	238	-86.6%	302	+ 26.9%
Q2	1,779	3,218	+ 80.9%	1,520	-52.8%	199	-86.9%
Q3	859	741	-13.7%	3,085	+ 316.3%	814	-73.6%
Q4	2,383	6,789	+ 184.9%	3,876	-42.9%		
Total	5,516	12,526	+ 127.1%	8,719	-30.4%		
*YTD	3,133	5,737	+ 83.1%	4,843	-15.6%	1,315	-72.8%

Tables 11. Pacific Whiting surimi Exports. All countries. U.S. Customs, Urner Barry Consulting.

Pacific Whiting Surimi Exports *YTD from (Q1 to Q3) Spain	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1		716				134	
Q2	781	1,821	+ 133.2%	668	-63.3%		
Q3				2,424		308	-87.3%
Q4	1,228	2,696	+ 119.5%	1,059	-60.7%		
Total	2,009	5,233	+ 160.5%	4,151	-20.7%		
YTD	781	2,537	+ 224.8%	3,092	+ 21.9%	442	-85.7%

Table 12. Pacific Whiting surimi exports to Spain. Source: U.S. Customs, Urner Barry Consulting.

Pacific Whiting Surimi Exports *(Q1 to Q3) By Reported Destination Country through Q3	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	781	2,537	+ 224.8%	3,092	+ 21.9%	442	-85.7%
Netherlands	618	1,872	+ 202.9%	495	-73.6%	238	-51.9%
Lithuania	777	11	-98.6%	180	+ 1536.4%		
S. Korea	348	424	+ 21.8%			96	
Canada	330	493	+ 49.4%	362	-26.6%	419	+ 15.7%
Japan	118			329		69	-79.0%
Thailand	93	274	+ 194.6%	137	-50.0%		
China	48			29			
Poland						46	
*Total	3,133	5,737	+ 83.1%	4,843	-15.6%	1,315	-72.8%

Table 13. Pacific Whiting surimi exports by country U.S. Customs, Urner Barry Consulting.

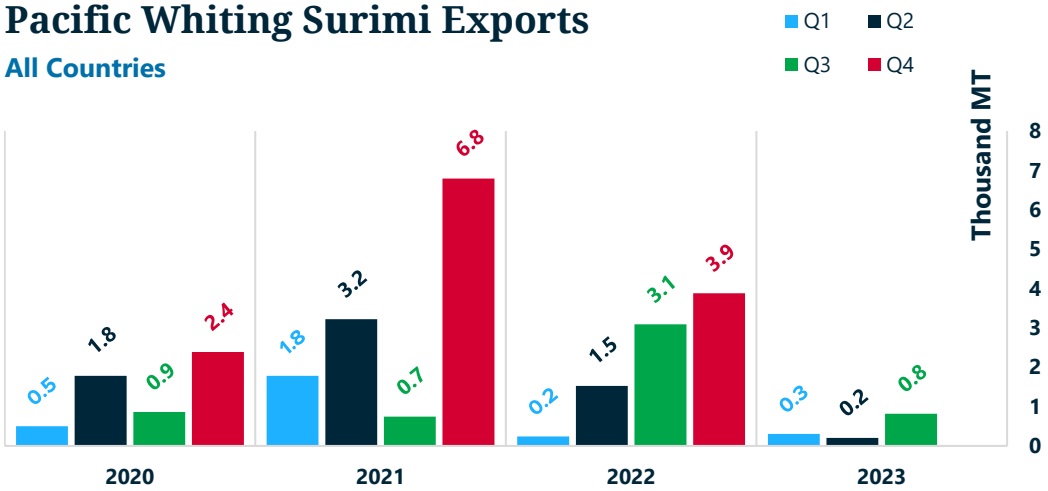

Figure 22. Pacific Whiting surimi exports by quarter. U.S. Customs, Urner Barry Consulting.

U.S. export data shows a very different picture from countries declaring imports. For instance, it also shows a similar pattern to seasonal production, which naturally makes sense. Therefore, shipments in Q1 will generally be low compared to the remaining quarters. However, in Q2 and Q3, shipments remained comparatively low, suggesting a 73 percent decrease year-over-year on a year-to-date basis. While this could be faulty data, we must consider such discrepancies relative to production and countries declaring imports to make complete assessments. However, when these discrepancies become too large, simply discounting them might be appropriate. The disparity between countries declaring imports and U.S. export data shows a massive disconnect in how these export codes are reported for this species However, it also tells us that compared to surimi production, figures could be overstated, and imports and exports underreported—aside from being misreported. It is not easy to assess this data from a purely analytical perspective.

Southern Blue Whiting and Hoki Surimi Production

SBW

Production estimates of southern blue whiting surimi decreased ~41 percent in Q3 '23 year-over-year. On a year-to-date basis, overall production is down by about ~18 percent year-over-year. Cumulative through Q3, Argentina has been virtually the sole seasonal producer thus far, with Chile contracting nearly nil production through the first three quarters.

Hoki

Hoki surimi production estimates decreased, but only by about 6 percent during Q3 '23 year-over-year. Argentina's production remained virtually flat—only increasing by about 2 percent y-o-y—while New Zealand increased its production by 90 percent through Q3 year-over-year. Conversely, Chile's hoki production has contracted to nearly zero thus far this year; Chile's seasonal production tends to be more prominent during Q1 of each year.

The overall linear trend since 2017 remains downward for both SBW and Hoki surimi production.

Southern Blue Whiting Surimi Production				*YTD from (Q1 to Q3)			
All Countries							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	934	1,199	+ 28.3%	1,233	+ 2.8%	807	-34.5%
Q2	865	695	-19.6%	510	-26.6%	794	+ 55.6%
Q3	690	521	-24.5%	706	+ 35.5%	419	-40.7%
Q4	1,119	1,069	-4.5%	1,306	+ 22.2%		
Total	3,609	3,484	-3.5%	3,755	+ 7.8%		
*YTD	2,489	2,415	-3.0%	2,449	+ 1.4%	2,019	-17.6%

Table 14. Southern Blue Whiting surimi estimated production.

Southern Blue Whiting Surimi Production				(Q1 to Q3)			
Production by Country							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Argentina	2,392	1,851	-22.6%	1,966	+ 6.2%	2,017	+ 2.6%
Chile	97	564	+ 481.4%	407	-27.8%	2	-99.5%
New Zealand				76			
Total	2,489	2,415	-3.0%	2,449	+ 1.4%	2,019	-17.6%

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

Hoki Surimi Production				*YTD from (Q1 to Q3)			
All Countries							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	1,728	1,383	-19.9%	1,652	+ 19.5%	1,678	+ 1.6%
Q2	1,681	1,441	-14.3%	984	-31.7%	1,877	+ 90.8%
Q3	1,571	1,385	-11.9%	1,412	+ 1.9%	1,325	-6.1%
Q4	1,400	1,403	+ 0.3%	1,232	-12.2%		
Total	6,379	5,612	-12.0%	5,280	-5.9%		
*YTD	4,980	4,209	-15.5%	4,048	-3.8%	4,881	+ 20.6%

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

Hoki Surimi Production				(Q1 to Q3)			
Production by Country							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Argentina	3,589	2,777	-22.6%	2,949	+ 6.2%	3,026	+ 2.6%
Chile	37	76	+ 105.4%	139	+ 82.9%	25	-82.0%
New Zealand	1,354	1,356	+ 0.1%	960	-29.2%	1,830	+ 90.6%
Total	4,980	4,209	-15.5%	4,048	-3.8%	4,881	+ 20.6%

Table 17 . Hoki surimi estimated production by country. Each country's customs, Urner Barry Consulting.

Southern Blue Whiting Surimi

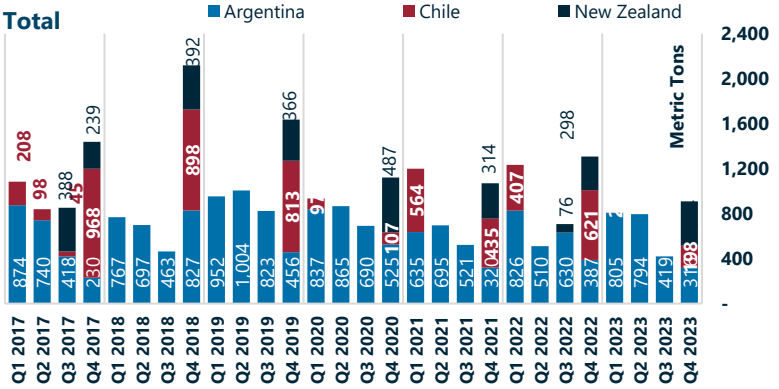

Figure 23. Southern Blue Whiting surimi estimated production by country. *Q4 is incomplete.

Hoki Surimi

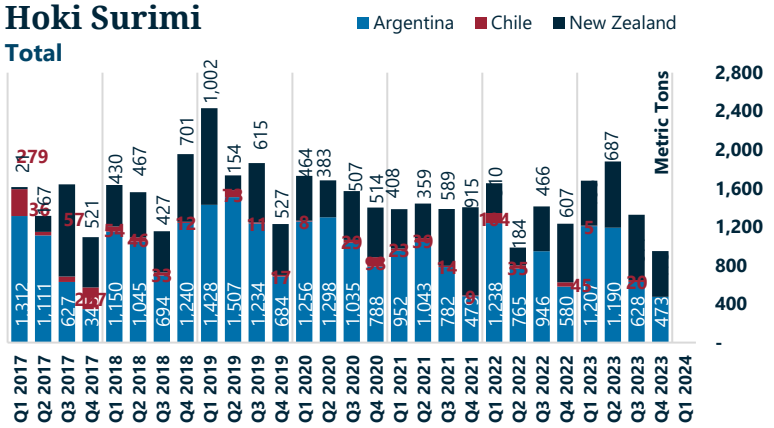

Figure 24. Hoki surimi production estimates. Each country's customs, Urner Barry Consulting. *Q4 is incomplete.

Disclaimer: Southern blue whiting (SBW) and Hoki surimi production were assumed as 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, which are also divided by species.

Southern Blue Whiting and Hoki Surimi Trade

Surimi Imports from Argentina	*(Q1 to Q3)					
Countries Importing from:	Argentina					
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	5,018	4,049	-19.3%	4,830	+ 19.3%	4,899	+ 1.4%
Russian Federation	891	439	-50.7%	61	-86.1%		
Spain						144	
Belarus	72	115	+ 59.7%	24	-79.1%		
South Africa		25					
*Total	5,981	4,628	-22.6%	4,915	+ 6.2%	5,043	+ 2.6%

Table 18. Surimi imports from Argentina by country.

