UrnerBarry CONSULTING

November 10th , 2023

Surimi Paste Supply Track

Executive Summary, Q2 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 Q2 '23 year-over-year.
- Despite the decline, Alaska Pollock production managed to increase by 19 percent through Q2 '23 year-over-year and 10 percent through week 42 (most recent data)
- Russian pollock surimi production increased ~10 percent through Q2 '23 compared to last year.
- Japanese imports of Russian pollock surimi surged 26 percent in Q2 '23 year-over-year.
- Japanese pollock surimi production estimates suggest a steep decline of 27 percent year-over-year through Q2 '23.
- Overall, tropical surimi production estimates contracted by about 9 percent year-over-year through Q2 '23.
- Itoyori surimi production decreased 21 percent through Q2 '23, year-over-year, but remains above the 32K metric ton mark during the first half of the year; this species is the immediate substitute for Alaska Pollock surimi production.
- Carp surimi production estimates suggest a decrease of about 3 year-over-year through Q2 '23.
- Overall, pricing of the main benchmark species, like Alaska Pollock and Itoyori surimi, to the main markets showed considerable decreases in Q1 and Q2 and with partial data for Q3 suggesting steeper declines.
- Please review Tom Asakawa's piece on the Japanese market and its relationship with the Russian government on surimi.

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

Angel Rubio, Economist
arubio@urnerbarry.com

Andrei Rjedkin, Jr. Economist
arjedkin@urnerbarry.com

Chris Ashley, Senior VP
cashley@urnerbarry.com

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World Production, Q2 2023

Global surimi production estimates through Q2 2023 suggest a decrease of approximately ~4 % percent, or nearly 19 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 Q2 since 2019, or pre-pandemic. However, production estimates of Japanese Pollock showed an alarming ~27 percent decrease year-over-year. Production of Itoyori surimi, the most immediate substitute of AK Pollock surimi, registered a decrease of nearly ~23 percent year-over-year; however, at ~34.8 thousand metric tons, itoyori surimi production through Q2 2023 was larger than in 2020 and 2019.

(continued on page 24)

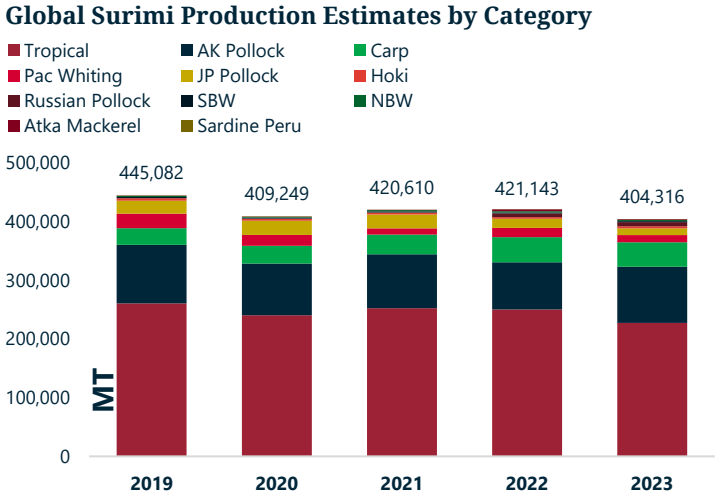

Figure 0. Overall surimi production estimates by species' category. Source: Customs, Urner Barry Consulting, GAPP.

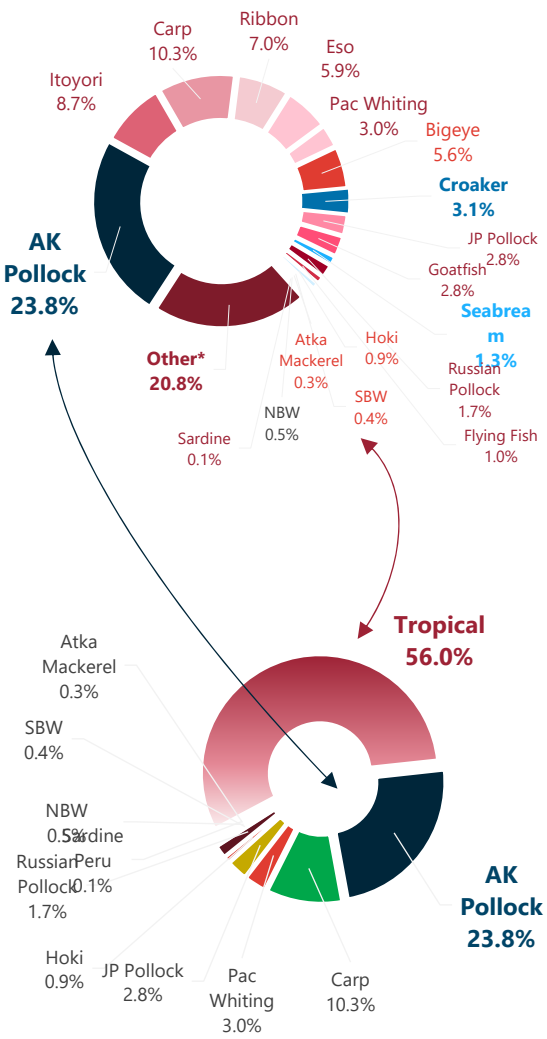

Figure 1 and 2. Pie chart of world surimi production by species and category. Source Urner Barry Consulting, GAPP.

	2019	2020	Y-o-Y % Chg	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg
AK Pollock	99,665	88,158	- 11.5%	91,837	+4.2%	80,402	- 12.5%	95,752	+19.1%
Itoyori	31,441	30,980	- 1.5%	44,698	+44.3%	45,431	+1.6%	35,877	- 21.0%
Carp	28,364	30,299	+6.8%	33,774	+11.5%	43,065	+27.5%	41,897	- 2.7%
Ribbon	30,209	28,943	- 4.2%	25,152	- 13.1%	31,435	+25.0%	28,227	- 10.2%
Eso	30,907	23,993	- 22.4%	23,705	- 1.2%	27,993	+18.1%	24,165	- 13.7%
Bigeye	20,291	16,905	- 16.7%	23,445	+38.7%	23,373	- 0.3%	22,939	- 1.9%
Pac Whiting	24,989	18,648	- 25.4%	10,458	- 43.9%	15,623	+49.4%	12,233	- 21.7%
Croaker	18,415	17,536	- 4.8%	15,919	- 9.2%	13,262	- 16.7%	13,098	- 1.2%
JP Pollock	21,982	24,231	+10.2%	23,867	- 1.5%	15,630	- 34.5%	11,436	- 26.8%
Goatfish	8,790	7,606	- 13.5%	10,175	+33.8%	12,218	+20.1%	11,147	- 8.8%
Seabream	8,495	7,126	- 16.1%	7,003	- 1.7%	8,932	+27.5%	5,281	- 40.9%
Russian Pollock	259	96	- 62.8%	454	+370.9%	6,351	+1299.3%	6,972	+9.8%
Flying Fish	6,689	5,864	- 12.3%	7,383	+25.9%	7,383	- 0.0%	4,253	- 42.4%
Hoki	4,164	3,409	- 18.1%	2,824	- 17.2%	2,636	- 6.6%	3,556	+34.9%
SBW	1,956	1,799	- 8.0%	1,894	+5.3%	1,743	- 8.0%	1,600	- 8.2%
Atka Mackerel	407	552	+35.9%	579	+4.8%	3,067	+430.0%	1,172	- 61.8%
NBW	1,934	1,305	- 32.5%	2,095	+60.5%	2,206	+5.3%	2,111	- 4.3%
Sardine	648	442	- 31.8%	383	- 13.3%	192	- 49.9%	264	+37.5%
Other*	*105,477*	*101,355*	*- 3.9%*	*94,966*	*- 6.3%*	*80,203*	*- 15.5%*	*82,335*	*+2.7%*
Total	**445,082**	**409,249**	**- 8.1%**	**420,610**	**+2.8%**	**421,143**	**+0.1%**	**404,316**	**- 4.0%**

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	260,714	240,308	- 7.8%	252,446	+5.1%	250,228	- 0.9%	227,323	- 9.2%
AK Pollock	99,665	88,158	- 11.5%	91,837	+4.2%	80,402	- 12.5%	95,752	+19.1%
Carp	28,364	30,299	+6.8%	33,774	+11.5%	43,065	+27.5%	41,897	- 2.7%
Pac Whiting	24,989	18,648	- 25.4%	10,458	- 43.9%	15,623	+49.4%	12,233	- 21.7%
JP Pollock	21,982	24,231	+10.2%	23,867	- 1.5%	15,630	- 34.5%	11,436	- 26.8%
Hoki	4,164	3,409	- 18.1%	2,824	- 17.2%	2,636	- 6.6%	3,556	+34.9%
Russian Pollock	259	96	- 62.8%	454	+370.9%	6,351	+1299.3%	6,972	+9.8%
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Atka Mackerel	407	552	+35.9%	579	+4.8%	3,067	+430.0%	1,172	- 61.8%
Sardine Peru	648	442	- 31.8%	383	- 13.3%	192	- 49.9%	264	+37.5%
Total	**445,082**	**409,249**	**- 8.1%**	**420,610**	**+2.8%**	**421,143**	**+0.1%**	**404,316**	**- 4.0%**

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 30 percent in Q2 '23 and 18 percent in Q3 '23, year-over-year. Figures are available through week 42, and the increase through that week points out to a 20 percent increase year-over-year. This increase places production figures at the highest point since 2019, or pre-pandemic, where production hit 198 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%		
Total	199,451	177,141	-11.2%	193,688	+ 9.3%	161,297	-16.7%		
YTD	182,523	158,093	-13.4%	187,769	+ 18.8%	159,267	-15.2%	189,136	+ 18.8%

Table 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA Fisheries, Urner Barry. Q2 2023 data is complete.

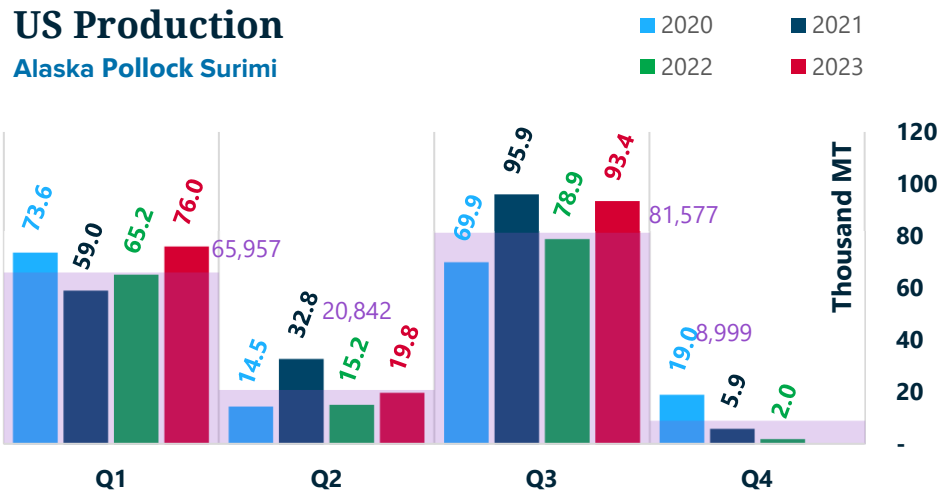

Figure 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA, Urner Barry. Q4 2021 data is complete.

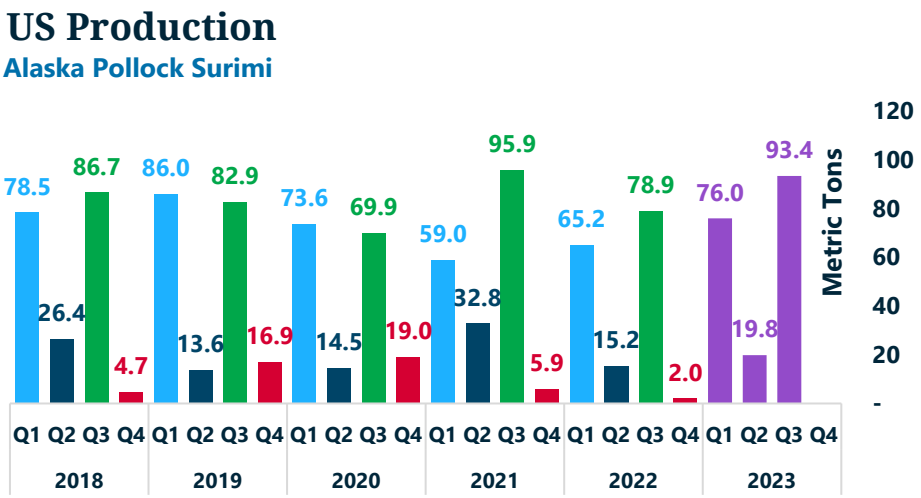

Figure 5. Alaska Pollock Surimi Production by Quarter, linear. Source: NOAA Fisheries, Urner Barry. *Q2 2023 data is incomplete.

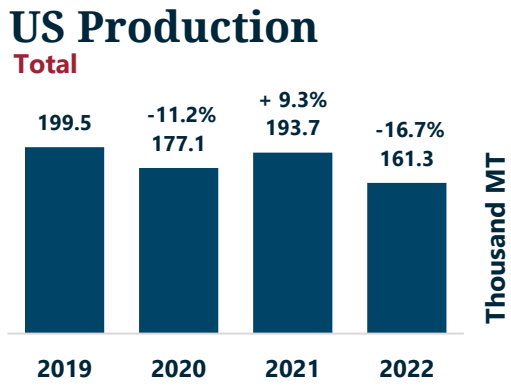

Figure 4. Total Alaska Pollock Surimi Production Source: NOAA Fisheries, Urner Barry Consulting.

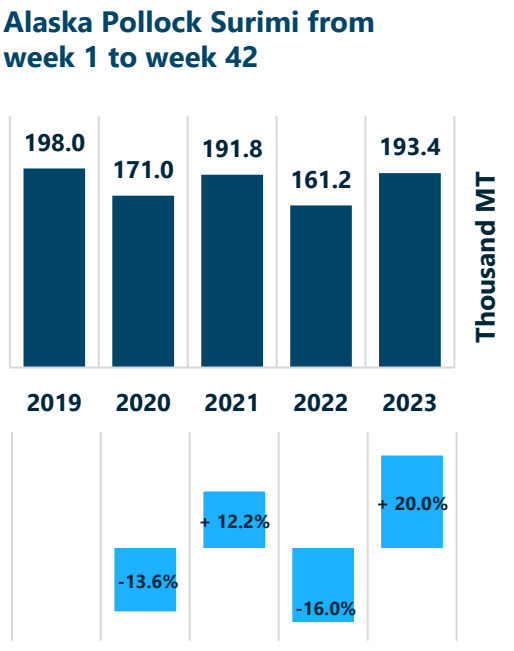

Figure 4.1 Alaska Pollock Surimi Production and YTD through week 15. Source: NOAA Fisheries, Urner Barry Consulting.

Alaska Pollock Surimi Trade (Imports)

Alaska Pollock Surimi Trade *Imports*

After a year-over-year contraction of 31 percent in Q1, countries declaring import volumes bounced back in Q2 with a ~14 percent increase year-over-year. On a year-to-date basis, imports are only 2 percent below year-ago levels through Q2. 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 Q3 '23 and possibly into Q4 '23, naturally, supported by the increase in production mentioned above.