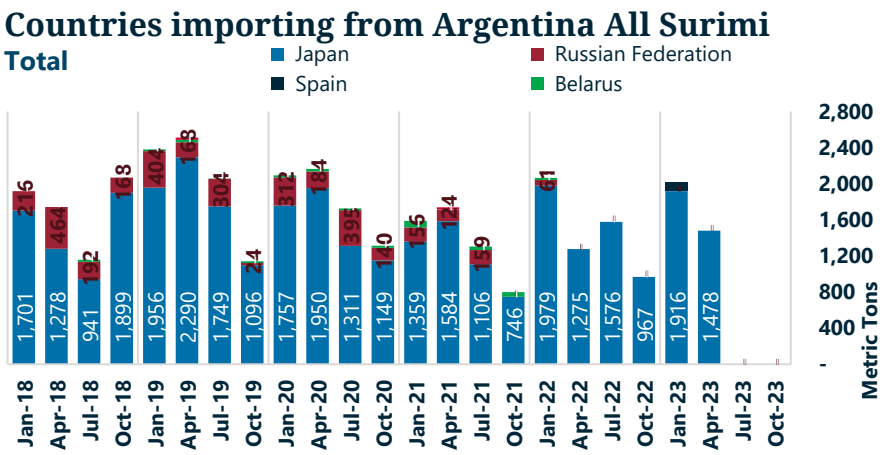

Figure 25. SBW and Hoki Surimi imports from Argentina. *Q3 2023 data is incomplete.

Surimi Imports from Chile	*YTD from (Q1 to Q3)						
Countries Importing from:	Chile						
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	1,396	1,843	+ 32.0%	2,405	+ 30.5%	1,908	-20.7%
Russian Federation	44	159	+ 261.4%				
Spain				26		23	-11.5%
Belarus							
*Total	1,440	2,002	+ 39.0%	2,431	+ 21.4%	1,931	-20.6%

Table 19. Surimi imports from Chile by country.

Surimi Imports from New Zealand	*(Q1 to Q3)						
Countries Importing from:	New Zealand						
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	218	267	+ 22.5%	401	+ 50.2%	284	-29.2%
South Africa		20					
*Total	218	287	+ 31.7%	401	+ 39.7%	284	-29.2%

Table 20. Surimi imports from New Zealand by country.

Imports from Argentina:

Japanese imports of Argentinean surimi increased year-over-year through Q3 '23 by about ~3 percent. These trade figures are incomplete, as Russian imports have been unavailable since mid-2022 due to the Russia-Ukraine war. Such trade figures could be larger than displayed.

Imports from Chile:

Japanese imports of Chilean surimi remained below by about ~21 percent through Q3 '23 year-over-year. Like Argentina, Russian imports of Chilean surimi have not been reported for months, and these figures could be understated.

Imports from New Zealand:

Japanese surimi imports from New Zealand decreased by ~29 percent, from 276 metric tons in 2022 to 195 in '23 through Q3.

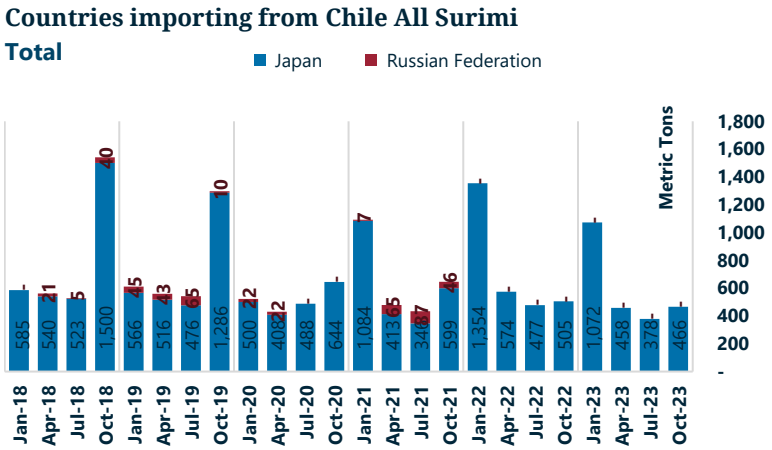

Figure 26. Surimi imports from Chile by country. *Q4 2023 data is incomplete.

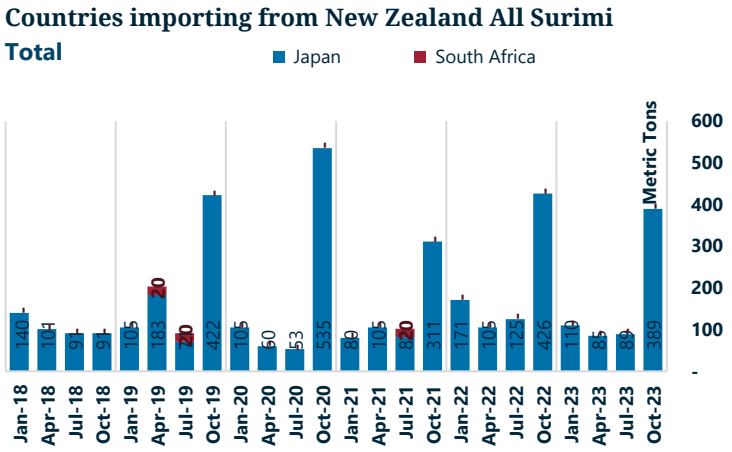

Figure 27. Surimi imports from New Zealand by country. *Q4 2023 data is incomplete.

Northern Blue Whiting Surimi Production, France

Northern blue whiting surimi production estimates from UBC out of France are shown below. These estimates suggest that production in Q3 '23 was below last year's levels by about 20 percent. Regarding trade, Japanese imports of NBW surimi were about 359 metric tons through Q3 '23.

France's Northern Blue Whiting Surimi Production
(Est. by Quarter)

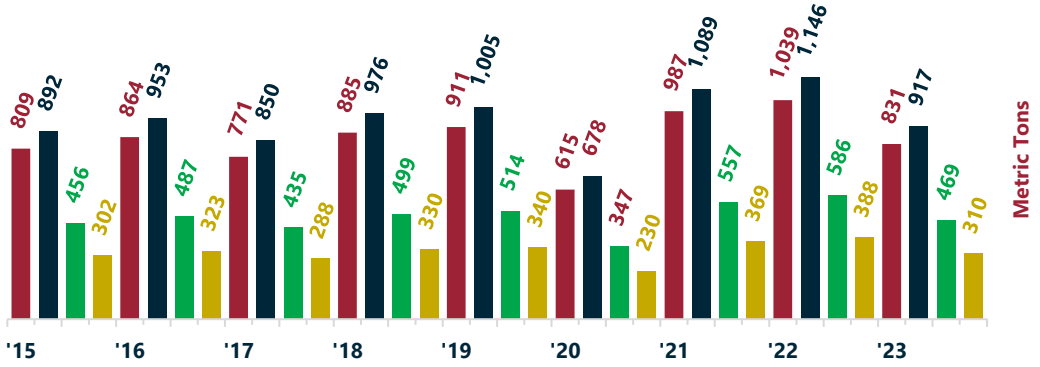

Figure 28. Northern blue whiting surimi production estimates. Source: GAPP, Urner Barry Consulting. *extrapolated + working group feedback, **extrapolated for all 2023.

Countries importing from France from Q1 to Q3

	Metric Tons	2016	2017	2018	2019	2020	2021	2022	2023
nbw surimi	Japan	670	814	679	958	239	503	1,005	359
	Belarus	-	-	168	359	254	351	156	-
	China (People's Republic of)	-	48	166	71	-	24	-	24
	Spain	-	-	-	65	26	22	60	80
	Poland	-	-	-	-	-	116	-	-
	Other	-	-	-	3	2	-	31	20
	Total	**670**	**863**	**1,014**	**1,455**	**522**	**1,016**	**1,253**	**484**

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

Disclaimer: **Production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi

Production estimates of tropical surimi suggest a contraction of ~6.6 percent year-over-year through Q3. Itoyori production estimates suggest a decrease of ~29 percent through Q3 '23 year-over-year. Meanwhile, Japanese prices for itoyori and pollock surimi expressed in USD collapsed in Q2 '23 and fell further in Q3 and Q4 —using preliminary data—with Russian pollock dropping the most in Q3. When adjusted for the exchange rate, these price levels are not as low but show the same downward trend.

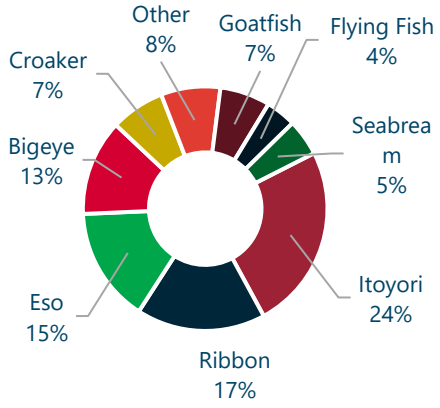

Figure 29. Tropical Surimi estimated breakdown by species. *Does not include China.

Price Comparison

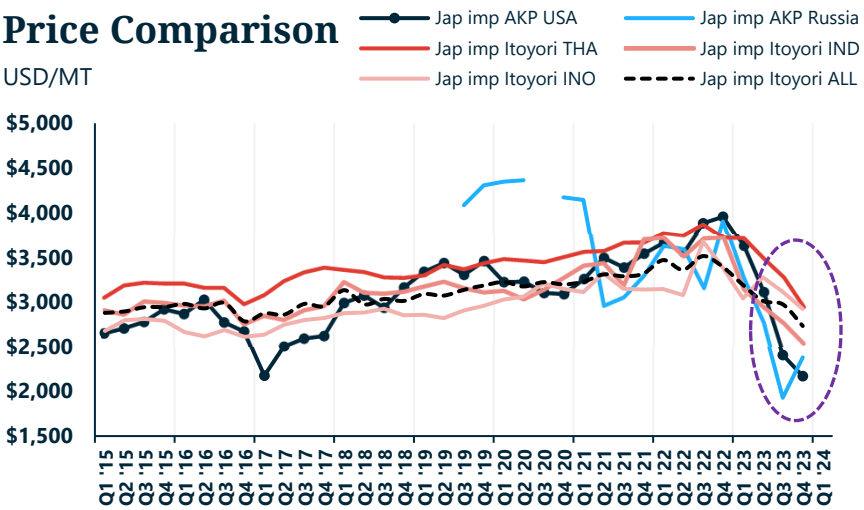

Figure 30. Itoyori vs. AK Pollock of Japan import $/mt comparison. Source: Urner Barry Consulting. Q3 data is incomplete

Tropical Surimi, Thailand

Thailand's surimi production estimates indicate a significant decrease of about ~22 percent through Q3 '23 compared to last year, making it the lowest production three quarters on record at about 5 thousand metric tons. Almost all species experienced a decline, particularly Itoyori, which has decreased by about 30 percent compared to last year. Because production estimates are a trade function, we adjusted import figures to offset the missed imports from Russia since they stopped publishing their HS figures to non-allies. We re-calibrated the model using imports and exports instead of just exports, the only variable taken to calculate production in the past. We did this due to irregularities in the data, which would have suggested an even larger decrease in production. While this might be true, we made a judgment call to re-estimate the model and revise past data.