Alaska Pollock Surimi Imports *YTD from (Q1 to Q2)							
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%	14,384	-31.7%
Q2	53,638	49,340	-8.0%	39,260	-20.4%	44,637	+ 13.7%
Q3	30,683	34,694	+ 13.1%	38,309	+ 10.4%		
Q4	46,338	52,598	+ 13.5%	31,748	-39.6%		
Total	145,992	153,833	+ 5.4%	130,377	-15.2%		
*YTD	68,971	66,541	-3.5%	60,320	-9.3%	59,021	-2.2%

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

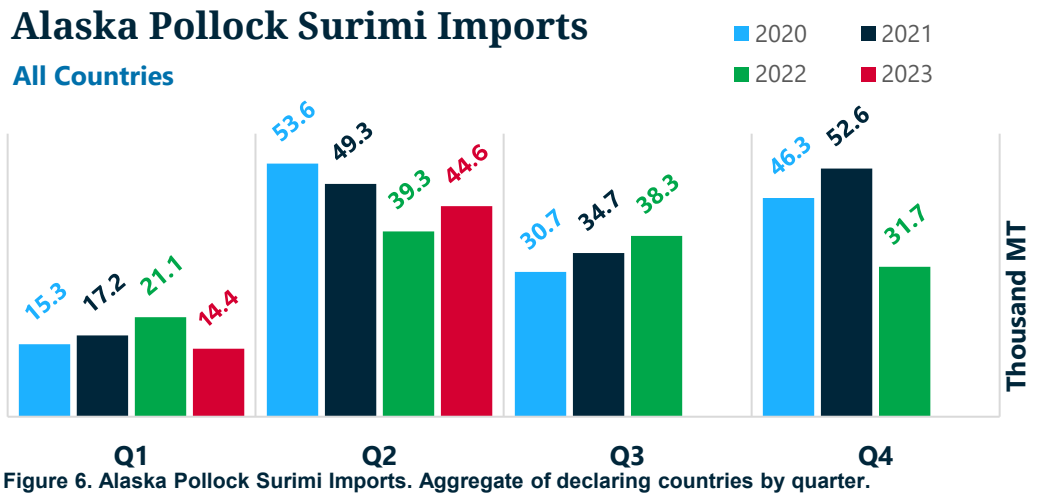

Figure 6. Alaska Pollock Surimi Imports. Aggregate of declaring countries by quarter.

Alaska Pollock Surimi Imports (Q1 to Q2)							
By Declaring Country through Q2							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	38,822	39,791	+ 2.5%	33,448	-15.9%	37,259	+ 11.4%
S. Korea	10,953	10,420	-4.9%	10,607	+ 1.8%	7,318	-31.0%
France	8,351	5,501	-34.1%	8,281	+ 50.5%	8,035	-3.0%
Lithuania	2,430	3,424	+ 40.9%	2,903	-15.2%	1,964	-32.3%
Thailand	2,692	1,537	-42.9%	1,638	+ 6.6%	1,622	-1.0%
Spain	3,257	4,012	+ 23.2%	1,918	-52.2%	1,659	-13.5%
Taiwan	1,203	724	-39.8%	676	-6.6%	1,011	+ 49.6%
Poland	483	568	+ 17.6%	462	-18.7%		
Belarus	548	406	-25.9%	297	-26.8%		
Norway	132	138	+ 4.5%	70	-49.3%	112	+ 60.0%
Ukraine	100	20	-80.0%	20	-	41	+ 105.0%
Total	68,971	66,541	-3.5%	60,320	-9.3%	59,021	-2.2%

Table 5. Alaska Pollock Surimi Imports by declaring country.

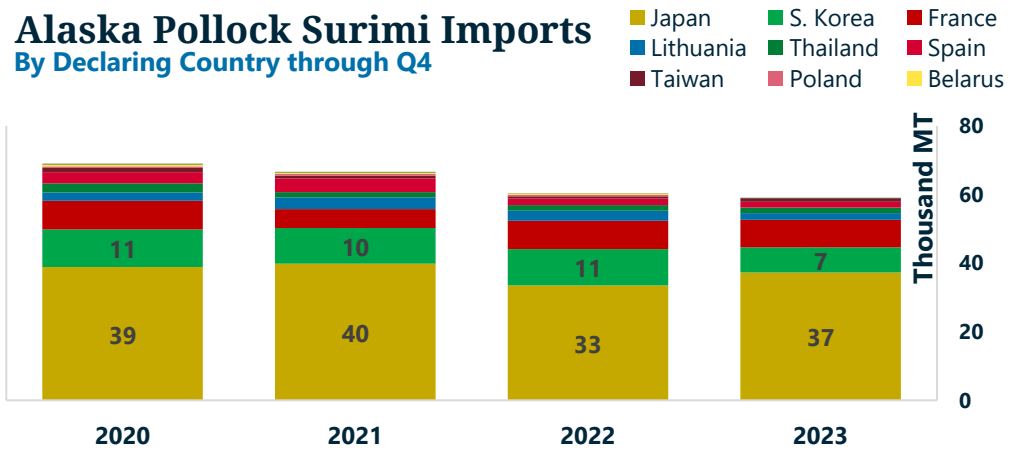

Figure 7. Alaska Pollock Surimi Imports by declaring country.

Alaska Pollock Surimi Trade (Imports), cont.

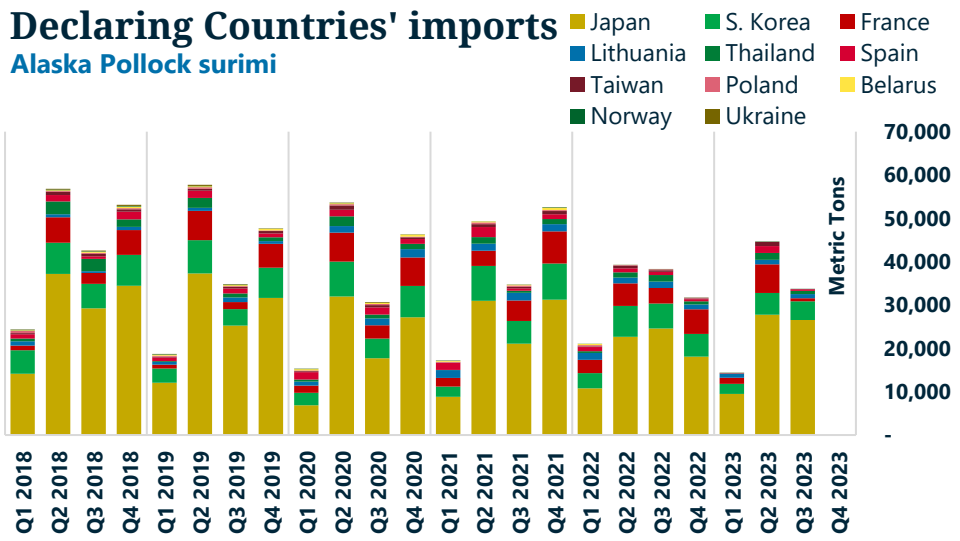

Figure 8. Alaska Pollock Surimi Imports. Linear imports by declaring countries. Q3 '23 not complete

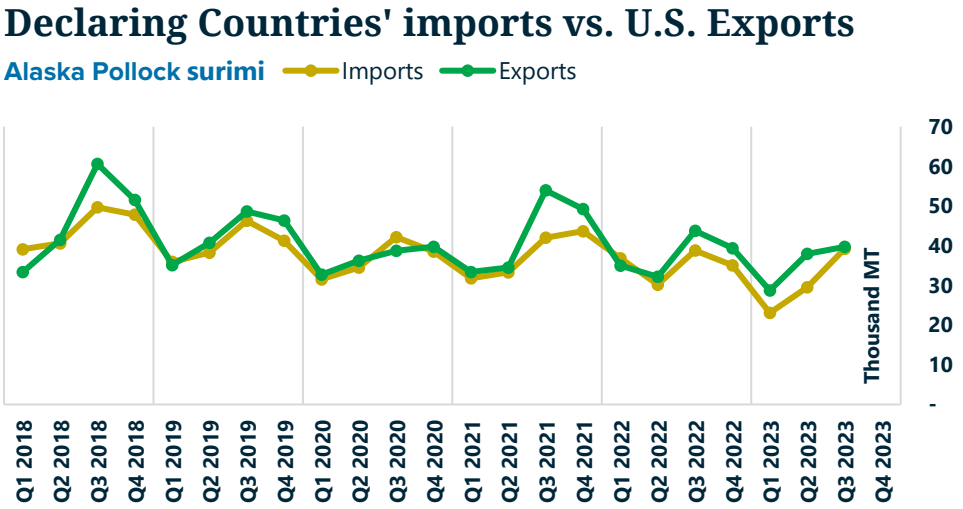

Figure 9. Alaska Pollock Surimi Imports vs. U.S. Alaska Pollock Surimi Exports. Smoothed average.

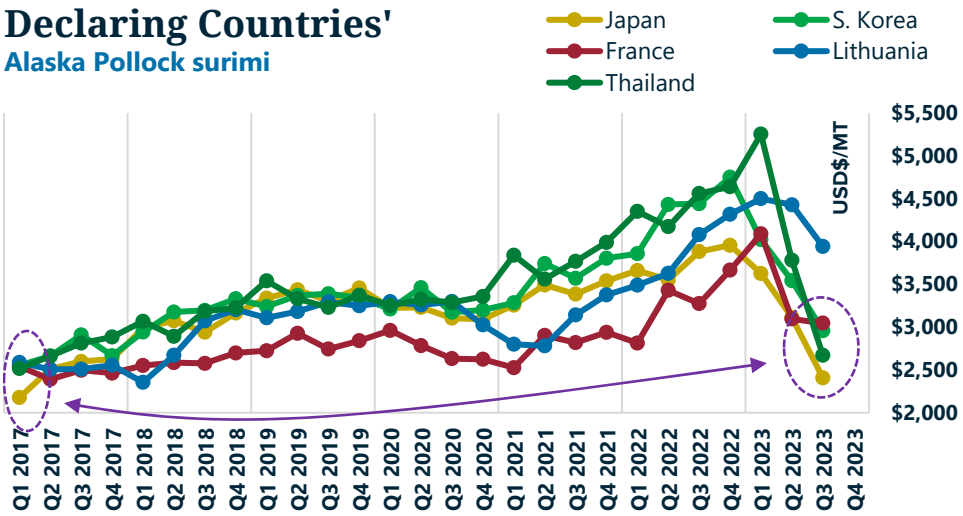

Figure 10. Alaska Pollock Surimi Import Price per MT by declaring country.

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

As figure 10 illustrates, average prices have declined to multi-year levels in Q3 '23 using data through August and September in some cases.

Alaska Pollock Surimi Trade (U.S. Exports)

Alaska Pollock Exports

U.S. customs export figures revealed a ~49 percent increase year-over-year in Q2 '23. Although export and declaring country import figures differ, we can see that exports to Japan and South Korea increased 22 percent year-over-year.

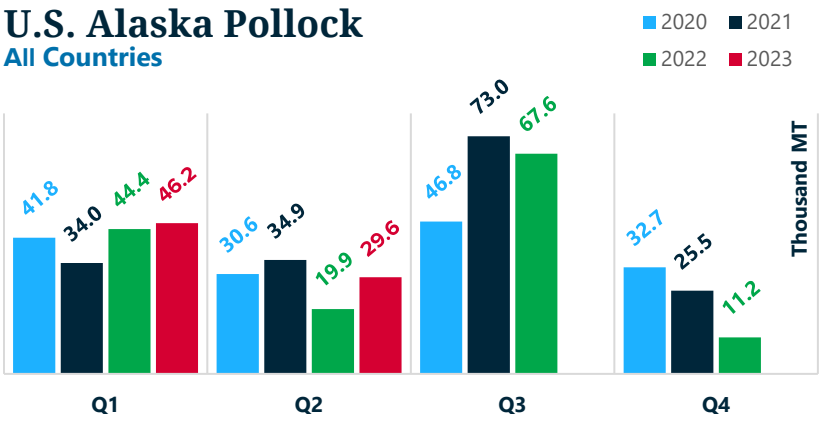

Figure 11. Alaska Pollock Surimi Exports. Aggregate of destination countries by quarter.

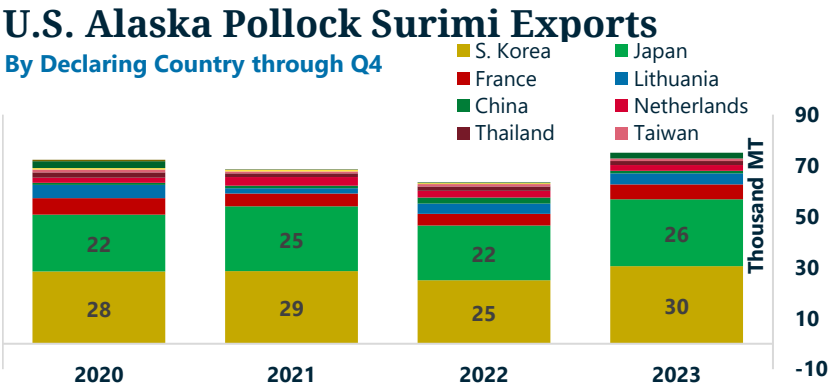

Figure 12. Alaska Pollock Surimi Exports by destination country.

U.S. Alaska Pollock Surimi Exports *YTD from (Q1 to Q2) 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%		
Q4	32,705	25,525	-22.0%	11,161	-56.3%		
Total	151,900	167,432	+ 10.2%	143,060	-14.6%		
*YTD	72,440	68,954	-4.8%	64,318	-6.7%	75,880	+ 18.0%

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

U.S. Alaska Pollock Surimi Exports (Q1 to Q2) By Declaring Country through Q2	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
S. Korea	28,415	28,538	+ 0.4%	24,908	-12.7%	30,450	+ 22.2%
Japan	22,265	25,419	+ 14.2%	21,523	-15.3%	26,269	+ 22.1%
France	6,516	5,052	-22.5%	4,570	-9.5%	5,854	+ 28.1%
Lithuania	5,163	2,079	-59.7%	4,061	+ 95.3%	4,316	+ 6.3%
China	863	983	+ 13.9%	2,352	+ 139.3%	1,051	-55.3%
Netherlands	2,020	3,381	+ 67.4%	2,679	-20.8%	2,250	-16.0%
Thailand	2,072	1,444	-30.3%	1,692	+ 17.2%	1,550	-8.4%
Taiwan	1,091	761	-30.2%	927	+ 21.8%	988	+ 6.6%
India	588	547	-7.0%	398	-27.2%		
Spain	2,668	151	-94.3%	191	+ 26.5%	2,268	+ 1087.4%
Germany	592	116	-80.4%	73	-37.1%		
Total	72,440	68,954	-4.8%	64,318	-6.7%	75,880	+ 18.0%

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 Q2 '23, down by about 18 percent. While on a month-over-month basis, production recovered slightly, on a year-to-date basis, production is down ~27 percent through Q2.
Inventories throughout Q2 '23 decreased month-to-month but remain at a historically high threshold.

Atka Mackerel

According to our estimates, although nearly insignificant compared to Japanese pollock volumes, Atka mackerel surimi production has increased considerably over the last few years, more noticeably into Q2 of 2022 at about 2,470 metric tons. In Q1 '23, production of Atka Mackerel surimi surged to 847 metric tons, reaching the second-highest quarterly figure since at least Q1 2017.

2022 Japanese Surimi Market
by Tom Asakawa

Japanese Pollock Catch and TAC

Total Pollock TAC remained at around 250,000 MT in JFY 2019-2022, except for 224,700 MT in JFY 2020. The Pollock TAC JFY 2023 is 258,675 MT, as revised in June 2023.

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.

Japan and Russia have had a bilateral agreement to allow the Japanese fleet to access the waters of the four Russian-occupied northern islands (Kunashiri, Etorofu, Shikotan, and Habomai).

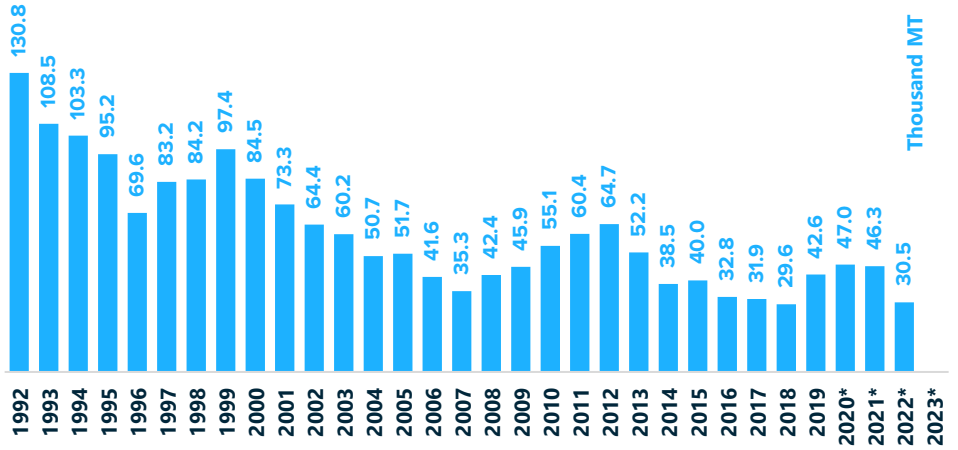

Figure 13. Japanese surimi production estimates. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry Consulting.

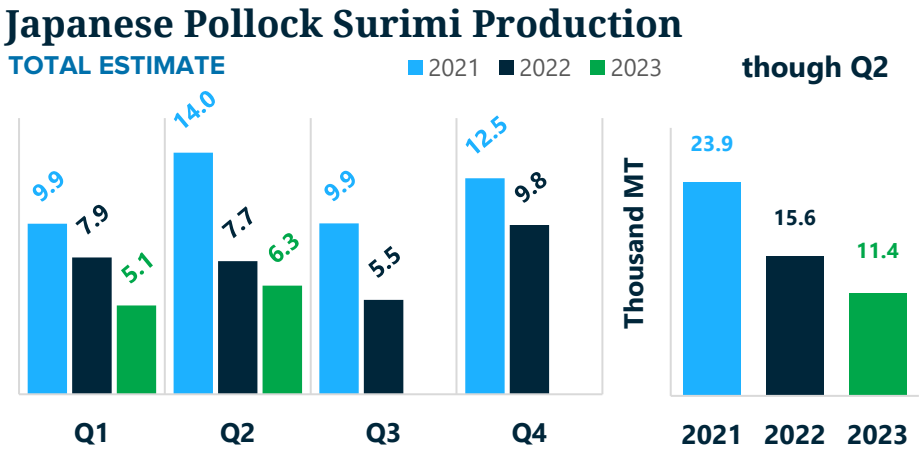

Figure 14. Japanese pollock surimi production estimates. Source: UB Consulting, Tom Asakawa, TA Pacific Co., and Kambako News.

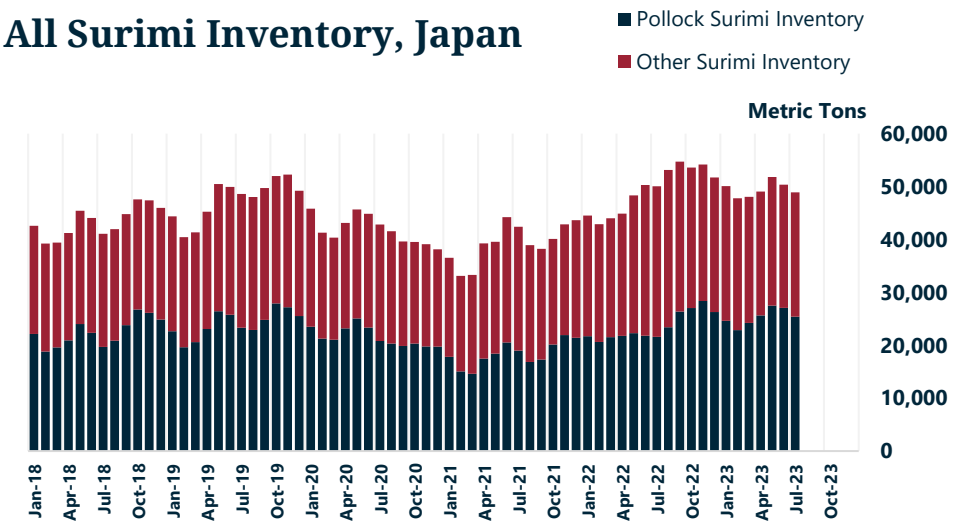

Figure 15. All surimi inventory in Japan. Tom Asakawa, TA Pacific Co., Japan MOF. Urner Barry. Monthly through July 2023.

Russia suspended it this year, claiming, "The anti-Russian measures taken by the Japanese government (due to the Ukraine incident) are contrary to the spirit and language of the 1998 (intergovernmental) agreement." The Japanese fleet is used to harvest 955 MT of Pollock and 777 MT of Atka mackerel every year and is paid a sum of JPY 42.2 million ($315,456).

The catch of Atka mackerel shows a similar path to Pollock. It dropped sharply from 169,807 MT in 2008 to slightly above 17,000 MT in 2015-16. It rebounded above 33,000 MT in 2018-19 and 45,500 MT in 2021. Still, it dipped again to 35,300 tons in 2022.

Surimi paste imports

The Ministry of Finance recently announced that imported surimi in August 2023 was 20,987 tons, a decrease of 7.2% from the previous year, the third consecutive month of decline, but the rate of decrease has narrowed, Kamaboko News reported.

The import from the United States was 11,711 tons, a decrease of 10.9% from the previous year. Imports from significant countries such as Russia (down 68.2% to 593 tons), Vietnam (down 36.0% t,180 tons), India (down 6.7% to 3,212 tons), and Indonesia (down 34.5% to 129 tons) were also sluggish. It is noticeable that imports from Argentina have increased dramatically from 72 tons to 1,023 tons.

As a result, the cumulative total for January-August was 132,134 tons, a decrease of 15.2% compared to last year. By country, the United States (up 6.6% to 54,310 tons), Argentina (up 21.8% to 4,898 tons), Peru (up 20.9% to 752 tons), and South Korea (up 13.1% to 620 tons) have increased compared to the previous year. The rest is decreasing across the board.

The surimi price has recently calmed down, dropping by nearly 150 yen/kg ($1.00/kg), but some users say it is still high. Prices at the Toyosu market as of October 10 are 380-450 yen/kg ($2.53-3.00/kg) for land-based frozen surimi and 410-540/kg ($2.73-3.60/kg) for high-sea frozen surimi, according to Suisan Keizai Shimbun.

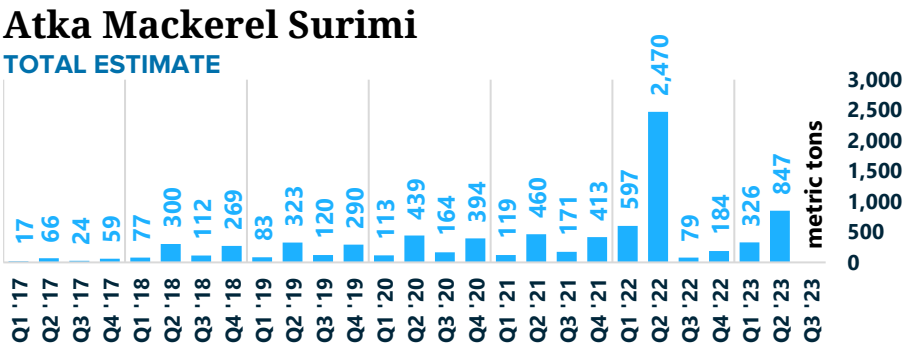

Figure 16. Japanese Atka Mackerel Harvest. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

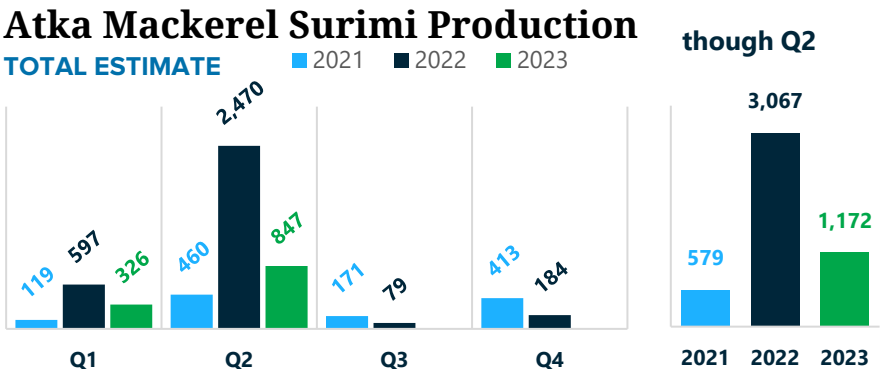

Figure 17. Hokkaido, Atka Mackerel surimi production, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

As a result of China's ban on importing Japanese seafood, seafood stocks such as scallops have piled up, and with cold storage full, companies are urged to process surimi. Many surimi manufacturers still have an A-season surimi inventory, and the surimi market will likely remain weak for some time.

In 2022, surimi imported was 226,470 tons, up 5% from the previous year. While the United States, the most significant supplier, did not perform well, imports from Asian countries such as India and Russia, a new producer, contributed to the increase, according to Minato Shimbun.

Imports from the United States decreased by 14% to 82,137 tons, the lowest level in 12 years. Imports of Alaska pollack surimi slumped to 76,115 tons, down 17% from 2021, the lowest level in 12 years, due to the decrease in TAC.

On the other hand, imports from India, the second largest supplier, increased by 20% to a record 47,278 tons. Among them, the volume of itoyori surimi was 7,688 tons, 1.6 times more than the previous year, a significant volume for the first time in eight years. Imports from China, the third largest, increased by 8% to 21,130 tons, the highest in 11 years. Vietnam, the fourth largest importer, increased 6% to 19,972 tons, the highest level in 12 years.

Thailand decreased by 13% to 18,037 tons, the lowest in recent years, less than one-fifth of the 2002 peak of 100,680 tons.

(Continued on page 24)

Pacific Whiting Surimi

Production estimates of Pacific Whiting surimi through Q2—production has historically begun around May-June—show a significant decrease from year-ago levels but depict a regression to what had been historically "normal" when excluding 2022. Preliminary data through Q3 '23 suggests production figures could oscillate levels between 2019 and 2021.

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

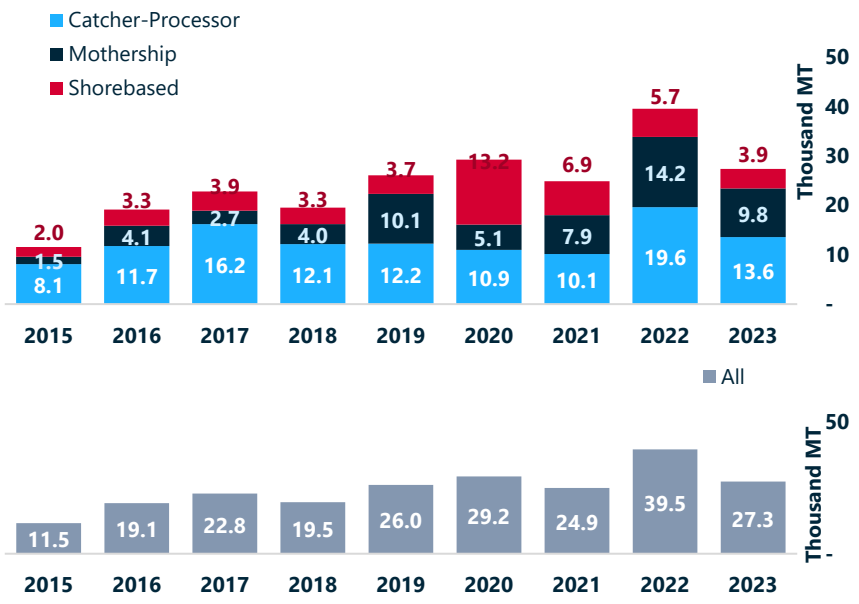

Figure 18. Pacific Whiting Surimi Production. NOAA Fisheries, Northwest Fisheries Science Center, and UB Consulting estimates for *2020, *2021, *2022, and *2023. *Data for 2023 considers complete preliminary data through Q3 and incomplete data for October '23.*

PW Surimi Production Estimate

PW Surimi Production Estimate

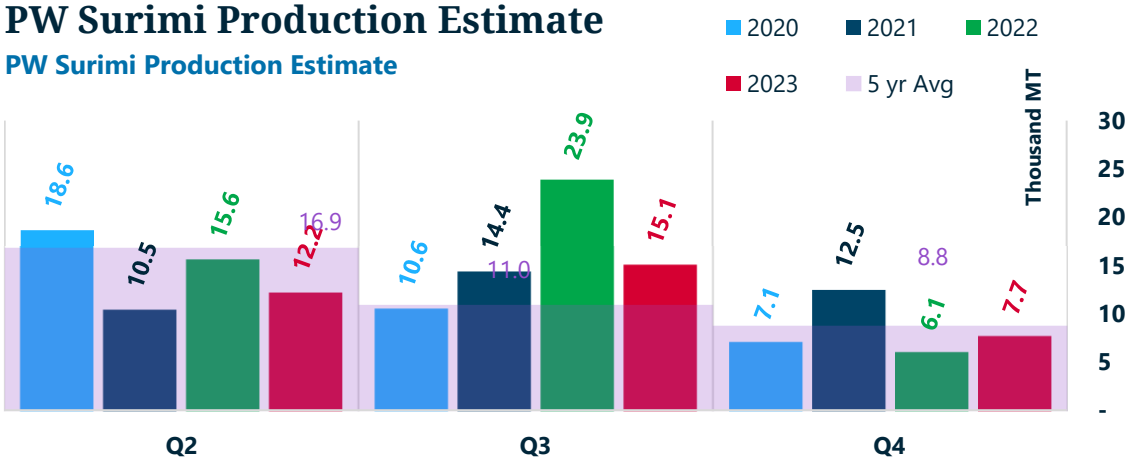

Figure 19. PW Surimi Production Estimate. NOAA, Northwest Fisheries Science Center, Urner Barry Consulting. *Data for 2023 considers complete preliminary data through Q3 and incomplete data for October '23.*

UB Estimated Production, Pacific Whiting Surimi						**YTD (Q1 to Q3)			
	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%	7,743	+ 27.0%
Total (UB Est.)	33,341	36,354	+ 9.0%	37,349	+ 2.7%	45,594	+ 22.1%		
*Official thru '18	33,341	36,354	+ 9.0%	37,349	+ 2.7%	45,594	+ 22.1%		
**YTD	26,027	29,221	+ 12.3%	24,853	-14.9%	39,495	+ 58.9%	27,315	-30.8%
* UB Estimates.	'23 data through Oct, Nov incomplete								

Table 8. Estimated Production from Pacific Whiting Monthly Landings. NOAA Fisheries, Northwest Fisheries Science Center, Urner Barry Consulting. *Data for 2023 considers complete preliminary data through October.*

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 Q2 '23 revealed an increase year-over-year of 12.5 percent. Such an increase makes sense, given that the increase in production throughout '22 might still be trading through the first half—possibly into the second half of 2023.