Regarding trade, volumes from countries declaring importing surimi from Thailand decreased by about 38 percent year-over-year through Q3 '23. Japanese imports of Thai itoyori surimi decreased by 45 percent through Q3 '23, year-over-year. Russian imports of Thai surimi stopped being reported; therefore, numbers could be skewed. When we imputed the values using Thai exports to Russia, aiming to estimate Russian imports of Thai surimi, we still found a considerable decrease of roughly 37 percent year-over-year through Q3 '23.

As a result of lower production and thus imports of itoyori from Thailand, it makes sense for Japanese buyers to look elsewhere, mainly where the resource appears available, like in India.

Thailand's estimated Production by Species (Imports and Exports) thru Q3

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Other	Total
2010	27,141	8,717	6,926	4,570	2,687	1,487	425	4,222	56,176
2011	22,902	8,047	6,393	4,242	2,477	2,220	393	5,178	51,852
2012	17,517	7,894	6,272	5,471	2,424	3,980	1,736	5,573	50,868
2013	14,843	5,834	4,090	4,043	1,798	1,499	2,024	3,458	37,589
2014	15,823	6,073	4,825	3,113	1,873	1,735	2,096	3,598	39,136
2015	13,738	5,154	4,095	3,572	1,586	1,283	252	3,533	33,215
2016	11,242	4,812	3,823	3,335	1,447	2,681	1,573	2,092	31,005
2017	8,952	3,576	2,841	1,918	1,102	1,939	747	1,968	23,043
2018	7,599	3,637	2,890	2,472	1,148	2,140	985	2,568	23,439
2019	8,502	3,703	2,942	1,966	1,119	1,329	1,688	2,614	23,863
2020	10,313	3,992	3,287	1,427	1,300	3,023	344	2,978	26,664
2021	8,767	3,352	2,752	1,393	1,072	1,667	1,337	1,979	22,319
2022	7,851	5,129	3,444	831	1,468	72	169	1,102	20,067
2023	5,462	3,862	2,644	750	1,459	53	117	1,139	15,486

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

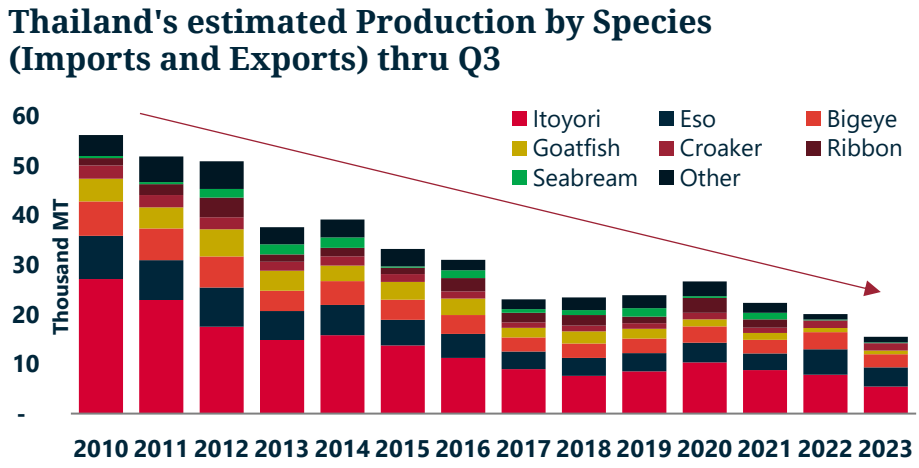

Figure 31. Yearly estimates of Thailand's surimi production by species.

Countries declaring surimi imports from Thailand from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	Barrac, Sea Breams, Kingclip	34	▼ 44.3%	19	▼ 44.1%	9	▼ 52.6%	13	▲ 44.4%	14	▲ 7.7%	44	▲ 214.3%	135	▲ 206.8%
	Itoyori	5,996	▼ 42.9%	5,024	▼ 16.2%	5,545	▲ 10.4%	6,143	▲ 10.8%	6,058	▼ 1.4%	5,661	▼ 6.6%	3,079	▼ 45.6%
	Other	10,484	▼ 44.2%	11,020	▲ 5.1%	10,705	▼ 2.9%	9,720	▼ 9.2%	9,185	▼ 5.5%	8,478	▼ 7.7%	5,518	▼ 34.9%
	Sardine, Other			3						6		12	▲ 100.0%	8	▼ 33.3%
S. Korea	All	1,320	▼ 52.5%	1,032	▼ 21.8%	984	▼ 4.7%	907	▼ 7.8%	768	▼ 15.3%	1,488	▲ 93.8%	864	▼ 41.9%
Russia	All	929	▼ 65.7%	1,761	▲ 89.6%	2,125	▲ 20.7%	2,469	▲ 16.2%	2,525	▲ 2.3%	1,582	▼ 37.4%	997	▼ 36.9%
Malaysia*	All	184	▼ 65.7%	174	▼ 5.5%	314	▲ 80.8%	327	▲ 4.1%	242	▼ 25.8%	259	▲ 6.7%	166	▼ 35.7%
China	All	163	▼ 69.4%	336	▲ 106.1%	294	▼ 12.5%	527	▲ 79.3%	752	▲ 42.7%	408	▼ 45.7%	623	▲ 52.7%
Taiwan	All	78	▼ 65.6%	91	▲ 16.7%	270	▲ 196.7%	515	▲ 90.7%	611	▲ 18.6%	461	▼ 24.5%	337	▼ 26.9%
Hong Kong	All	124	▼ 23.9%	112	▼ 9.7%	212	▲ 89.3%	308	▲ 45.3%	425	▲ 38.0%	400	▼ 5.9%	337	▼ 15.8%
Canada	All			66		124	▲ 87.9%	174	▲ 40.3%	184	▲ 5.7%	764	▲ 315.2%	372	▼ 51.3%
Philippines	All			305		210	▼ 31.1%	92	▼ 56.2%	180	▲ 95.7%	159	▼ 11.7%	142	▼ 10.7%
New Zealand	All	65	▼ 76.6%	45	▼ 30.8%	56	▲ 24.4%	44	▼ 21.4%	39	▼ 11.4%	12	▼ 69.2%	23	▲ 91.7%
France	All	380	▲ 0.0%	350	▼ 7.9%	307	▼ 12.3%								
Lithuania	All	54		129	▲ 138.9%	421	▲ 226.4%	219	▼ 48.0%	186	▼ 15.1%	69	▼ 62.9%	5	▼ 92.8%
Other		10	▼ 98.0%									613		113	▼ 81.6%
Total		**19,821**	**▼ 47.3%**	**20,415**	**▲ 3.0%**	**21,493**	**▲ 5.3%**	**21,342**	**▼ 0.7%**	**20,957**	**▼ 1.8%**	**20,410**	**▼ 2.6%**	**12,719**	**▼ 37.7%**

Table 23. Countries declaring surimi imports from Thailand. Source: each country's customs, authority, UB Consulting.
Russian figures were imputed.
***Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.**
**UB Consulting developed a model to estimate total production figures. Thereafter, production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, India

According to our surimi production estimates, volumes out of India increased by ~5.1 percent through Q3 '23 year-over-year, reaching a record high of 89 thousand metric tons.

However, production estimates of itoyori surimi contracted by about 42 percent through Q3 year-over-year. Production estimates point to increases for all the remaining species. According to our estimates, Ribbon fish surimi production out of India still leads the share at ~33 percent.

India's Production by Species (Imp. & Exp., est.) thru Q3

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Other	Total
2015	9,607	8,642	4,795	1,713	-	13,226	3,379	**41,362**
2016	6,637	10,316	5,404	2,000	-	19,683	4,841	**48,882**
2017	8,355	17,040	7,477	2,797	-	27,380	5,585	**68,635**
2018	14,141	12,486	7,961	2,909	-	26,319	6,985	**70,802**
2019	7,184	16,551	7,604	2,733	-	25,511	6,620	**66,203**
2020	2,082	14,006	6,990	2,778	-	25,925	4,834	**56,615**
2021	10,282	12,424	9,226	4,721	-	22,738	6,060	**65,451**
2022	17,445	14,477	11,668	6,379	-	27,819	7,261	**85,050**
2023	10,123	17,313	13,325	8,904	-	29,446	10,267	**89,378**

Table 24. Yearly estimated surimi production from India by species.