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

Interestingly, prices in Spain remain generally elevated despite a significant decrease in Q3 from Q2—using preliminary data—compared to those in Japan and France.

Pacific Whiting Surimi Imports *YTD from (Q1 to Q2) 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%	5,053	+ 53.2%
Q2	3,794	3,291	-13.3%	4,737	+ 43.9%	3,988	-15.8%
Q3	7,095	5,214	-26.5%	6,230	+ 19.5%		
Q4	5,622	6,373	+ 13.4%	6,781	+ 6.4%		
Total	21,394	18,257	-14.7%	21,047	+ 15.3%		
*YTD	8,677	6,670	-23.1%	8,036	+ 20.5%	9,041	+ 12.5%

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

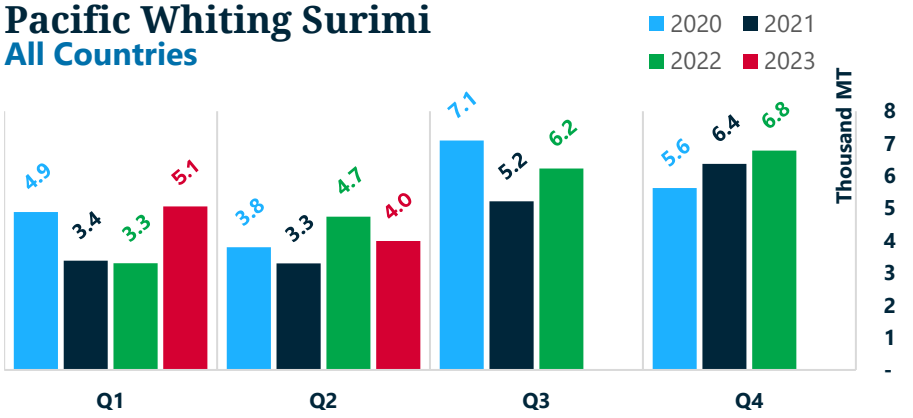

Figure 20. PW surimi imports, all countries by quarter from the U.S. —each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Imports *(Q1 to Q2) By Declaring Country	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	3,270	2,575	-21.3%	3,313	+ 28.7%	4,262	+ 28.6%
Lithuania	3,068	3,131	+ 2.1%	2,162	-30.9%	3,553	+ 64.3%
Japan	771	60	-92.2%	1,258	+ 1996.7%	522	-58.5%
France	458	105	-77.1%	391	+ 272.4%	250	-36.1%
Poland	622	437	-29.7%	500	+ 14.4%		
Canada	145	190	+ 31.0%	154	-18.9%	186	+ 20.8%
Taiwan	63	166	+ 163.5%	168	+ 1.2%	128	-23.8%
Latvia	70	6	-91.4%	67	+ 1016.7%	46	-31.3%
S. Korea	205			22		3	-86.4%
*Total	8,677	6,670	-23.1%	8,036	+ 20.5%	9,041	+ 12.5%

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

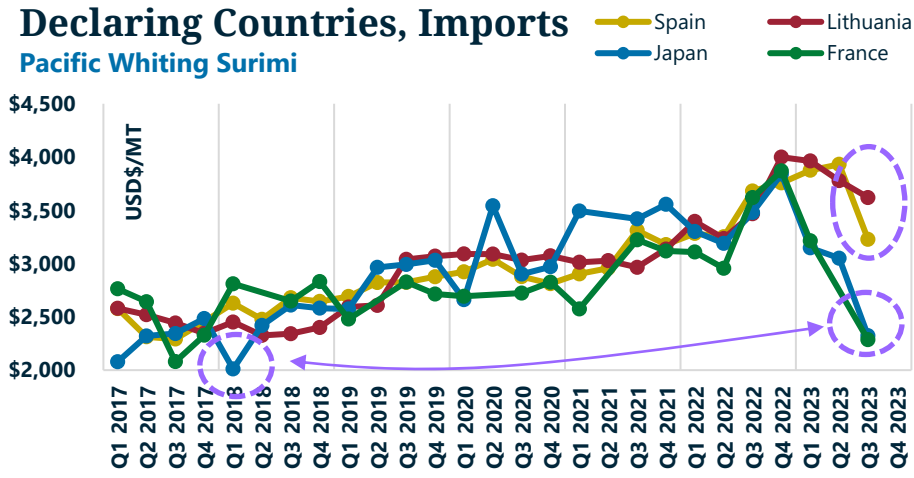

Figure 21. PW surimi import $/MT—each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Trade (Exports)

Pacific Whiting Surimi Exports *YTD from (Q1 to Q2)							
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%		
Q4	2,383	6,789	+ 184.9%	3,876	-42.9%		
Total	5,516	12,526	+ 127.1%	8,719	-30.4%		
*YTD	2,274	4,996	+ 119.7%	1,758	-64.8%	501	-71.5%

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

Pacific Whiting Surimi Exports							
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			
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%	668	-73.7%	134	-79.9%

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

Pacific Whiting Surimi Exports *(Q1 to Q2)							
By Reported Destination Country through Q2							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	781	2,537	+ 224.8%	668	-73.7%	134	-79.9%
Netherlands	283	1,792	+ 533.2%	107	-94.0%	15	-86.0%
Lithuania	377	11	-97.1%	180	+ 1536.4%		
S. Korea	348	23	-93.4%			96	
Canada	262	293	+ 11.8%	209	-28.7%	185	-11.5%
Japan	118			242		69	-71.5%
Thailand	55	218	+ 296.4%	137	-37.2%		
China	48						
Poland							
*Total	2,274	4,996	+ 119.7%	1,758	-64.8%	501	-71.5%

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

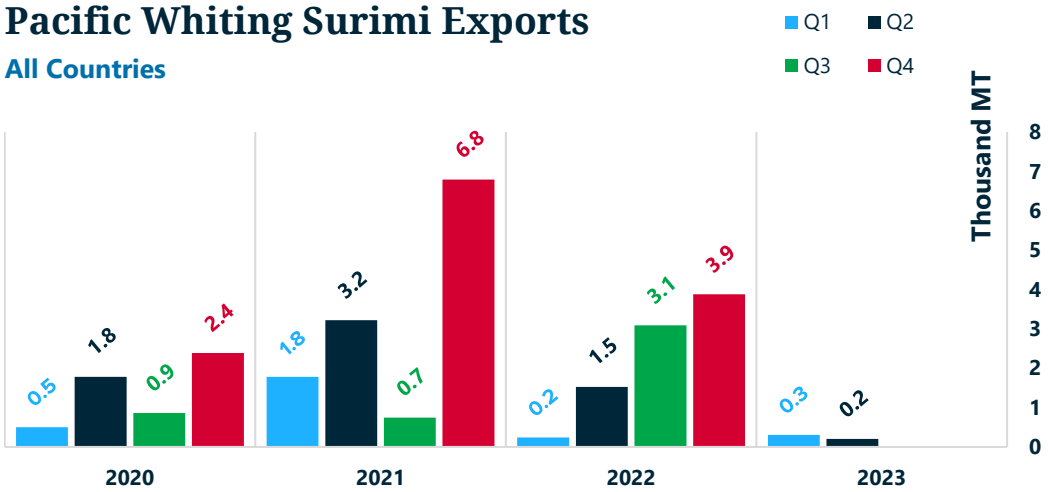

Figure 22. Pacific Whiting surimi exports by quarter. U.S. Customs, Urner Barry Consulting.

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, shipments have historically increased, and this year was an exception, with figures surpassing 200 metric tons. 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 increased 55 percent in Q2 '23 year-over-year. On a year-to-date basis, however, overall production is down by about 8 percent year-over-year. Cumulative through Q2, Argentina has been virtually the sole seasonal producer thus far, with Chile contracting nearly nil production through the first two quarters.

Hoki

On the other hand, Hoki surimi production estimates increased by about 90 percent during Q2 '23 year-over-year. Argentina's production surged 19.7 percent through Q2, while New Zealand increased its production by 133 percent. 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 Q2)			
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%		
Q4	1,119	1,069	-4.5%	1,306	+ 22.2%		
Total	3,609	3,484	-3.5%	3,755	+ 7.8%		
*YTD	1,799	1,894	+ 5.3%	1,743	-8.0%	1,600	-8.2%

Table 14. Southern Blue Whiting surimi estimated production.

Southern Blue Whiting Surimi Production				(Q1 to Q2)			
Production by Country							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Argentina	1,702	1,330	-21.9%	1,336	+ 0.4%	1,598	+ 19.7%
Chile	97	564	+ 481.4%	407	-27.8%	2	-99.5%
New Zealand							
Total	1,799	1,894	+ 5.3%	1,743	-8.0%	1,600	-8.2%

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

Hoki Surimi Production				*YTD from (Q1 to Q2)			
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%		
Q4	1,400	1,403	+ 0.3%	1,232	-12.2%		
Total	6,379	5,612	-12.0%	5,280	-5.9%		
*YTD	3,409	2,824	-17.2%	2,636	-6.6%	3,556	+ 34.9%

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

Hoki Surimi Production				(Q1 to Q2)			
Production by Country							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Argentina	2,554	1,995	-21.9%	2,003	+ 0.4%	2,398	+ 19.7%
Chile	8	62	+ 675.0%	139	+ 124.2%	5	-96.4%
New Zealand	847	767	-9.4%	494	-35.6%	1,153	+ 133.4%
Total	3,409	2,824	-17.2%	2,636	-6.6%	3,556	+ 34.9%

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

Southern Blue Whiting Surimi

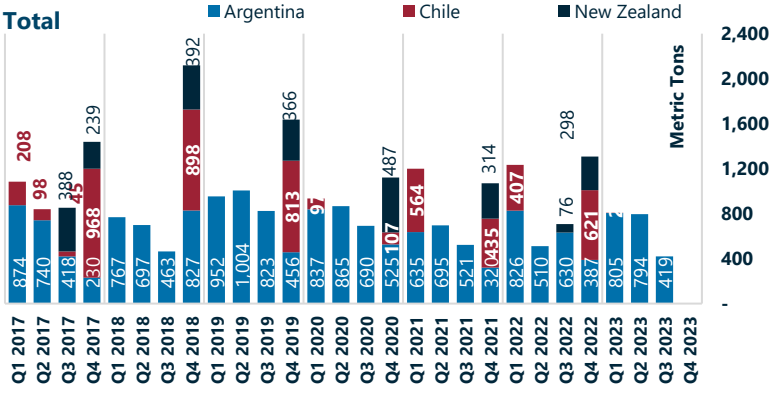

Figure 23. Southern Blue Whiting surimi estimated production by country. *Q3 is incomplete.

Hoki Surimi

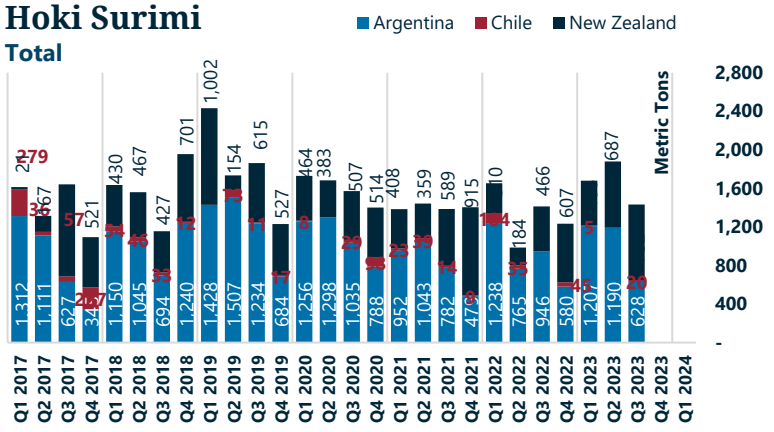

Figure 24. Hoki surimi production estimates. Each country's customs, Urner Barry Consulting. *Q3 is incomplete.

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 Q2)			
Countries Importing from:	Argentina						
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	3,707	2,943	-20.6%	3,254	+ 10.6%	3,876	+ 19.1%
Russian Federation	496	280	-43.5%	61	-78.2%		
Spain						120	
Belarus	53	77	+ 45.3%	24	-68.8%		
South Africa		25					
*Total	4,256	3,325	-21.9%	3,339	+ 0.4%	3,996	+ 19.7%

Table 18. Surimi imports from Argentina by country.

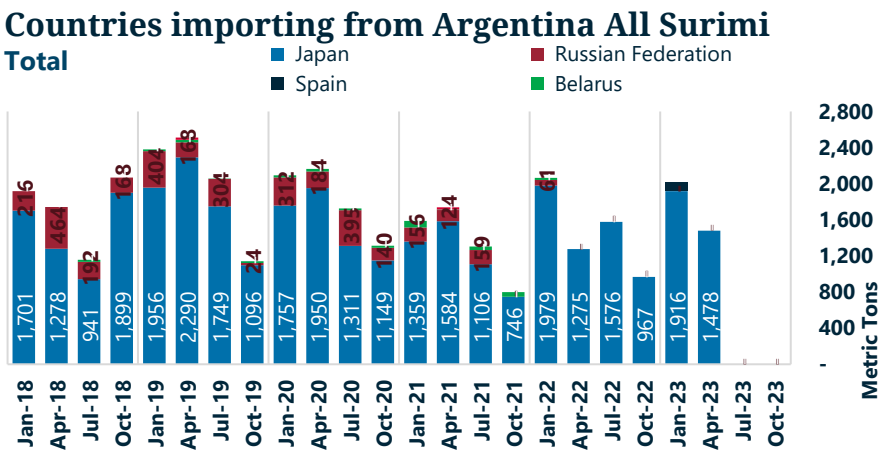

Figure 25. SBW and Hoki Surimi imports from Argentina. *Q3 2023 data is incomplete.

Surimi Imports from Chile				*(Q1 to Q2)			
Countries Importing from:	Chile						
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	908	1,497	+ 64.9%	1,928	+ 28.8%	1,530	-20.6%
Russian Federation	44	72	+ 63.6%				
Spain				26		23	-11.5%
Belarus							
*Total	952	1,569	+ 64.8%	1,954	+ 24.5%	1,553	-20.5%

Table 19. Surimi imports from Chile by country.

Surimi Imports from New Zealand				*(Q1 to Q2)			
Countries Importing from:	New Zealand						
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan	165	185	+ 12.1%	276	+ 49.2%	195	-29.3%
South Africa							
*Total	165	185	+ 12.1%	276	+ 49.2%	195	-29.3%

Table 20. Surimi imports from New Zealand by country.

Imports from Argentina:

Japanese imports of Argentinean surimi increased year-over-year in Q2 '23 and positioned overall year-to-date imports nearly 20 percent above year-ago levels to about 4 thousand metric tons. 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 Q2 '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 Q2.

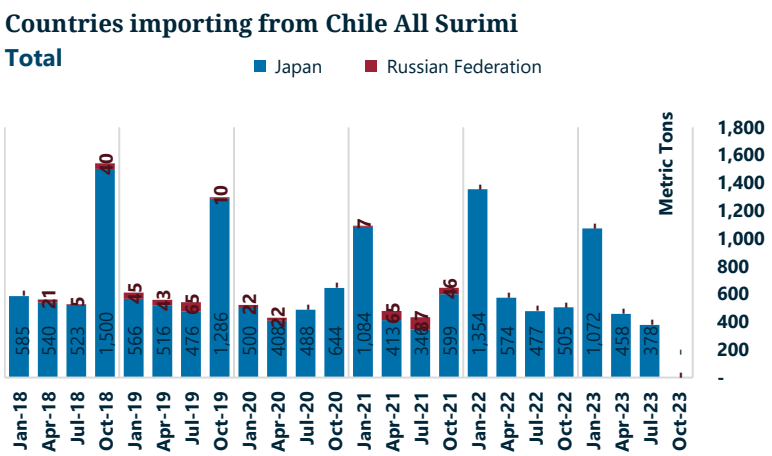

Figure 26. Surimi imports from Chile by country. *Q3 2023 data is incomplete. *Q2 is complete.

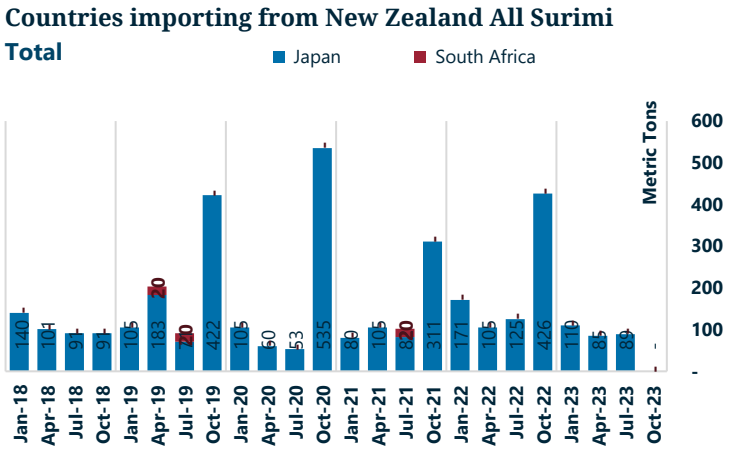

Figure 27. Surimi imports from New Zealand by country. *Q3 2023 data is incomplete. *Q2 is complete.

Northern Blue Whiting Surimi Production, France

Northern blue whiting surimi production estimates from the working group and UBC out of France are shown below. These estimates suggest that production in Q2 '23 remained virtually unchanged compared to year-ago levels. Regarding trade, Japanese imports of NBW surimi were nil through Q2 '23.

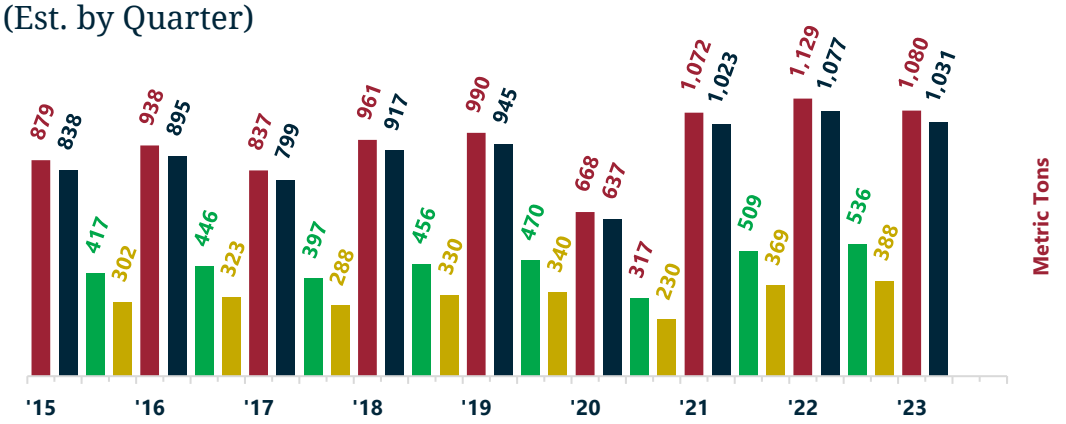

Figure 28. Northern blue whiting surimi production estimates. Source: GAPP, Urner Barry Consulting. *extrapolated + working group feedback, **extrapolated through Q2 '23 only.

Countries importing from France from Q1 to Q2

	Metric Tons	2016	2017	2018	2019	2020	2021	2022	2023
nbw surimi	Japan	670	814	452	599	120	24	599	-
	Belarus	-	-	112	340	98	273	156	-
	China (People's Republic of)	-	48	70	24	-	-	-	24
	Spain	-	-	-	43	22	-	48	58
	Poland	-	-	-	-	-	75	-	-
	Other	-	-	-	1	2	-	21	10
	Total	**670**	**863**	**634**	**1,007**	**242**	**372**	**823**	**92**

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 ~10 percent year-over-year through Q2. Itoyori production estimates suggest a decrease of ~23 percent through Q2 '23 year-over-year. Meanwhile, Japanese prices for itoyori and pollock surimi expressed in USD collapsed into Q3 '23—using preliminary data—with Russian pollock dropping the most. When adjusted for the exchange rate, these price levels expressed in JPY are not as low but show the same downward trend.

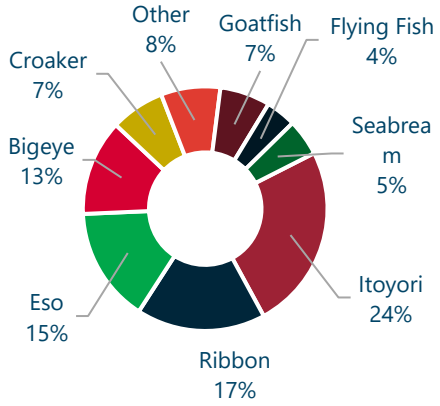

Figure 29. Tropical Surimi estimated breakdown by species. *Does not include China.

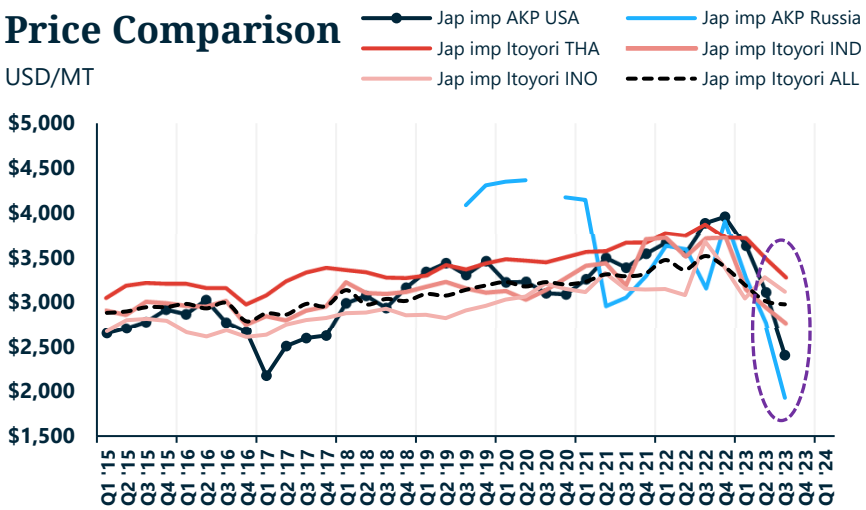

Figure 30. Itoyori vs. AK Pollock of Japan import $/mt comparison. Source: Urner Barry Consulting. Q3 data is incomplete

Tropical Surimi, Thailand

Thailand's surimi production estimates indicate a significant decrease of about ~20 percent through Q2 '23 compared to last year, making it the lowest production half on record at about 9.2 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 44 percent year-over-year through Q2 '23. Japanese imports of Thai itoyori surimi decreased by 53 percent through Q2 '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 31 percent year-over-year through Q2 '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 Q2

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Other	Total
2010	18,908	5,855	4,652	2,586	1,783	1,424	286	2,234	37,728
2011	15,433	5,233	4,158	3,627	1,652	168	255	3,192	33,718
2012	11,576	5,397	4,288	3,741	1,636	3,925	408	3,810	34,780
2013	10,075	3,897	3,096	2,701	1,230	86	1,929	2,091	25,104
2014	9,827	3,914	3,110	2,713	1,192	1,477	916	2,074	25,223
2015	9,670	3,434	2,728	2,380	1,043	385	168	2,319	22,128
2016	7,042	3,144	2,498	2,179	958	1,465	1,492	1,480	20,256
2017	5,811	2,390	1,899	1,096	755	1,074	689	1,687	15,402
2018	5,061	2,416	1,919	1,625	763	1,761	317	1,705	15,568
2019	6,002	2,659	2,112	1,242	813	1,306	1,122	1,877	17,132
2020	7,073	2,674	2,125	495	811	1,950	272	1,833	17,234
2021	5,928	2,075	1,737	1,157	668	736	711	1,077	14,090
2022	4,795	2,917	1,959	400	700	40	91	510	11,413
2023	3,344	2,252	1,563	428	864	32	70	635	9,186

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

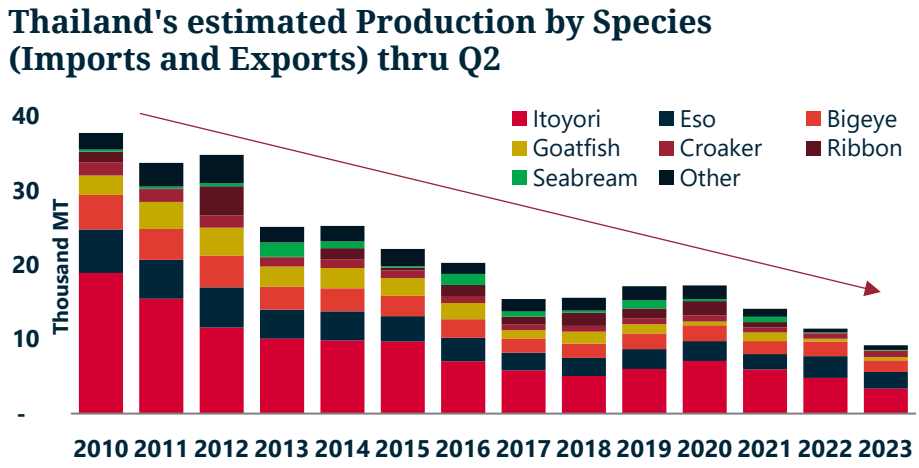

Figure 31. Yearly estimates of Thailand's surimi production by species.

Countries declaring surimi imports from Thailand from Q1 to Q2

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	25	▼ 59.0%	8	▼ 68.0%	7	▼ 12.5%	9	▲ 28.6%	8	▼ 11.1%	36	▲ 350.0%	89	▲ 147.2%
	Itoyori	3,960	▼ 62.3%	3,375	▼ 14.8%	3,877	▲ 14.9%	4,510	▲ 16.3%	4,392	▼ 2.6%	3,924	▼ 10.7%	1,832	▼ 53.3%
	Other	7,292	▼ 61.2%	7,462	▲ 2.3%	7,531	▲ 0.9%	6,877	▼ 8.7%	6,326	▼ 8.0%	5,568	▼ 12.0%	3,239	▼ 41.8%
	Sardine, Other			3								12			
S. Korea	All	816	▼ 70.6%	720	▼ 11.8%	840	▲ 16.7%	672	▼ 20.0%	336	▼ 50.0%	1,032	▲ 207.1%	720	▼ 30.2%
Russia	All	531	▼ 80.4%	1,350	▲ 154.2%	1,415	▲ 4.8%	1,165	▼ 17.7%	1,810	▲ 55.4%	996	▼ 45.0%	682	▼ 31.5%
Malaysia*	All	110	▼ 79.6%	114	▲ 3.6%	189	▲ 66.7%	187	▼ 1.4%	191	▲ 2.6%	213	▲ 11.5%	108	▼ 49.3%
China	All	163	▼ 69.4%	294	▲ 80.4%	240	▼ 18.4%	326	▲ 35.8%	508	▲ 55.8%	225	▼ 55.7%	562	▲ 149.8%
Taiwan	All	54	▼ 76.2%	16	▼ 70.4%	162	▲ 912.5%	414	▲ 155.6%	359	▼ 13.3%	228	▼ 36.5%	162	▼ 28.9%
Hong Kong	All	75	▼ 54.0%	56	▼ 25.3%	115	▲ 105.4%	189	▲ 64.3%	314	▲ 66.1%	256	▼ 18.5%	229	▼ 10.5%
Canada	All			66		124	▲ 87.9%	174	▲ 40.3%	138	▼ 20.7%	400	▲ 189.9%	184	▼ 54.0%
Philippines	All			197		21	▼ 89.3%	92	▲ 338.1%	142	▲ 54.3%	109	▼ 23.2%	68	▼ 37.6%
New Zealand	All	51	▼ 81.7%	29	▼ 43.1%	35	▲ 20.7%	33	▼ 5.7%	29	▼ 12.1%	12	▼ 58.6%	23	▲ 91.7%
France	All	260	▼ 31.6%	210	▼ 19.2%	307	▲ 46.2%								
Lithuania	All	54				381		182	▼ 52.2%	122	▼ 33.0%	23	▼ 81.1%	5	▼ 78.3%
Other		49	▼ 90.0%	5	▼ 88.9%	15	▲ 170.1%					599		68	▼ 88.7%
Total		**13,440**	**▼ 64.3%**	**13,905**	**▲ 3.5%**	**15,259**	**▲ 9.7%**	**14,816**	**▼ 2.9%**	**14,507**	**▼ 2.1%**	**13,633**	**▼ 6.0%**	**7,971**	**▼ 41.5%**

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 decreased by ~3.3 percent through Q2 '23 year-over-year. Despite such a decrease, estimates suggest volumes through Q2 '23 were the second-largest figure recorded during the year's first half.

Production estimates of itoyori surimi contracted more than any other species by about 34 percent through Q2 year-over-year. Still, at about 6.6 thousand metric tons, volumes are just below the 7-year average for Q1. Japanese imports of Indian itoyori decreased 45 percent to about 2,500 metric tons from 4,600 a year ago.

According to our estimates, Ribbon fish surimi production out of India still leads the share at ~32 percent.