India's Production by Species (Imp. & Exp., est.) thru Q3

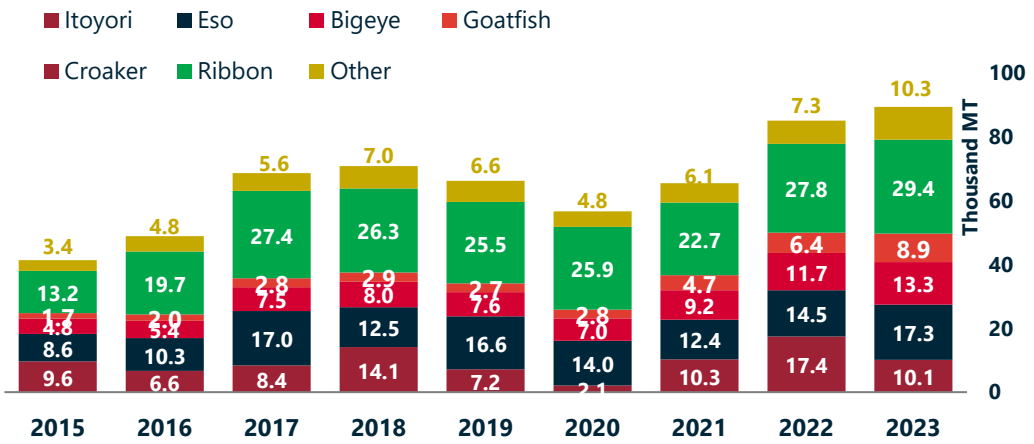

Figure 32. Yearly estimated surimi production from India by species

Countries declaring surimi imports from India from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	Itoyori	3,037	▼ 25.2%	5,530	▲ 82.1%	2,951	▼ 46.6%	928	▼ 68.6%	4,097	▲ 341.5%	6,745	▲ 64.6%	3,634	▼ 46.1%
	Other	23,139	▼ 20.9%	24,399	▲ 5.4%	26,459	▲ 8.4%	23,711	▼ 10.4%	25,865	▲ 9.1%	33,837	▲ 30.8%	31,289	▼ 7.5%
	Sardine, Other					67									
Taiwan	All	9,899	▼ 24.0%	11,377	▲ 14.9%	10,427	▼ 8.4%	9,172	▼ 12.0%	9,178	▲ 0.1%	9,701	▲ 5.7%	13,117	▲ 35.2%
Thailand	All	3,973	▲ 533.7%	3,077	▼ 22.6%	4,829	▲ 56.9%	4,689	▼ 2.9%	10,792	▲ 130.2%	12,836	▲ 18.9%	13,048	▲ 1.7%
	Other	353	▼ 32.1%	229	▼ 35.1%	53	▼ 76.9%	416	▲ 684.9%	75	▼ 82.0%				
S. Korea	All	4,483	▲ 34.7%	4,839	▲ 7.9%	4,531	▼ 6.4%	3,905	▼ 13.8%	3,789	▼ 3.0%	4,598	▲ 21.4%	4,581	▼ 0.4%
Russia	All	6,738	▼ 2.1%	6,837	▲ 1.5%	5,407	▼ 20.9%	2,046	▼ 62.2%	4,711	▲ 130.3%	225	▼ 95.2%		
Malaysia	All	4,193	▲ 295.2%	3,499	▼ 16.6%	1,528	▼ 56.3%	2,731	▲ 78.7%	2,562	▼ 6.2%	3,772	▲ 47.2%	4,871	▲ 29.1%
Belarus	All	2,933	▼ 6.4%	3,385	▲ 15.4%	3,316	▼ 2.0%	4,080	▲ 23.0%	3,022	▼ 25.9%	2,475	▼ 18.1%		
China*	All	2,249	▲ 46.8%	1,589	▼ 29.3%	1,834	▲ 15.4%	1,559	▼ 15.0%	956	▼ 38.7%	1,513	▲ 58.2%	3,874	▲ 156.0%
Lithuania	All	1,445	▼ 43.1%	1,183	▼ 18.1%	844	▼ 28.7%	584	▼ 30.8%	533	▼ 8.7%	2,245	▲ 321.2%	2,240	▼ 0.2%
Singapore	All	1,150	▲ 1433.3%	917	▼ 20.3%	1,775	▲ 93.6%	1,529	▼ 13.9%	2,175	▲ 42.2%	108	▼ 95.0%	575	▲ 432.4%
Spain	All	932	▼ 25.0%	631	▼ 32.3%	508	▼ 19.5%	244	▼ 52.0%	269	▲ 10.2%	772	▲ 187.0%	360	▼ 53.4%
Poland	All					72		600	▲ 733.3%	888	▲ 48.0%	680	▼ 23.4%	1,044	▲ 53.5%
Other		1,831	▲ 163.0%	868	▼ 52.6%	921	▲ 6.1%	1,065	▲ 15.7%	1,176	▲ 10.4%	1,791	▲ 52.3%	2,970	▲ 65.8%
Total		**66,355**	**▼ 2.4%**	**68,360**	**▲ 3.0%**	**65,522**	**▼ 4.2%**	**57,259**	**▼ 12.6%**	**70,088**	**▲ 22.4%**	**81,298**	**▲ 16.0%**	**81,603**	**▲ 0.4%**

Table 25. Countries declaring surimi imports form India. Source: each country's customs, authority, UB Consulting
***Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.**

**UB Consulting developed a model to estimate total production figures. Thereafter, production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, Vietnam

Revised data

Vietnam's **production estimates suggest a decrease of about 24 percent through Q3 '23 year-over-year at about 112 thousand metric tons. We must mention that we had to impute the values based on Russian declared imports, which accounted for roughly 12 thousand metric tons last year. Still, after this calculation, production estimates suggest a slight contraction compared to 2022.

Because Vietnam's export figures are unavailable, we imputed Russian declared imports to account for production and, as such, also in trade figures. However, we did not do this for other producing countries regarding trade, except for Vietnam and Thailand.
We revised countries importing data from Vietnam, some of whom changed the tariff code in Q4 last year. These changes were for the Philippines and Malaysia.

Viet-Nam's Production estimates by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	lying Fish	Other	Total
2015	22,078	13,605	17,869	9,077	15,183	6,351	8,540	7,107	6,052	105,861
2016	15,062	19,212	11,745	14,889	11,745	7,992	7,902	6,694	6,007	101,248
2017	18,767	15,677	11,719	13,016	13,252	7,990	7,990	6,773	5,839	101,022
2018	16,745	23,099	15,451	5,552	12,882	10,691	10,691	9,149	6,789	111,049
2019	19,605	19,802	15,204	6,072	19,843	11,748	11,748	10,056	7,364	121,442
2020	23,254	17,705	13,441	6,216	21,644	8,643	8,643	7,310	7,061	113,917
2021	33,314	15,381	19,901	11,550	19,901	10,730	13,435	9,406	6,210	139,827
2022	39,652	20,359	17,110	11,301	17,749	11,805	11,347	9,604	8,575	147,502
2023	28,237	12,317	15,591	11,075	12,989	8,625	8,828	7,482	6,827	111,970

Table 26. Yearly estimated surimi production from Vietnam by species.

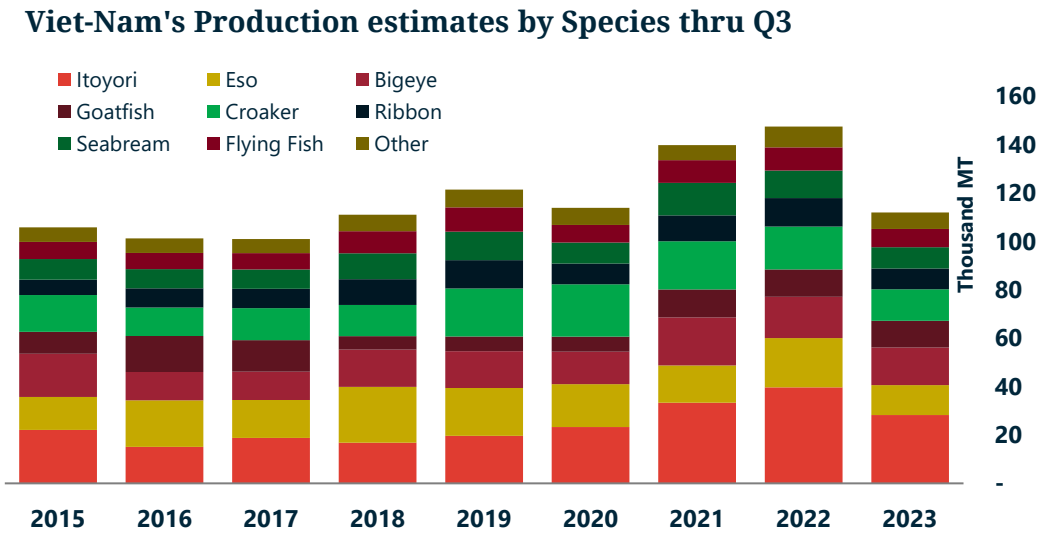

Figure 33. Yearly estimates of Vietnam's surimi production by species.

Countries declaring surimi imports from Viet-Nam from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
S. Korea	All	37,935	▼ 28.5%	41,377	▲ 9.1%	39,627	▼ 4.2%	38,559	▼ 2.7%	39,273	▲ 1.9%	38,299	▼ 2.5%	31,504	▼ 17.7%
Thailand	All	21,328	▼ 14.1%	24,609	▲ 15.4%	22,020	▼ 10.5%	20,103	▼ 8.7%	27,816	▲ 38.4%	32,098	▲ 15.4%	21,752	▼ 32.2%
	Other	2,096	▼ 27.1%	1,572	▼ 25.0%	372	▼ 76.3%	119	▼ 68.0%	50	▼ 58.0%			3	
China	All	9,671	▼ 16.2%	12,914	▲ 33.5%	18,042	▲ 39.7%	20,884	▲ 15.8%	21,618	▲ 3.5%	18,209	▼ 15.8%	12,820	▼ 29.6%
Japan	Barrac, Sea Breams, Kingclip	239	▼ 55.3%	613	▲ 156.5%	228	▼ 62.8%	208	▼ 8.8%	225	▲ 8.2%	500	▲ 122.2%	132	▼ 73.6%
	Itoyori	1,876	▼ 21.4%	1,758	▼ 6.3%	2,068	▲ 17.6%	2,081	▲ 0.6%	3,051	▲ 46.6%	4,094	▲ 34.2%	2,574	▼ 37.1%
	Other	8,140	▼ 39.7%	9,878	▲ 21.4%	10,850	▲ 9.8%	7,930	▼ 26.9%	9,634	▲ 21.5%	11,075	▲ 15.0%	7,544	▼ 31.9%
	Sardine, Other	20	▼ 75.6%			3		26	▲ 766.7%	7	▼ 73.1%	4	▼ 42.9%		
Russia	All	4,609	▼ 42.8%	4,075	▼ 11.6%	6,841	▲ 67.9%	5,397	▼ 21.1%	9,310	▲ 72.5%	8,693	▼ 6.6%	9,165	▲ 5.4%
Malaysia*	All	4,249	▼ 4.8%	4,352	▲ 2.4%	5,713	▲ 31.3%	5,472	▼ 4.2%	9,927	▲ 81.4%	9,322	▼ 6.1%	5,519	▼ 40.8%
	All	2,542	▼ 52.4%	3,098	▲ 21.9%	4,161	▲ 34.3%	3,943	▼ 5.2%	5,513	▲ 39.8%	7,047	▲ 27.8%	3,102	▼ 56.0%
Lithuania	All	1,567	▼ 13.9%	559	▼ 64.3%	1,595	▲ 185.3%	1,284	▼ 19.5%	1,334	▲ 3.9%	1,274	▼ 4.5%	983	▼ 22.8%
Indonesia	All	2,233	▼ 32.8%	703	▼ 68.5%	1,271	▲ 80.8%	736	▼ 42.1%	1,825	▲ 148.0%	10,607	▲ 481.2%	11,798	▲ 11.2%
	Other											75		625	▲ 733.3%
Ukraine	All	905	▼ 25.7%	1,019	▲ 12.6%	1,500	▲ 47.2%	1,300	▼ 13.3%	1,849	▲ 42.2%	685	▼ 63.0%	654	▼ 4.5%
Other		3,612	▼ 63.3%	4,522	▲ 25.2%	7,151	▲ 58.1%	5,875	▼ 17.8%	8,395	▲ 42.9%	6,312	▼ 24.8%	4,631	▼ 26.6%
Total		101,022	▼ 29.3%	111,049	▲ 9.9%	121,442	▲ 9.4%	113,917	▼ 6.2%	139,827	▲ 22.7%	148,294	▲ 6.1%	112,806	▼ 23.9%

Table 27. Countries declaring surimi imports from Vietnam. Source: each country's customs, authority, UB Consulting
***Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.**

**UB Consulting developed a model to estimate total production figures. Thereafter, production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, Indonesia

Revised data

Surimi production estimates from Indonesia suggest a 1.6 percent increase year-over-year through Q3 '23 at about 9.2 thousand metric tons. This production level is the second lowest since at least 2015 through the year's first half. Itoyori surimi production estimates through Q3 were slightly below last year's levels by about ~3 percent.