India's Production by Species (Imp. & Exp., est.) thru Q2

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Other	Total
2015	7,588	6,825	3,854	1,336	-	9,882	2,465	**31,950**
2016	4,812	8,397	3,919	1,447	-	13,265	3,485	**35,324**
2017	6,114	13,037	5,809	2,137	-	21,097	3,955	**52,148**
2018	10,939	8,360	5,604	2,186	-	21,859	5,334	**54,282**
2019	5,320	13,020	5,807	2,135	-	20,591	5,208	**52,082**
2020	1,876	10,125	4,662	1,691	-	19,456	3,282	**41,092**
2021	8,804	9,565	7,040	3,264	-	17,839	4,367	**50,879**
2022	10,029	11,742	9,530	5,435	-	22,299	6,118	**65,153**
2023	6,632	12,281	9,444	6,297	-	21,085	7,247	**62,985**

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

India's Production by Species (Imp. & Exp., est.) thru Q2

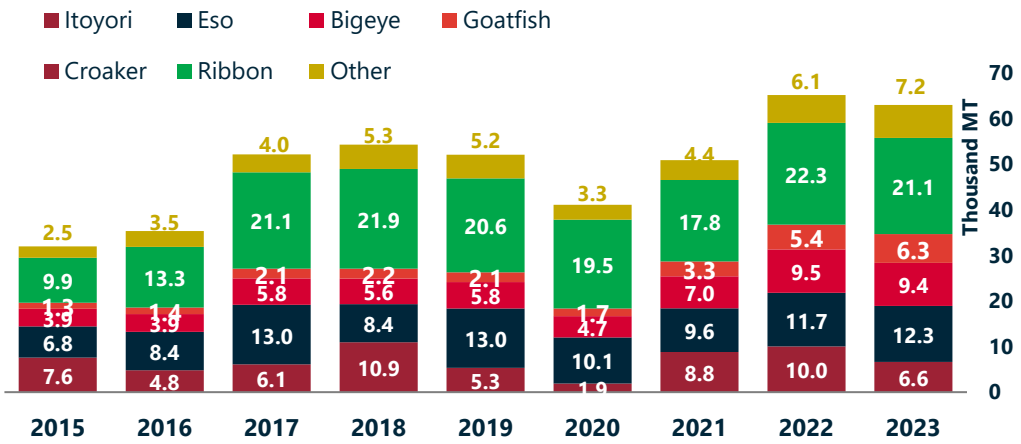

Figure 32. Yearly estimated surimi production from India by species

Countries declaring surimi imports from India from Q1 to Q2

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	2,326	▼ 42.7%	4,831	▲ 107.7%	2,430	▼ 49.7%	857	▼ 64.7%	3,744	▲ 336.9%	4,666	▲ 24.6%	2,541	▼ 45.5%
	Other	18,796	▼ 35.8%	21,214	▲ 12.9%	22,875	▲ 7.8%	17,905	▼ 21.7%	21,175	▲ 18.3%	27,926	▲ 31.9%	22,391	▼ 19.8%
	Sardine, Other					67									
Taiwan	All	7,461	▼ 42.7%	9,402	▲ 26.0%	8,287	▼ 11.9%	7,473	▼ 9.8%	7,424	▼ 0.7%	7,764	▲ 4.6%	9,695	▲ 24.9%
Thailand	All	2,957	▲ 371.6%	2,014	▼ 31.9%	3,900	▲ 93.6%	4,109	▲ 5.4%	8,293	▲ 101.8%	10,474	▲ 26.3%	8,694	▼ 17.0%
	Other	328	▼ 36.9%	229	▼ 30.2%	53	▼ 76.9%	366	▲ 590.6%	75	▼ 79.5%				
S. Korea	All	2,834	▼ 14.8%	3,945	▲ 39.2%	3,090	▼ 21.7%	2,900	▼ 6.1%	2,614	▼ 9.9%	3,096	▲ 18.4%	3,109	▲ 0.4%
Russia	All	3,616	▼ 47.5%	5,841	▲ 61.5%	4,093	▼ 29.9%	1,152	▼ 71.9%	4,090	▲ 255.0%	225	▼ 94.5%		
Belarus	All	2,033	▼ 35.1%	2,119	▲ 4.2%	2,154	▲ 1.7%	2,775	▲ 28.8%	2,235	▼ 19.5%	2,475	▲ 10.7%		
China	All	1,877	▲ 22.5%	1,820	▼ 3.0%	1,517	▼ 16.6%	1,785	▲ 17.7%	987	▼ 44.7%	954	▼ 3.3%	2,851	▲ 198.8%
Malaysia*	All	2,258	▲ 112.8%	1,944	▼ 13.9%	896	▼ 53.9%	1,781	▲ 98.7%	1,730	▼ 2.9%	2,317	▲ 33.9%	2,558	▲ 10.4%
Lithuania	All	832	▼ 67.2%	612	▼ 26.4%	507	▼ 17.2%	526	▲ 3.7%	157	▼ 70.2%	1,261	▲ 703.2%	1,502	▲ 19.1%
Singapore	All	930	▲ 1140.0%	691	▼ 25.7%	1,309	▲ 89.4%	1,191	▼ 9.0%	1,967	▲ 65.2%			236	
Spain	All	452	▼ 63.6%	511	▲ 13.1%	388	▼ 24.1%	244	▼ 37.1%	25	▼ 89.8%	532	▲ 2028.0%	336	▼ 36.8%
Poland	All					24		336	▲ 1300.0%	576	▲ 71.4%	468	▼ 18.8%	708	▲ 51.3%
Other		1,614	▲ 131.9%	805	▼ 50.1%	514	▼ 36.2%	1,056	▲ 105.5%	1,049	▼ 0.7%	1,195	▲ 13.9%	2,052	▲ 71.8%
Total		**48,314**	**▼ 28.9%**	**55,978**	**▲ 15.9%**	**52,104**	**▼ 6.9%**	**44,456**	**▼ 14.7%**	**56,141**	**▲ 26.3%**	**63,352**	**▲ 12.8%**	**56,673**	**▼ 10.5%**

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 22 percent through Q2 '23 year-over-year at about 73.7 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 Q3 last year. These changes were for the Philippines and Malaysia.

Viet-Nam's Production estimates by Species thru Q2

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	lying Fish	Other	Total
2015	14,093	7,651	10,973	7,262	10,973	4,173	6,362	3,478	4,600	69,564
2016	8,825	11,303	7,756	9,849	7,756	5,929	5,839	4,974	4,632	66,863
2017	12,684	11,649	7,471	4,227	7,471	5,792	5,792	4,942	4,374	64,403
2018	10,843	15,188	10,820	3,556	8,251	6,060	6,060	5,157	5,192	71,127
2019	12,196	12,104	10,139	3,889	14,778	6,683	6,683	5,690	5,617	77,778
2020	15,342	8,529	8,586	4,221	14,064	6,250	6,250	5,316	5,465	74,021
2021	23,570	10,273	13,544	4,928	13,544	5,405	5,405	6,919	6,501	90,089
2022	25,530	11,746	10,989	5,376	10,989	8,492	8,180	6,965	6,464	94,730
2023	20,641	8,108	11,062	3,686	10,452	6,366	4,423	3,686	5,289	73,712

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

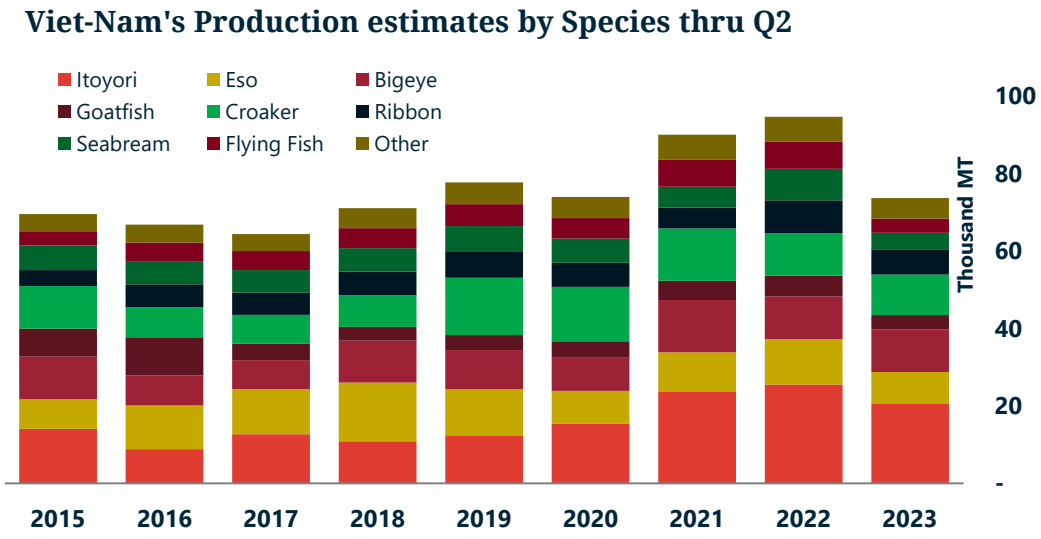

Figure 33. Yearly estimates of Vietnam's surimi production by species.

Countries declaring surimi imports from Viet-Nam from Q1 to Q2

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	24,309	▼ 54.2%	26,595	▲ 9.4%	24,138	▼ 9.2%	25,996	▲ 7.7%	25,248	▼ 2.9%	23,599	▼ 6.5%	21,050	▼ 10.8%
Thailand	All	13,665	▼ 45.0%	15,514	▲ 13.5%	13,295	▼ 14.3%	12,206	▼ 8.2%	18,619	▲ 52.5%	21,973	▲ 18.0%	14,297	▼ 34.9%
	Other	1,160	▼ 59.7%	1,214	▲ 4.7%	259	▼ 78.7%	119	▼ 54.1%					3	
China	All	5,530	▼ 52.1%	7,611	▲ 37.6%	11,086	▲ 45.7%	14,608	▲ 31.8%	14,289	▼ 2.2%	10,221	▼ 28.5%	8,276	▼ 19.0%
Japan	Barrac, Sea Breams, Kingclip	138	▼ 74.2%	153	▲ 10.9%	183	▲ 19.6%	88	▼ 51.9%	108	▲ 22.7%	357	▲ 230.6%	105	▼ 70.6%
	Itoyori	1,322	▼ 44.6%	1,249	▼ 5.5%	1,458	▲ 16.7%	1,468	▲ 0.7%	2,266	▲ 54.4%	2,665	▲ 17.6%	1,952	▼ 26.8%
	Other	5,359	▼ 60.3%	6,944	▲ 29.6%	7,865	▲ 13.3%	5,452	▼ 30.7%	6,412	▲ 17.6%	7,164	▲ 11.7%	5,015	▼ 30.0%
	Sardine, Other	2	▼ 97.6%			1		10	▲ 900.0%						
Russia	All	2,533	▼ 68.6%	2,543	▲ 0.4%	4,839	▲ 90.3%	3,805	▼ 21.4%	5,458	▲ 43.4%	5,915	▲ 8.4%	6,230	▲ 5.3%
Malaysia*	All	2,871	▼ 35.6%	2,873	▲ 0.1%	4,624	▲ 60.9%	2,556	▼ 44.7%	5,849	▲ 128.9%	6,979	▲ 19.3%	3,501	▼ 49.8%
	All	1,619	▼ 69.7%	2,015	▲ 24.5%	2,746	▲ 36.3%	2,318	▼ 15.6%	3,433	▲ 48.1%	4,652	▲ 35.5%	1,991	▼ 57.2%
Lithuania	All	1,105	▼ 39.3%	380	▼ 65.6%	794	▲ 108.9%	780	▼ 1.8%	760	▼ 2.6%	1,158	▲ 52.4%	787	▼ 32.0%
Indonesia	All	1,839	▼ 44.7%	369	▼ 79.9%	748	▲ 102.7%	347	▼ 53.6%	1,159	▲ 234.0%	5,285	▲ 356.0%	7,496	▲ 41.8%
	Other											75		450	▲ 500.0%
Ukraine	All	685	▼ 43.8%	694	▲ 1.3%	1,200	▲ 72.9%	950	▼ 20.8%	1,399	▲ 47.3%	450	▼ 67.8%	606	▲ 34.7%
Other		2,266	▼ 77.0%	2,973	▲ 31.2%	4,542	▲ 52.8%	3,318	▼ 26.9%	5,089	▲ 53.4%	4,776	▼ 6.1%	2,521	▼ 47.2%
Total		64,403	▼ 54.9%	71,127	▲ 10.4%	77,778	▲ 9.4%	74,021	▼ 4.8%	90,089	▲ 21.7%	95,269	▲ 5.8%	74,280	▼ 22.0%

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 6 percent increase year-over-year through Q2 '23 at about 5.5 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 Q2 are slightly above last year's levels. Most species, except for Goatfish and Eso, managed to increase on a year-over-year basis through Q2 '23.

Regarding trade, volumes from countries declaring imports declined by about 15 percent through Q2 '23 compared to last year. Adjusted figures from Malaysia show a significant decrease year-over-year of about 30 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 Q2

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Flying Fish	Other	Total
2015	4,296	1,520	1,232	529	1,403	1,529	514	1,140	1,649	13,811
2016	5,094	1,944	1,785	621	1,459	1,313	292	917	1,167	14,592
2017	2,421	1,027	960	151	756	680	443	151	969	7,558
2018	3,137	1,020	1,551	468	927	1,054	185	185	742	9,269
2019	4,105	1,613	1,438	232	1,159	1,266	232	618	927	11,588
2020	3,290	1,487	915	229	1,602	1,029	229	229	2,424	11,432
2021	3,272	893	650	162	812	1,025	516	162	650	8,143
2022	1,744	696	415	371	519	467	318	104	553	5,186
2023	1,812	606	440	110	785	636	363	202	551	5,506

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

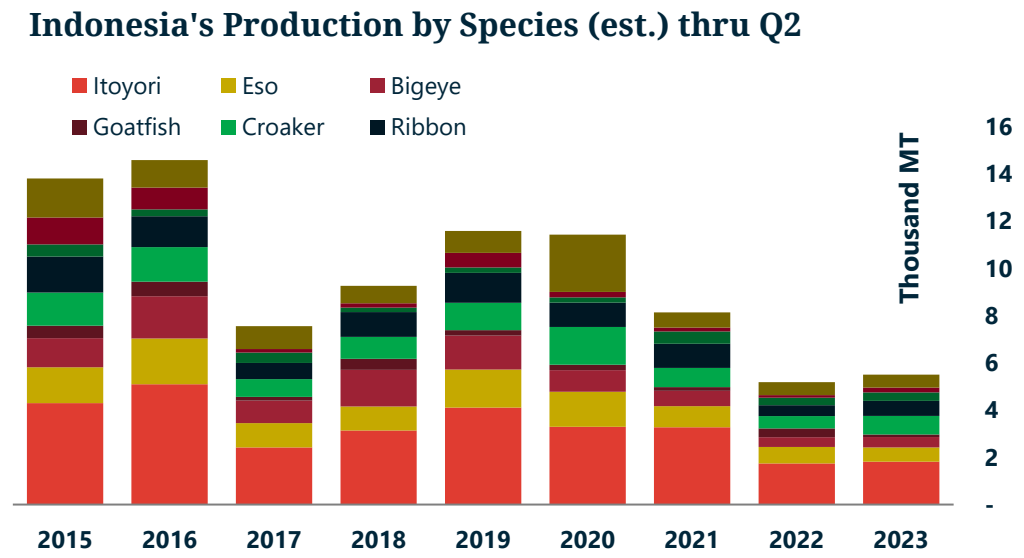

Figure 34. Yearly estimates of Indonesia's surimi production by species.

Countries declaring surimi imports from Indonesia from Q1 to Q2

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	1,587	▼ 76.3%	1,491	▼ 6.1%	2,209	▲ 48.2%	2,548	▲ 15.3%	3,205	▲ 25.8%	2,456	▼ 23.4%	1,742	▼ 29.1%
S. Korea	All	2,467	▼ 61.4%	1,368	▼ 44.5%	2,222	▲ 62.4%	2,856	▲ 28.5%	1,697	▼ 40.6%	1,622	▼ 4.4%	1,227	▼ 24.4%
Japan	Itoyori	1,303	▼ 47.3%	848	▼ 34.9%	878	▲ 3.5%	800	▼ 8.9%	829	▲ 3.6%	671	▼ 19.1%	204	▼ 69.6%
	Other	1,565	▼ 68.0%	1,858	▲ 18.7%	1,793	▼ 3.5%	1,016	▼ 43.3%	502	▼ 50.6%	680	▲ 35.5%	394	▼ 42.1%
	Sardine, Other	21	▲ 31.3%	20	▼ 4.8%										
Taiwan	All	874	▼ 69.9%	991	▲ 13.4%	1,011	▲ 2.0%	949	▼ 6.1%	561	▼ 40.9%	327	▼ 41.7%	192	▼ 41.3%
China	All	539	▼ 77.8%	1,245	▲ 131.0%	2,664	▲ 114.0%	3,589	▲ 34.7%	2,260	▼ 37.0%	877	▼ 61.2%	1,117	▲ 27.4%
Thailand	All	219	▼ 91.3%	640	▲ 192.2%	1,880	▲ 193.8%	1,173	▼ 37.6%	1,463	▲ 24.7%	225	▼ 84.6%	275	▲ 22.2%
	Other	30	▼ 80.3%	16	▼ 46.7%	18	▲ 12.5%	1	▼ 94.4%	2	▲ 100.0%	5	▲ 150.0%	10	▲ 100.0%
Hong Kong	All	78	▼ 72.9%	90	▲ 15.4%	124	▲ 37.8%	126	▲ 1.6%	162	▲ 28.6%	143	▼ 11.7%	138	▼ 3.5%
Australia	All	49	▼ 78.4%	63	▲ 28.6%	58	▼ 7.9%	46	▼ 20.7%	71	▲ 54.3%	41	▼ 42.3%	61	▲ 48.8%
Philippines	All			96		126	▲ 31.3%	54	▼ 57.1%	148	▲ 174.1%	125	▼ 15.5%	27	▼ 78.4%
USA	All													334	
Singapore	All	102	▲ 59.4%					4						57	
Other															
Total		**7,317**	**▼ 74.9%**	**7,258**	**▼ 0.8%**	**10,804**	**▲ 48.9%**	**10,614**	**▼ 1.8%**	**7,720**	**▼ 27.3%**	**4,743**	**▼ 38.6%**	**4,036**	**▼ 14.9%**

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 ~19 percent year-over-year through Q2 '23. Such a decrease marks the lowest production levels on record since 2015.

Regarding trade, volumes from countries declaring imports from Malaysia through Q2 '23 revealed a decrease of nearly 7 percent year-over-year. It is worth noting that Japan's imports decreased 28 percent year-over-year through Q2 '23. Furthermore, China declared a considerable increase year-over-year through Q2 '23, from 177 to 328 metric tons.

Malaysia's Estimated Production by Species thru Q2

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon Seabream	Flying Fish	Other	Total
2015	587	618	322	618	307	225	113	62	238	3,089
2016	667	702	366	702	349	256	128	70	271	3,511
2017	541	570	297	570	283	208	104	57	220	2,849
2018	465	489	255	489	243	178	89	49	189	2,446
2019	887	933	486	933	464	341	170	93	360	4,667
2020	637	671	349	671	333	245	122	67	259	3,354
2021	350	368	192	368	183	134	67	37	142	1,840
2022	309	325	169	325	161	119	59	33	125	1,626
2023	277	290	93	290	93	93	41	54	80	1,310

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

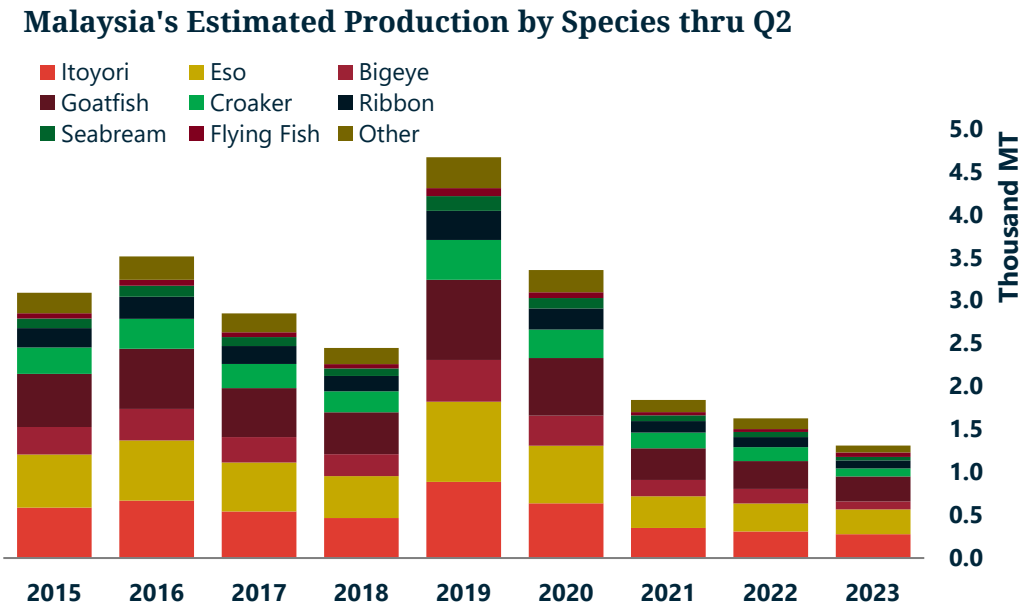

Figure 35. Yearly estimates of Malaysia's surimi production by species.

Countries declaring surimi imports from Malaysia from Q1 to Q2

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							12				118			
	Other	2,712	▼ 58.2%	2,166	▼ 20.1%	2,547	▲ 17.6%	2,521	▼ 1.0%	1,390	▼ 44.9%	1,314	▼ 5.5%	941	▼ 28.4%
	Sardine, Other					12		15	▲ 25.0%	20	▲ 33.3%	35	▲ 75.0%		
Hong Kong	All			10				272		199	▼ 26.8%	121	▼ 39.2%	143	▲ 18.2%
China	All	420	▼ 54.1%	340	▼ 19.0%	417	▲ 22.6%	390	▼ 6.5%	398	▲ 2.1%	177	▼ 55.5%	328	▲ 85.3%
Canada	All									34		68	▲ 100.0%	70	▲ 2.9%
Australia	All					5						26		57	▲ 119.2%
Singapore	All	27	▼ 70.7%	54	▲ 100.0%	11	▼ 79.6%	29	▲ 163.6%	1	▼ 96.6%			62	
Thailand	All					149		25	▼ 83.2%						
	Other														
Taiwan	All	62	▼ 49.2%			49		60	▲ 22.4%	42	▼ 30.0%				
Malaysia	All														
Philippines	All			7								23		3	▼ 87.0%
S. Korea	All	208	▼ 54.4%	84	▼ 59.6%	80	▼ 4.8%	359	▲ 348.8%	174	▼ 51.5%			96	
Other								25		25	▲ 0.0%	273	▲ 992.0%	300	▲ 9.9%
Total		**3,429**	**▼ 58.5%**	**2,661**	**▼ 22.4%**	**3,270**	**▲ 22.9%**	**3,708**	**▲ 13.4%**	**2,283**	**▼ 38.4%**	**2,155**	**▼ 5.6%**	**2,000**	**▼ 7.2%**

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 Q2 '23 compared to about ~14 percent last year. At roughly 5.8 thousand metric tons, Pakistan remains a steady source of itoyori and other tropical surimi species.

Production estimates of Itoyori surimi remained hovering around 3 thousand metric tons. Regarding trade, volumes from countries declaring imports from Pakistan decreased about 5.4 percent year-over-year through Q2. Notably, there is a 29 percent decrease from Thailand. Yet, a significant increase from South Korea is worth noting at about 2.3 thousand metric tons through Q2 '23.

Pakistan's Production estimates by Species thru Q2

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	1,461	292	146	146	292	-	146	146	292	2,921
2016	970	176	88	88	88	-	88	88	176	1,764
2017	1,576	305	152	152	152	-	152	152	406	3,049
2018	3,062	557	278	278	278	-	278	278	557	5,568
2019	2,647	519	259	259	466	-	259	259	519	5,188
2020	2,571	467	234	234	234	-	234	234	467	4,674
2021	2,610	496	248	248	287	-	287	248	535	4,958
2022	2,809	514	257	257	260	-	260	257	526	5,139
2023	2,988	583	292	292	364	-	364	292	656	5,831

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

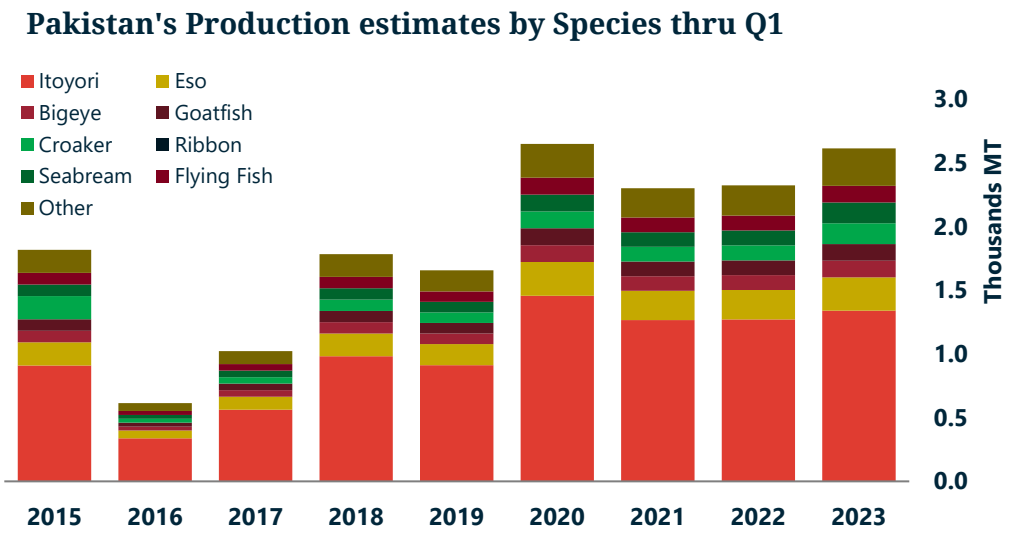

Figure 36. Yearly estimates of Pakistan's surimi production by species.

Countries declaring surimi imports from Pakistan from Q1 to Q2

Reporter Name	Species	2016	'16 vs. '16	2017	'17 vs. '16	2018	'18 vs. '17	2019	'19 vs. '18	2020	'20 vs. '19	2021	'21 vs. '20	2022	'22 vs. '21
Thailand	All	577	▲ 306.3%	2,258	▲ 291.3%	2,215	▼ 1.9%	1,857	▼ 16.2%	2,334	▲ 25.7%	2,727	▲ 16.8%	1,920	▼ 29.6%
	Other	19	▼ 42.4%							155					
S. Korea	All	2,282	▼ 29.3%	2,342	▲ 2.6%	1,650	▼ 29.5%	1,078	▼ 34.7%	1,343	▲ 24.6%	1,446	▲ 7.7%	2,304	▲ 59.3%
Japan	Itoyori	379	▼ 19.7%	832	▲ 119.5%	515	▼ 38.1%	389	▼ 24.5%	1,008	▲ 159.1%	1,135	▲ 12.6%	168	▼ 85.2%
	Other			81		166	▲ 104.9%	177	▲ 6.6%	115	▼ 35.0%	205	▲ 78.3%	132	▼ 35.6%
China	All	48	▲ 41.2%	759	▲ 1481.3%	1,072	▲ 41.2%	1,551	▲ 44.7%	901	▼ 41.9%	677	▼ 24.9%	1,263	▲ 86.6%
Malaysia	All	117	▼ 44.8%	185	▲ 58.1%	204	▲ 10.3%	97	▼ 52.5%	312	▲ 221.6%	174	▼ 44.2%	196	▲ 12.6%
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						25						100	
Total		3,447	▼ 16.7%	6,481	▲ 88.0%	5,869	▼ 9.4%	5,240	▼ 10.7%	6,236	▲ 19.0%	6,479	▲ 3.9%	6,131	▼ 5.4%

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 14.8 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 Q2 '23 year-over-year. Japan is Myanmar's largest market, followed by Thailand and South Korea.

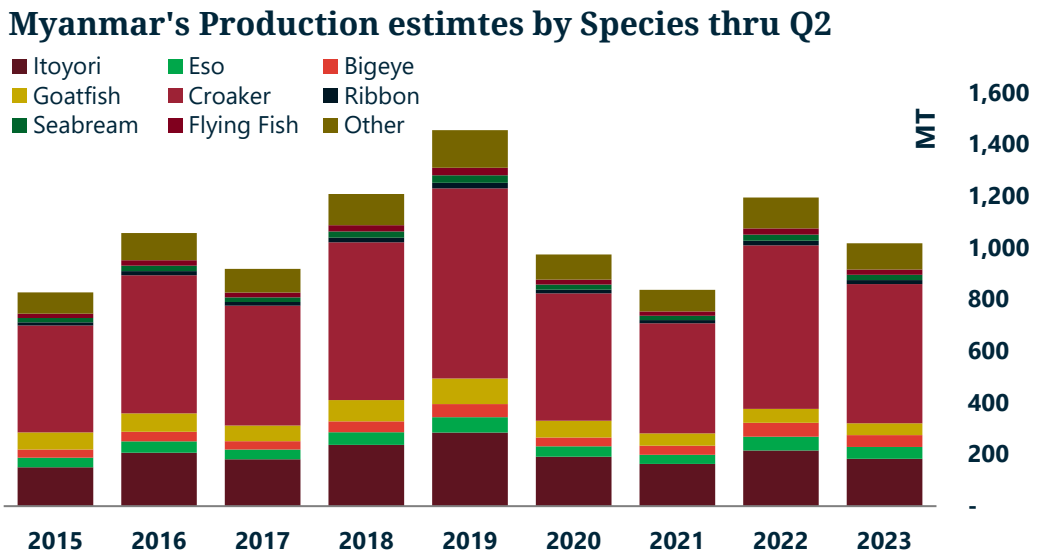

Figure 37. Yearly estimates of Myanmar's surimi production by species.