Regarding trade, volumes from countries declaring imports declined by about 7 percent through Q3 '23 compared to last year. Adjusted figures from Malaysia show a significant decrease year-over-year of about 27 percent. South Korea and Japan also noticed significant decreases. However, China saw its imports from Indonesia increase but are still shy from the peak registered in 2020.

Indonesia's Production by Species (est.) thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Flying Fish	Other	Total
2015	5,776	1,970	1,559	611	1,813	1,951	662	1,459	2,105	17,905
2016	6,615	2,427	2,136	1,291	1,898	1,708	380	1,004	1,518	18,976
2017	3,452	1,547	1,260	216	1,405	972	508	216	1,229	10,805
2018	4,624	1,733	2,336	557	1,373	1,456	275	275	1,098	13,725
2019	6,236	2,602	2,458	355	1,777	1,822	355	741	1,421	17,768
2020	5,488	2,178	1,730	354	2,230	1,594	354	856	2,926	17,711
2021	5,117	1,369	996	249	1,475	1,376	249	640	996	12,466
2022	2,998	1,126	728	534	1,367	1,052	383	182	728	9,098
2023	2,906	1,015	738	185	1,158	971	185	295	1,777	9,230

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

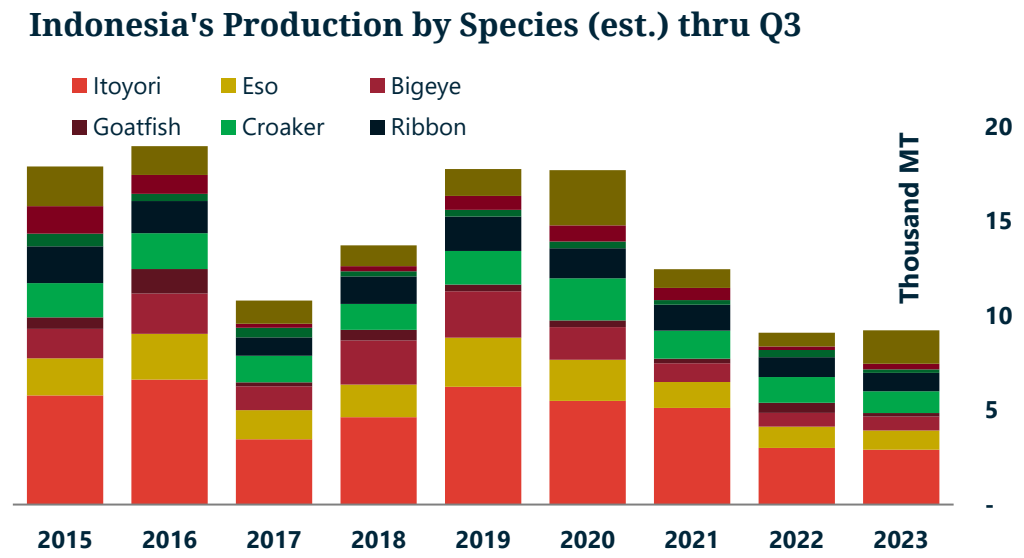

Figure 34. Yearly estimates of Indonesia's surimi production by species.

Countries declaring surimi imports from Indonesia from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Malaysia	All	2,007	▼ 70.1%	2,531	▲ 26.1%	3,059	▲ 20.9%	4,639	▲ 51.7%	4,524	▼ 2.5%	3,845	▼ 15.0%	2,813	▼ 26.9%
S. Korea	All	2,803	▼ 56.1%	1,704	▼ 39.2%	3,230	▲ 89.6%	3,709	▲ 14.8%	2,381	▼ 35.8%	2,486	▲ 4.4%	2,019	▼ 18.8%
Japan	Itoyori	1,724	▼ 30.3%	1,130	▼ 34.5%	1,088	▼ 3.7%	918	▼ 15.6%	1,130	▲ 23.1%	858	▼ 24.1%	372	▼ 56.6%
	Other	2,105	▼ 56.9%	2,647	▲ 25.7%	2,306	▼ 12.9%	1,315	▼ 43.0%	737	▼ 44.0%	887	▲ 20.4%	543	▼ 38.8%
	Sardine, Other	36	▲ 125.0%	29	▼ 19.4%										
Taiwan	All	1,095	▼ 62.3%	1,373	▲ 25.4%	1,573	▲ 14.6%	1,322	▼ 16.0%	952	▼ 28.0%	400	▼ 58.0%	240	▼ 40.0%
China	All	892	▼ 63.2%	1,757	▲ 97.0%	3,312	▲ 88.5%	4,787	▲ 44.5%	2,487	▼ 48.0%	1,063	▼ 57.3%	1,589	▲ 49.5%
Thailand	All	319	▼ 87.4%	865	▲ 171.2%	2,782	▲ 221.6%	1,723	▼ 38.1%	1,738	▲ 0.9%	275	▼ 84.2%	275	▲ 0.0%
	Other	40	▼ 73.7%	16	▼ 60.0%	31	▲ 93.8%	2	▼ 93.5%	2	▲ 0.0%	15	▲ 650.0%	20	▲ 33.3%
Hong Kong	All	96	▼ 66.7%	144	▲ 50.0%	178	▲ 23.6%	198	▲ 11.2%	233	▲ 17.7%	212	▼ 9.0%	212	▲ 0.0%
Australia	All	70	▼ 69.2%	82	▲ 17.1%	71	▼ 13.4%	70	▼ 1.4%	115	▲ 64.3%	63	▼ 45.2%	85	▲ 34.9%
Philippines	All			168		209	▲ 24.4%	114	▼ 45.5%	196	▲ 71.9%	166	▼ 15.3%	57	▼ 65.7%
USA	All											72		447	▲ 520.8%
Singapore	All	127	▲ 98.4%			50		54	▲ 8.0%			75		157	▲ 109.3%
Other															
Total		**9,399**	**▼ 67.8%**	**9,963**	**▲ 6.0%**	**14,860**	**▲ 49.2%**	**14,221**	**▼ 4.3%**	**9,996**	**▼ 29.7%**	**6,599**	**▼ 34.0%**	**6,124**	**▼ 7.2%**

Table 29. Countries declaring surimi imports from Indonesia. Source: each country's customs, authority, UB Consulting
***Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.**

**UB Consulting developed a model to estimate total production figures. Thereafter, production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, Malaysia

Surimi **production estimates for Malaysia suggest levels contracted ~25 percent year-over-year through Q3 '23. Such a decrease marks the lowest production levels on record since 2015.

Regarding trade, volumes from countries declaring imports from Malaysia through Q3 '23 revealed a decrease of ~12 percent year-over-year. It is worth noting that Japan's imports decreased 32 percent year-over-year through Q3 '23. Furthermore, China declared a considerable increase year-over-year through Q2 '23, from 277 to 379 metric tons.

Malaysia's Estimated Production by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Flying Fish	Other	Total
2015	990	1,042	542	1,042	518	380	190	104	402	5,210
2016	1,011	1,064	554	1,064	528	388	194	106	410	5,319
2017	789	830	432	830	412	303	151	83	320	4,151
2018	776	817	425	817	405	298	149	82	315	4,083
2019	1,234	1,299	676	1,299	645	474	237	130	501	6,494
2020	934	984	512	984	488	359	179	98	379	4,918
2021	527	555	289	555	275	202	101	55	214	2,773
2022	487	513	267	513	255	187	93	51	198	2,563
2023	407	427	137	427	137	137	60	79	118	1,930

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

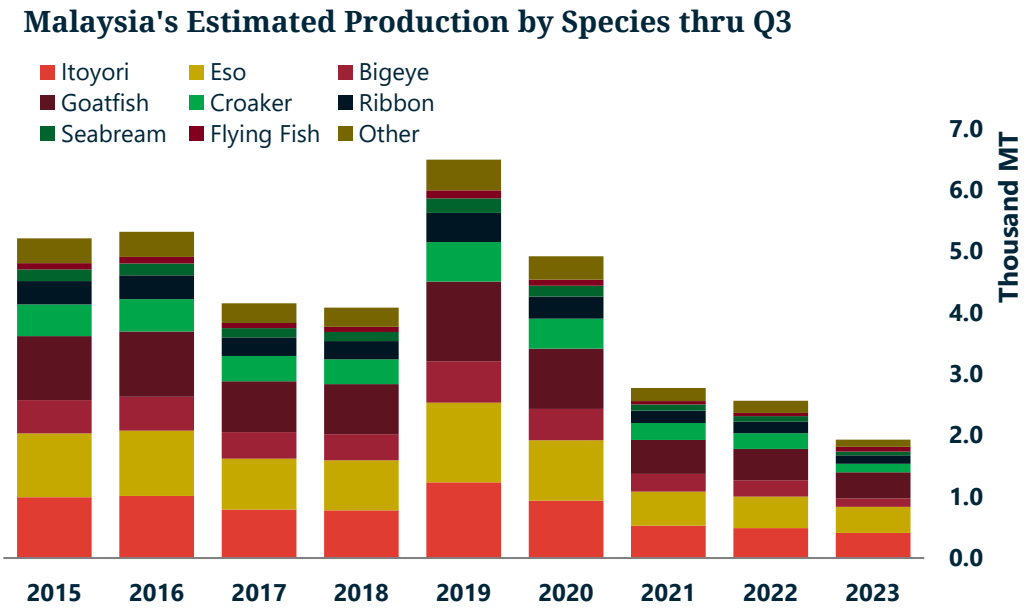

Figure 35. Yearly estimates of Malaysia's surimi production by species.

Countries declaring surimi imports from Malaysia from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	Itoyori	48						12				166			
	Other	3,986	▼ 38.5%	3,212	▼ 19.4%	3,855	▲ 20.0%	3,736	▼ 3.1%	1,910	▼ 48.9%	2,032	▲ 6.4%	1,401	▼ 31.1%
	Sardine, Other					20		29	▲ 45.0%	32	▲ 10.3%	35	▲ 9.4%	21	▼ 40.0%
Hong Kong	All			10		63	▲ 530.0%	310	▲ 392.1%	279	▼ 10.0%	171	▼ 38.7%	181	▲ 5.8%
China	All	623	▼ 31.9%	613	▼ 1.6%	623	▲ 1.6%	592	▼ 5.0%	523	▼ 11.7%	277	▼ 47.0%	379	▲ 36.8%
Canada	All	34						34		34	▲ 0.0%	68	▲ 100.0%	70	▲ 2.9%
Australia	All					5						45		90	▲ 100.0%
Singapore	All	52	▼ 43.5%	68	▲ 30.8%	16	▼ 76.5%	39	▲ 143.8%	13	▼ 66.7%			144	
Thailand	All					424		25	▼ 94.1%						
	Other														
Taiwan	All	114	▼ 6.6%	25	▼ 78.1%	49	▲ 96.0%	78	▲ 59.2%	66	▼ 15.4%				
Malaysia	All														
Philippines	All			33								23		3	▼ 87.0%
S. Korea	All	248	▼ 45.6%	196	▼ 21.0%	215	▲ 9.7%	828	▲ 285.1%	264	▼ 68.1%			144	
Other								25		25	▲ 0.0%	473	▲ 1792.0%	452	▼ 4.4%
Total		**5,105**	**▼ 38.3%**	**4,157**	**▼ 18.6%**	**5,270**	**▲ 26.8%**	**5,708**	**▲ 8.3%**	**3,146**	**▼ 44.9%**	**3,290**	**▲ 4.6%**	**2,885**	**▼ 12.3%**

Table 31. Countries declaring surimi imports from Malaysia. Source: each country's customs, authority, UB Consulting
***Malaysian figures were revised to reflect trade starting in June '22, multiplied by a constant to backfill prior data.**

Disclaimer: Trade data for Malaysia seems to match at times between countries declaring imports and official domestic data exports. We used total export figures as a function for **production and use countries declaring imports mainly for trade—although both sets of data are included for all analyzed countries.

**Production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, Pakistan

Pakistan's surimi production estimates indicate an increase through Q3 '23 compared to about ~16 percent last year. At roughly 7 thousand metric tons, Pakistan remains a steady source of itoyori and other tropical surimi species. Production estimates of Itoyori surimi remained to hover around 3.6 thousand metric tons through Q3 2024.

Regarding trade, volumes from countries declaring imports from Pakistan decreased about 5.9 percent year-over-year through Q3. Notably, there is a 27 percent decrease from Thailand. Yet, a significant increase from South Korea and China is worth noting at about 2.8 and 1.6 thousand metric tons through Q2 '23, respectively.

Pakistan's Production estimates by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	1,868	374	187	187	373	-	187	187	374	3,735
2016	1,308	245	123	123	163	-	123	123	245	2,451
2017	2,132	406	203	203	203	-	203	203	507	4,060
2018	3,376	614	307	307	307	-	307	307	614	6,139
2019	3,156	611	306	306	512	-	306	306	611	6,114
2020	2,830	520	260	260	291	-	260	260	520	5,202
2021	3,125	590	295	295	334	-	334	295	631	5,899
2022	3,290	609	304	304	321	-	321	304	635	6,089
2023	3,637	710	355	355	444	-	444	355	798	7,096

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

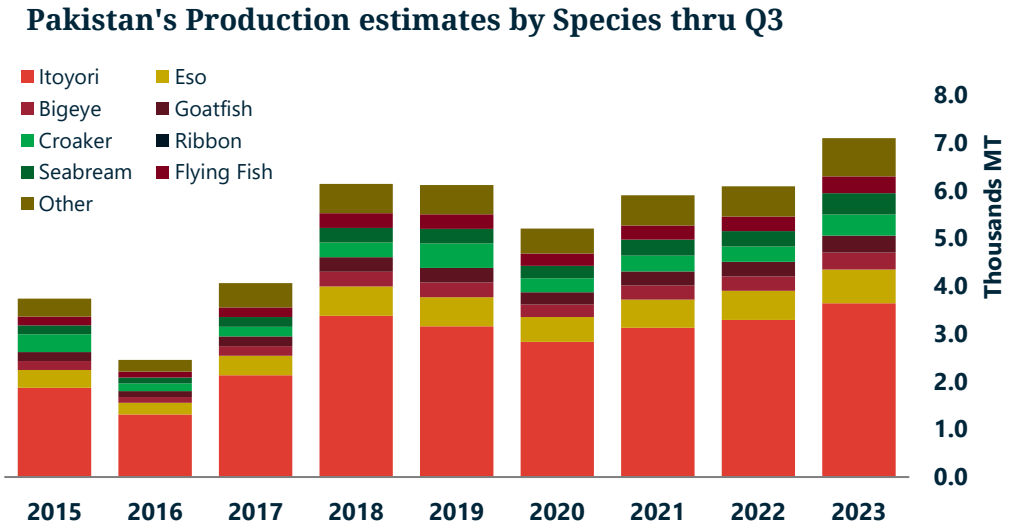

Figure 36. Yearly estimates of Pakistan's surimi production by species.

Countries declaring surimi imports from Pakistan from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Thailand	All	625	▲ 340.1%	2,354	▲ 276.6%	2,464	▲ 4.7%	1,857	▼ 24.6%	2,599	▲ 40.0%	2,847	▲ 9.5%	2,059	▼ 27.7%
	Other	19	▼ 42.4%					1		167	▲ 16600.0%	50	▼ 70.1%		
S. Korea	All	2,575	▼ 20.2%	2,625	▲ 1.9%	1,776	▼ 32.3%	1,285	▼ 27.6%	1,797	▲ 39.8%	1,747	▼ 2.8%	2,840	▲ 62.6%
Japan	Itoyori	863	▲ 82.8%	1,045	▲ 21.1%	750	▼ 28.2%	399	▼ 46.8%	1,172	▲ 193.7%	1,463	▲ 24.8%	186	▼ 87.3%
	Other			106		396	▲ 273.6%	230	▼ 41.9%	228	▼ 0.9%	299	▲ 31.1%	156	▼ 47.8%
China	All	643	▲ 1791.2%	887	▲ 37.9%	1,525	▲ 71.9%	1,848	▲ 21.2%	981	▼ 46.9%	1,107	▲ 12.8%	1,690	▲ 52.7%
Malaysia	All	167	▼ 21.2%	249	▲ 49.1%	302	▲ 21.3%	121	▼ 59.9%	454	▲ 275.2%	273	▼ 39.9%	244	▼ 10.6%
Hong Kong	All	25				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						25						215	
Total		4,942	▲ 19.5%	7,290	▲ 47.5%	7,260	▼ 0.4%	5,832	▼ 19.7%	7,466	▲ 28.0%	7,901	▲ 5.8%	7,438	▼ 5.9%

Table 33. Pakistan exports by species. Source: Pakistan's customs, authority, UB Consulting

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.

**Production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2020.

Tropical Surimi, Myanmar

Myanmar's surimi production estimates showed a 2.2 percent decrease year-over-year through Q2 '23. Overall production estimates are a direct function of trade, with weights for each species assigned to bounce within certain limits. We notice a large discrepancy between Myanmar's export figures and countries declaring imports from this country. Myanmar export figures are only reported once a year for the previous 12 months. Japanese imports of surimi paste coming from Myanmar contracted through Q3 '23 year-over-year. Japan is Myanmar's largest market, followed by Thailand and South Korea.

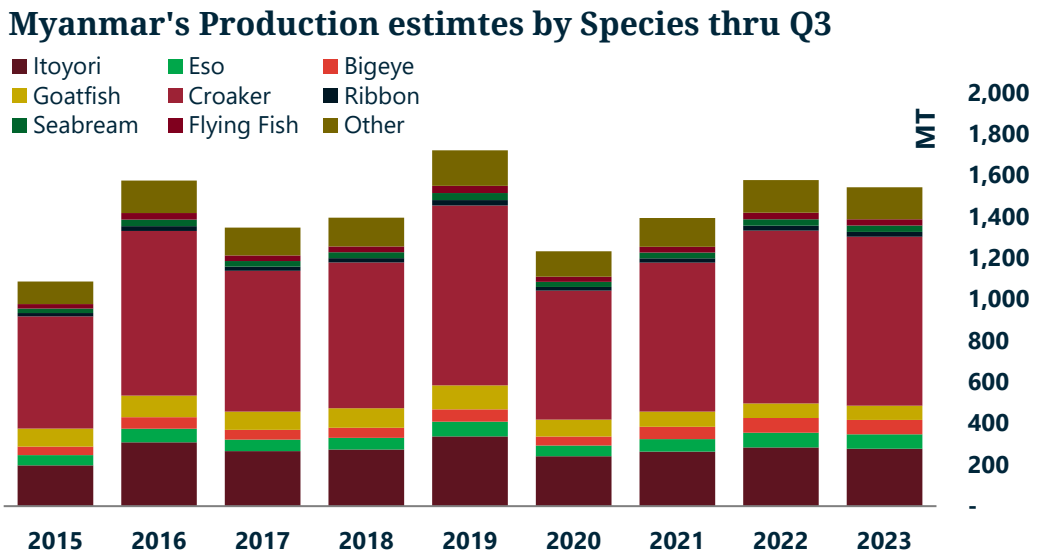

Figure 37. Yearly estimates of Myanmar's surimi production by species.

Myanmar's Production estimtes by Species thru Q3

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	197	49	41	87	543	16	22	22	109	1,086
2016	308	66	55	105	796	24	32	32	158	1,575
2017	265	56	47	89	681	20	27	27	135	1,347
2018	274	57	49	94	705	21	28	28	140	1,395
2019	337	71	60	116	870	26	34	34	172	1,721
2020	241	52	43	83	623	18	25	25	123	1,233
2021	263	60	60	73	721	21	28	28	139	1,394
2022	284	71	71	71	836	24	32	32	158	1,577
2023	278	69	69	69	817	23	31	31	154	1,542

Disclaimer: Myanmar's production is calculated using import data from declaring countries as Myanmar does not publish trade data until the end of the year

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

Countries declaring surimi imports from Myanmar from Q1 to Q3

Reporter Name	Species	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	Barrac, Sea Breams, Kingclip	22		57	▲ 159.1%	39	▼ 31.6%	38	▼ 2.6%	8	▼ 78.9%	39	▲ 387.5%	38	▼ 2.6%
	Itoyori	396	▼ 32.2%	285	▼ 28.0%	522	▲ 83.2%	198	▼ 62.1%	262	▲ 32.3%	189	▼ 27.9%	114	▼ 39.7%
	Other	268	▼ 33.0%	399	▲ 48.9%	392	▼ 1.8%	253	▼ 35.5%	346	▲ 36.8%	359	▲ 3.8%	314	▼ 12.5%
S. Korea	All	412	▼ 52.3%	403	▼ 2.2%	340	▼ 15.6%	389	▲ 14.4%	155	▼ 60.2%	116	▼ 25.2%	191	▲ 64.7%
Thailand	All	111	▼ 15.3%	148	▲ 33.3%	277	▲ 87.2%	38	▼ 86.3%	19	▼ 50.0%	413	▲ 2073.7%	156	▼ 62.2%
	Other							81		332	▲ 309.9%			100	
Taiwan	All			45		81	▲ 80.0%	171	▲ 111.1%	228	▲ 33.3%	416	▲ 82.5%	193	▼ 53.6%
China	All	28		38	▲ 35.7%	50	▲ 31.6%			19		25	▲ 31.6%	70	▲ 180.0%
Malaysia	All	78	▲ 0.0%			9		52	▲ 477.8%	7	▼ 86.5%	7	▲ 0.0%	57	▲ 714.3%
Other		32	▲ 45.5%	20	▼ 37.5%	11	▼ 45.0%	13	▲ 18.2%	18	▲ 38.5%	13	▼ 27.8%	309	▲ 2276.9%
Total		1,347	▼ 35.2%	1,395	▲ 3.6%	1,721	▲ 23.4%	1,233	▼ 28.4%	1,394	▲ 13.1%	1,577	▲ 13.1%	1,542	▼ 2.2%

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

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

**Production estimates by species use an internal working group approximation that was then calculated using an in-house non-linear model. The estimates provided by the working group were collected in 2021.

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 were nil in Q3 '23. Year-to-date, Japanese imports of Peruvian sardine surimi were down 8.1 percent through Q3. However, "other" and "all" surimi imported from Peru show an upward trend, with volumes recorded through Q3 '23 increasing by about 8 percent year-over-year. Meanwhile, "sardine" and "other" surimi imports from all countries were 4 percent up year-over-year through Q3 '23.

Japan importing Sardine, Other surimi from Peru

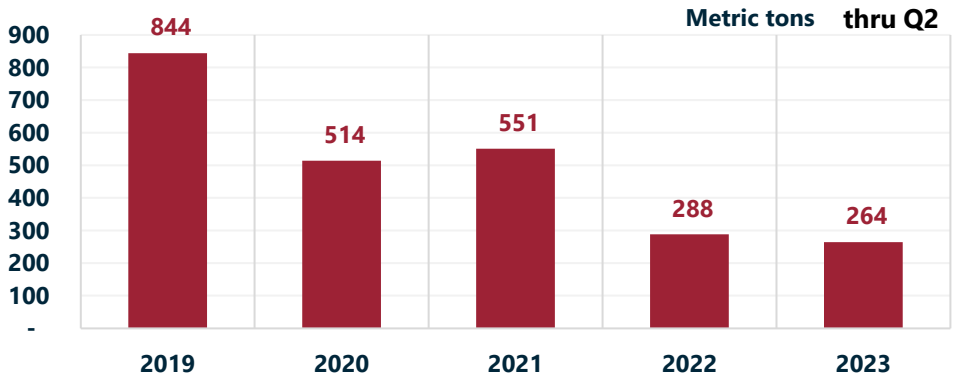

Figure 38. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting

Japan importing Sardine, Other surimi from Peru

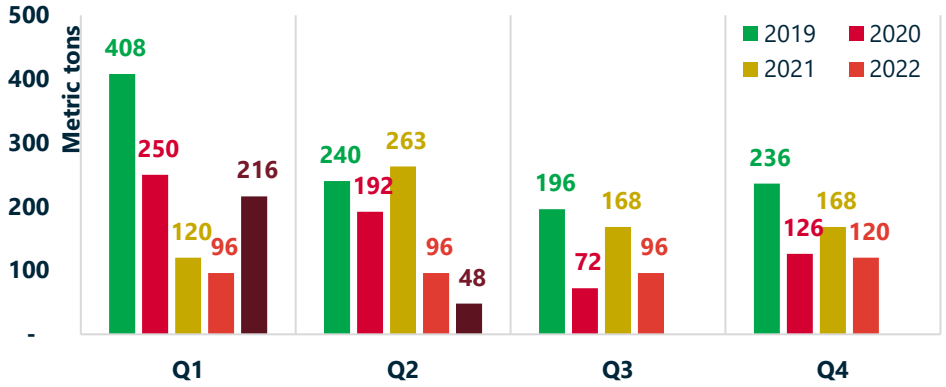

Table 39. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting. *Q4 is incomplete

Sardine surimi, to Japan, Q1 to Q3

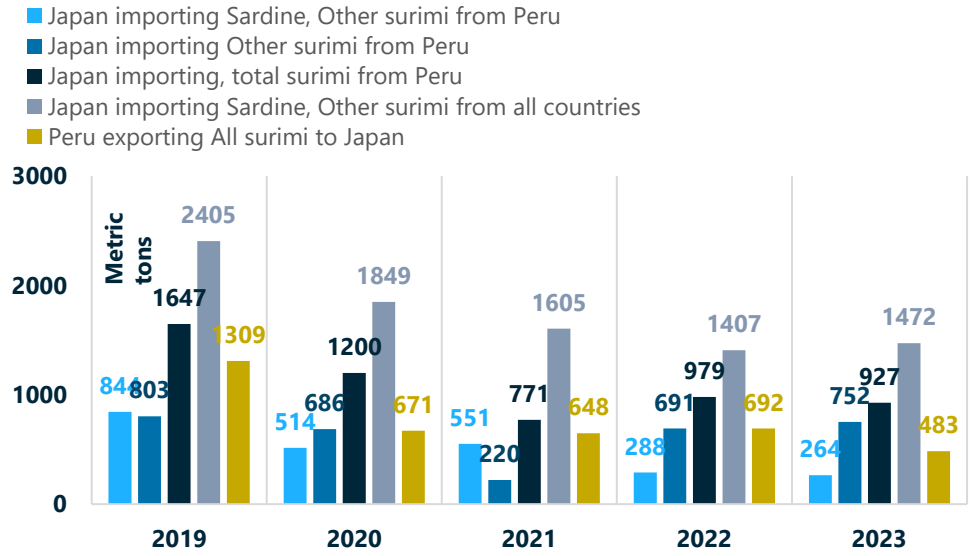

Figure 40. Japanese imports of sardine surimi from Peru, and Peruvian exports of surimi to Japan Source: Japan's customs, Peru's customs, UB Consulting

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 increased slightly by about 3.5 percent compared to last year's levels through Q3 '23. Tropical surimi production estimates suggest an increase of roughly ~12 percent through Q3 '23 compared to last year, while carp estimates show a decrease of nearly 11 percent during the same period.

Japanese imports of Chinese surimi continued to decrease through Q3 and are now ~24 percent below year-ago levels.

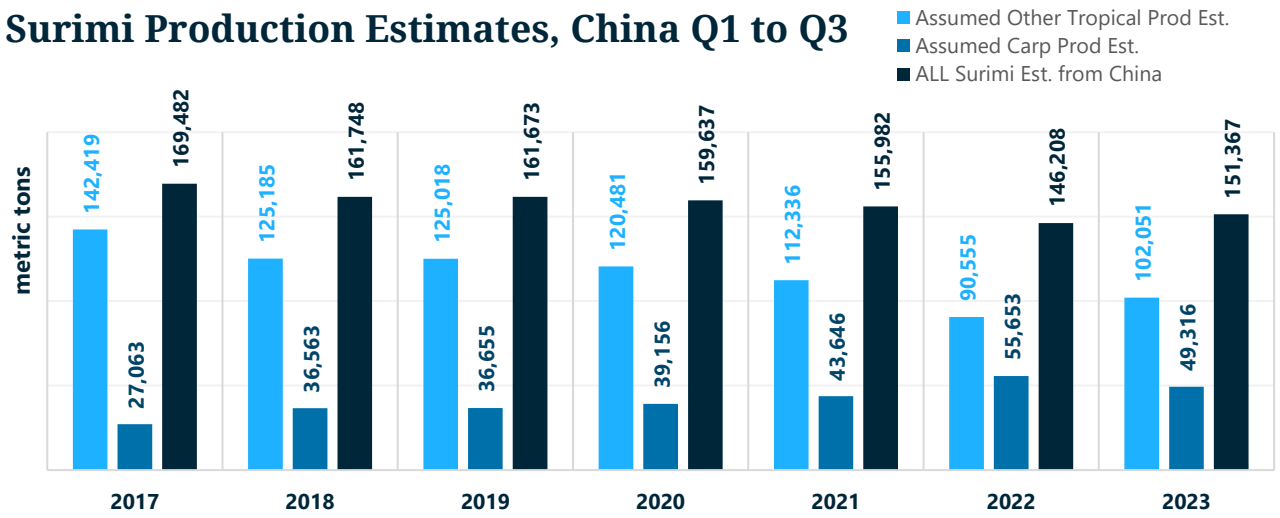

Figure 41. Production estimates of Chinese surimi. Source: Customs, UB Consulting.

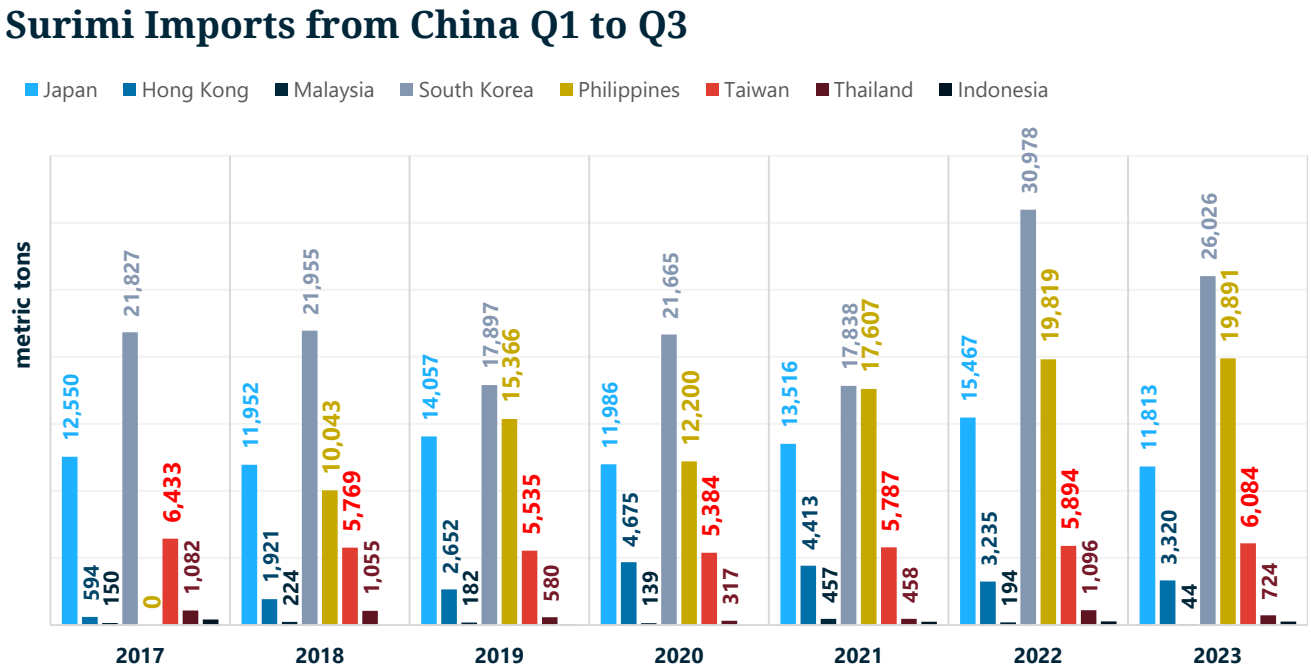

Figure 42. Countries declaring imports of Chinese surimi. Source: Customs, UB Consulting.

Russian Surimi, Japanese and other imports

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

In 2023, production—as a function of trade—suggests Russia produced 34 percent less pollock surimi through Q3 '23 year-over-year. However, these figures could be misleading as the overall trend remains up, with Q3 2022 showing a large variance. Therefore, when smoothed, the quarterly average starting in 2022 is about 3.4 thousand metric tons. Since Japan is the largest market, this country's imports of Russian pollock surimi.

We will continue to follow these figures closely.

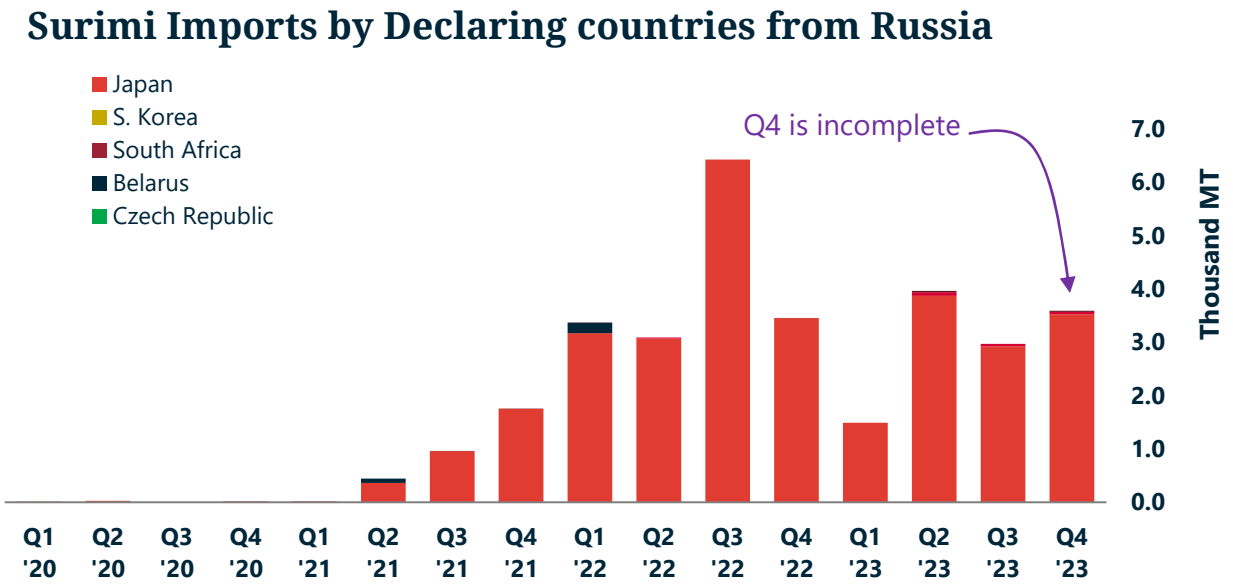

Figure 43. Production estimates of Russian pollock surimi and countries declaring imports. Source: Customs, UB Consulting. *Q4 is incomplete

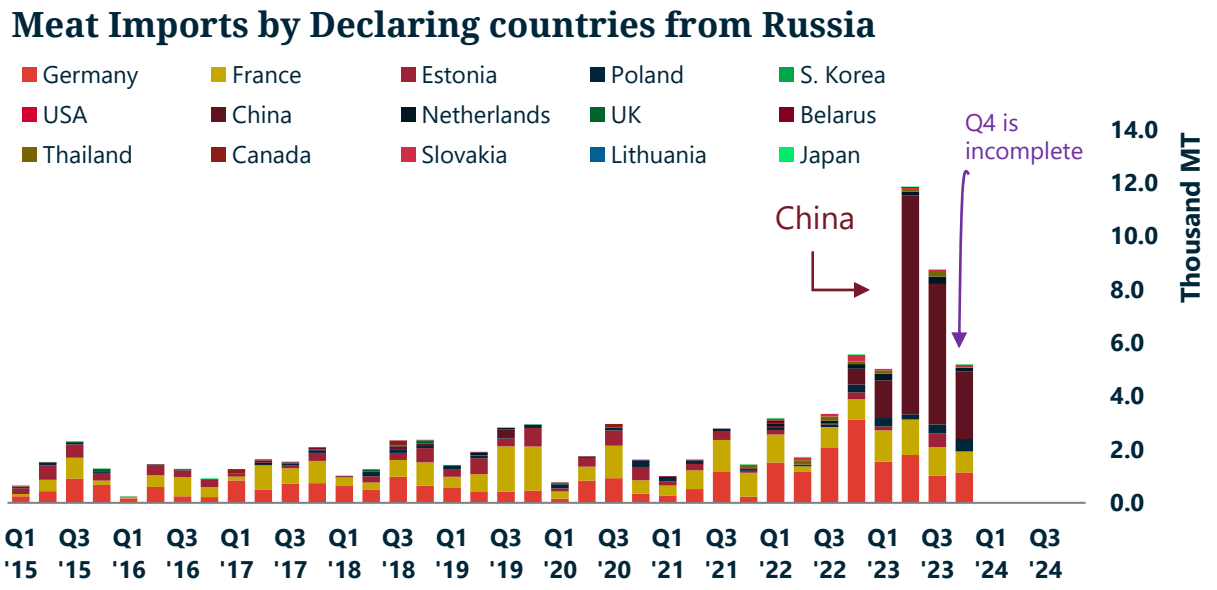

Figure 44. Countries declaring imports of Russian pollock meat (minced or not). Source: Customs, UB Consulting. *Q4 is incomplete

Continued from page 1 ... Our estimates of carp surimi production through Q3 2023 revealed an ~11 percent decrease compared to last year; however, such a decrease is minor compared to the growth experienced last year relative to 2021. We might continue to see overall corrections in both volumes and prices from the pandemic throughout 2023, perhaps 2024, particularly amid low prices seen through Q3 and preliminary data from Q4.

Tropical surimi production estimates suggest a contraction of roughly ~7 percent year-over-year; since tropical surimi is the largest category of all surimi production, such contraction led to the overall contraction of all surimi categories. Pacific Whiting production estimates suggest a contraction of about 31 percent year-over-year through Q3. Furthermore, preliminary data through Q4 suggests Pacific whiting surimi production decreased by ~21 percent in 2023 compared to 2022. These production levels are in line with estimates prior to 2022.

In our last three editions of this report, we added Russian pollock surimi to the mix, which assumes that volumes imported by declaring countries from this origin should add to total production. As such, Russian pollock surimi production estimates through Q3 2023 suggest a year-over-year decrease of about 34 percent. However, the overall trend is up from several years ago, and the average quarterly production estimate is about 2.7 thousand metric tons in 2023. These numbers could be volatile as Russian pollock surimi production ramps up.

Continued from page 7 – Tom Asakawa – Japanese Surimi Market

Other four items increased by more than 10%: the other surimi products category increased by 22.0% to 113,866 tons; authentic ita-kamaboko increased by 13.1% to 40,574 tons; fried kamaboko increased by 12.9% to 159,535 tons, naruto/hanpen by 12.2% to 32,389 tons; and chikuwa, which also maintaining increased production by 3.4% to 61,341 tons.

Household Spending Survey for September 2023 (Announced in November 2023)

According to the Ministry of Internal Affairs and Communications, the amount spent on surimi products in September was 611 yen ($4.14), a decrease of 2.9% from the previous year and the first decrease in a long time. Kamaboko News reported that it was due to high temperatures.

Household spending has increased since the beginning of 2023 due to multiple product price hikes, but sales have slowed in September due to global warming.

Although chikuwa and steamed kamaboko increased by 3.9% and 4.2%, gifts and other items decreased significantly, lowering the overall surimi product expenditure. In particular, fried kamaboko decreased significantly by 13.5%. The cause was that products for oden cooking did not move.

As a result, the cumulative amount spent from January to September was 5,997 yen ($40.66), an increase of 3.2% compared to last year, but the growth rate is slowing. By item, sales of fried kamaboko, chikuwa, and other items remained positive, but steamed kamaboko decreased slightly by 0.9%.

According to the Ministry, consumption expenditure for households with two or more people in September was 282,969 yen ($1,918.56) per household. In real terms, excluding the effects of price fluctuations, it decreased by 2.8 % compared to last year, a seventh consecutive month of negative growth. The record-setting heat wave has spurred consumers to become more frugal.

Looking at each item, "food" decreased by 3.7%. Last year, there was a demand from people to stay at home due to the coronavirus pandemic and a backlash. "Clothing and footwear" decreased by 18.3% due to a decline in demand for autumn items such as sweaters. "Furniture and household goods" decreased by 14.7% as mosquito activity slowed and insecticide spending decreased.

Noto peninsula earthquake

According to Kamaboko News, Sugiyo, a significant surimi products manufacturer in Nanao City on the Noto peninsula, had its head office and factory damaged by the disaster. In front of employees who could come to work on the morning of January 4, President Sugino urged them to prioritize protecting their families and homes and said, "We are a company that has grown by being supported by the local community." "We would like to support the reconstruction of the entire Noto Peninsula region, where the traditional crafts and culture of Japan are deeply rooted," he said emphatically. ***(Continued on next page)***

(Continued from page 25)
According to the company, they are working to confirm their employees' safety, and the factory has suffered significant damage, but the details are still under investigation. Electricity is available, but water is cut off. Additionally, since the company had 12,000 servings of retort oden in stock, they delivered it to surrounding evacuation centers as relief supplies.

Other supports from surimi products manufacturers

On January 3, Fujimitsu's first relief shipment departed for Kanazawa City, Ishikawa Prefecture, with 5,200 packs of "Retort Oden" and 1,640 packs of "Vacuum Packed Cheese Chikuwa." On January 5, a donation of relief material departed from Fujimitsu to Nanao City, Ishikawa Prefecture. On January 6, Fujimitsu shipped 8,000 single-serving packs of retort oden and 2,400 packs of retort Choshu oden (two servings) as relief supplies for the Noto Peninsula earthquake.

Kibun Foods provided relief supplies for the sufferers of the Noto earthquake. It provided 6,900 food items (900 protein-rich meals of sardine fishball soup, soy sauce version, and 6,000 horse mackerel fishball soup).

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About Urner Barry Consulting

Urner Barry Consulting provides tailored solutions to identify growth opportunities within the fast-paced protein commodity sectors. Combining the expertise of our analytical team, our warehouse of proprietary and trusted data, and unparalleled insight into market forecasting.

Contact Urner Barry

Please contact, Senior Vice President, Chris Ashley (cashley@urnerbarry.com or 732-240-5330) for additional product or subscription related services in the surimi or associated seafood markets and industries.

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