Myanmar's Production estimtes by Species thru Q2

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	150	38	31	67	414	12	17	17	83	827
2016	206	44	37	71	534	16	21	21	106	1,057
2017	181	38	32	60	464	14	18	18	92	918
2018	237	49	42	82	611	18	24	24	121	1,208
2019	285	59	50	99	736	22	29	29	146	1,455
2020	191	41	34	65	493	15	19	19	97	974
2021	163	35	35	48	426	13	17	17	84	837
2022	215	54	54	54	633	18	24	24	119	1,194
2023	183	46	46	46	539	15	20	20	102	1,017

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 Q2

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	8		57	▲ 612.5%	33	▼ 42.1%	29	▼ 12.1%	8	▼ 72.4%	39	▲ 387.5%	38	▼ 2.6%
	Itoyori	305	▼ 47.8%	285	▼ 6.6%	468	▲ 64.2%	198	▼ 57.7%	224	▲ 13.1%	189	▼ 15.6%	76	▼ 59.8%
	Other	167	▼ 58.3%	303	▲ 81.4%	288	▼ 5.0%	195	▼ 32.3%	178	▼ 8.7%	287	▲ 61.2%	194	▼ 32.4%
S. Korea	All	242	▼ 72.0%	384	▲ 58.7%	283	▼ 26.3%	342	▲ 20.8%	77	▼ 77.5%	77	▲ 0.0%	133	▲ 72.7%
Thailand	All	111	▼ 15.3%	95	▼ 14.4%	252	▲ 165.3%	38	▼ 84.9%	19	▼ 50.0%	224	▲ 1078.9%	118	▼ 47.3%
	Other									211				46	
Taiwan	All			45		62	▲ 37.8%	133	▲ 114.5%	95	▼ 28.6%	340	▲ 257.9%	174	▼ 48.8%
China	All	28		19	▼ 32.1%	50	▲ 163.2%					25		25	▲ 0.0%
Malaysia	All	26	▼ 66.7%			9		26	▲ 188.9%	7	▼ 73.1%			19	
Other		31	▲ 40.9%	20	▼ 35.5%	10	▼ 50.0%	13	▲ 30.0%	18	▲ 38.5%	13	▼ 27.8%	194	▲ 1392.3%
Total		918	▼ 55.8%	1,208	▲ 31.6%	1,455	▲ 20.4%	974	▼ 33.1%	837	▼ 14.1%	1,194	▲ 42.7%	1,017	▼ 14.8%

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 increased considerably year-over-year through Q2 '23 from 192 to 264 metric tons. Such an increase departs from the downward linear trend observed over the last three years. However, "other" and "all" surimi imported from Peru show an upward trend. Meanwhile, "sardine" and "other" surimi imports from all countries have declined since 2019.

Japan importing Sardine, Other surimi from Peru

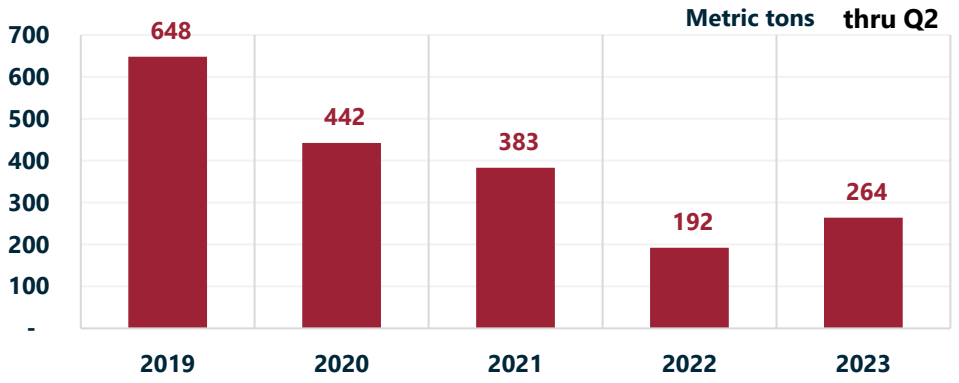

Figure 38. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting

Japan importing Sardine, Other surimi from Peru

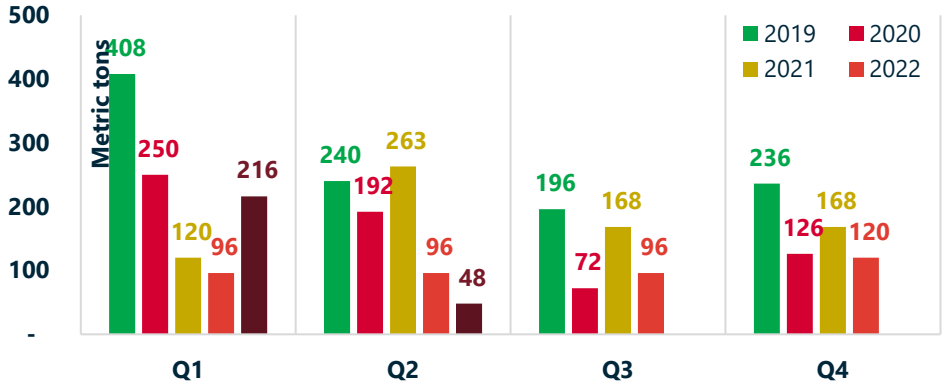

Table 39. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting. *Q2 is incomplete

Sardine surimi, to Japan, Q1 to Q2

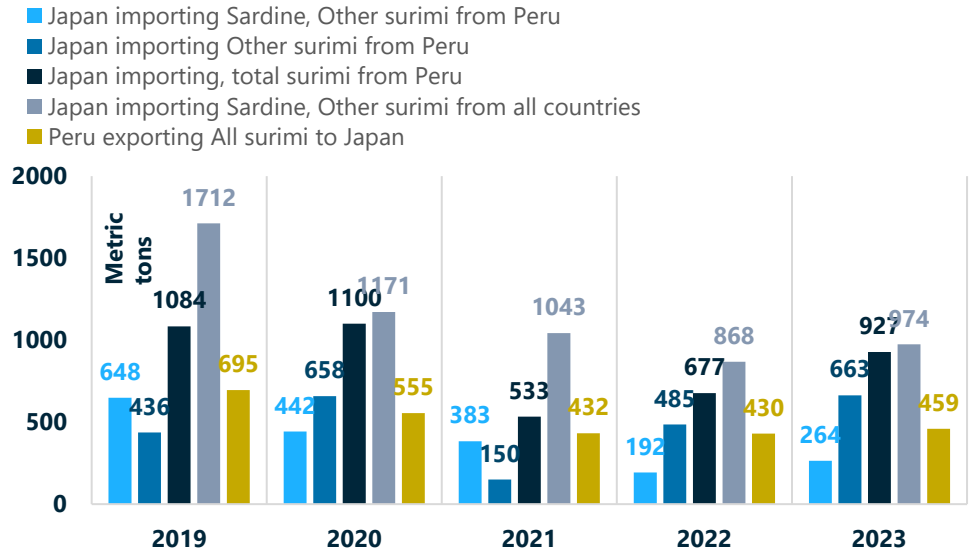

Figure 40. Japanese imports of sardine surimi from Peru, and Peruvian exports of surimi to Japan Source: Japan's customs, Peru's customs, UB Consulting

China, Surimi Production Estimates and Trade

Although we could make some 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 remained flat at 0.8 percent above last year's levels through Q2 '23. Tropical surimi production estimates suggest an increase of roughly ~3 percent through Q2 '23 compared to last year, while carp estimates show a decrease of nearly 3 percent during the same period.

Japanese imports of Chinese surimi continued to decrease through Q2 and are now ~25 percent below year-ago levels through Q2 '23.

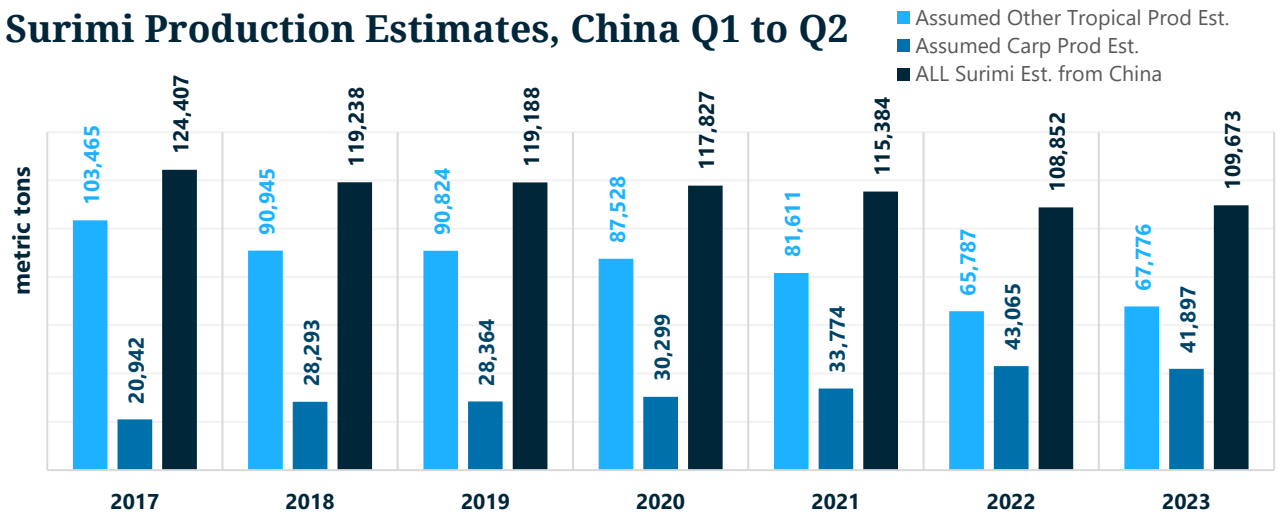

Figure 41. Production estimates of Chinese surimi. Source: Customs, UB Consulting.

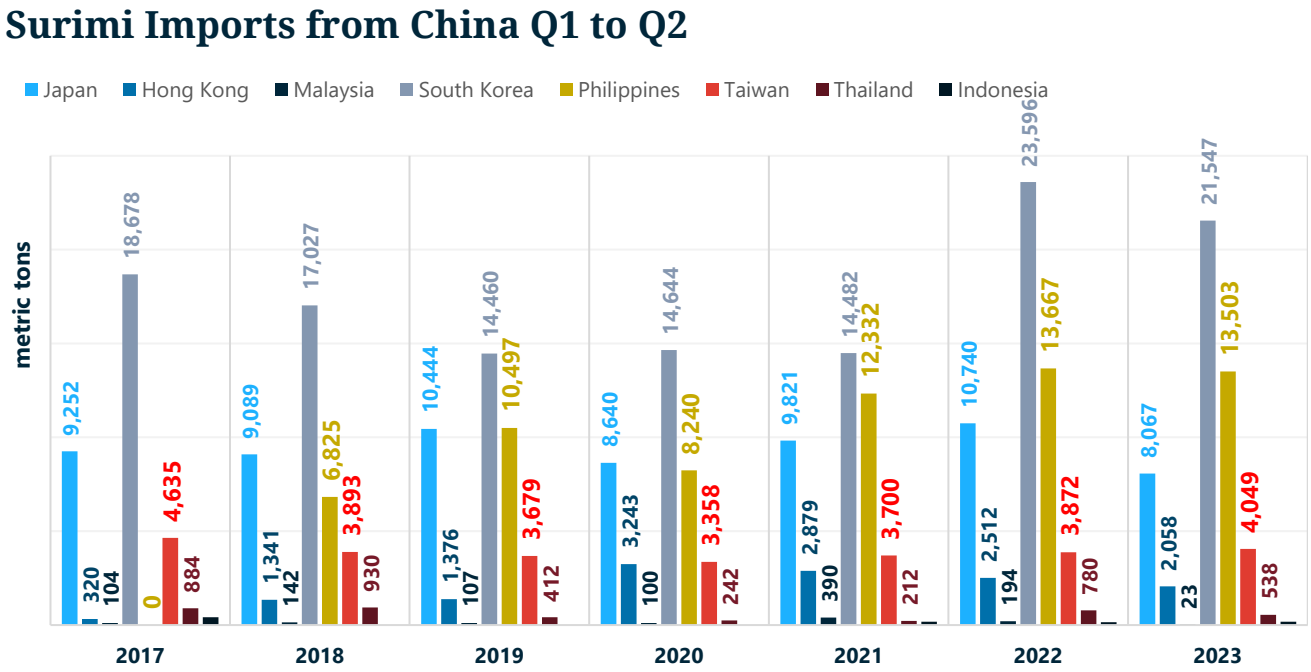

Figure 42. Countries declaring imports of Chinese surimi. Source: Customs, UB Consulting.

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 10 percent more pollock surimi through Q2 '23 year-over-year. In Q2 alone, production/trade increased by 60 percent, from 3.2 thousand metric tons in 2022 to 5.1 thousand metric tons in 2023. Japanese imports, however, are down 14 percent through Q2 '23 compared to last year, but **Q2 alone registered a 26 percent increase.**

We will continue to follow these figures closely.

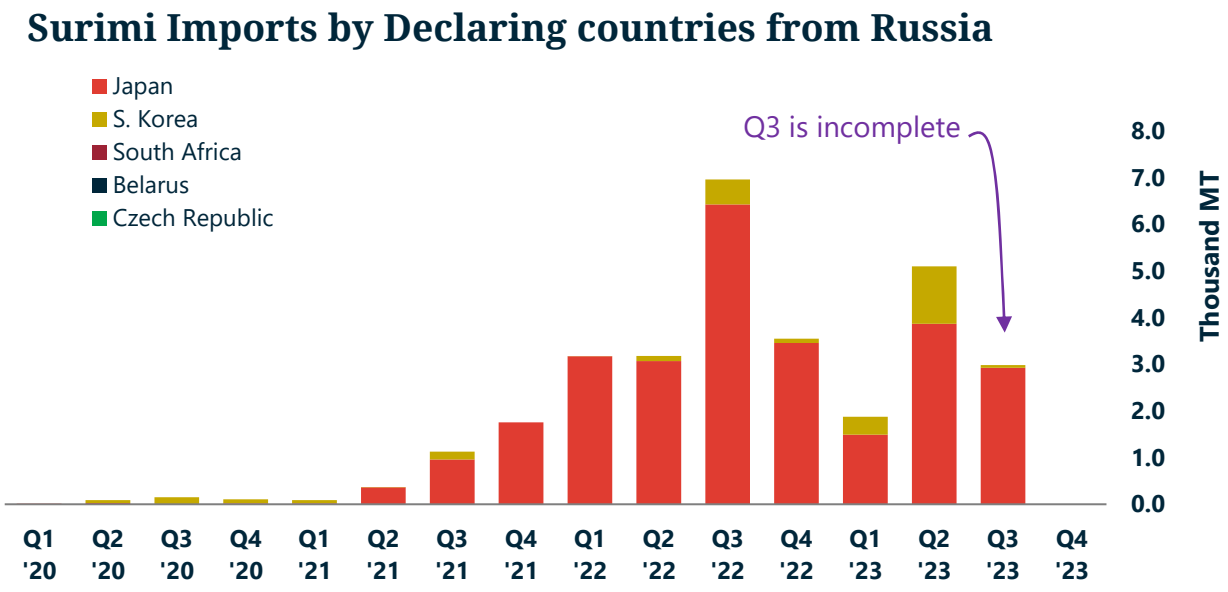

Figure 43. Production estimates of Russian pollock surimi and countries declaring imports. Source: Customs, UB Consulting. *Q3 is incomplete

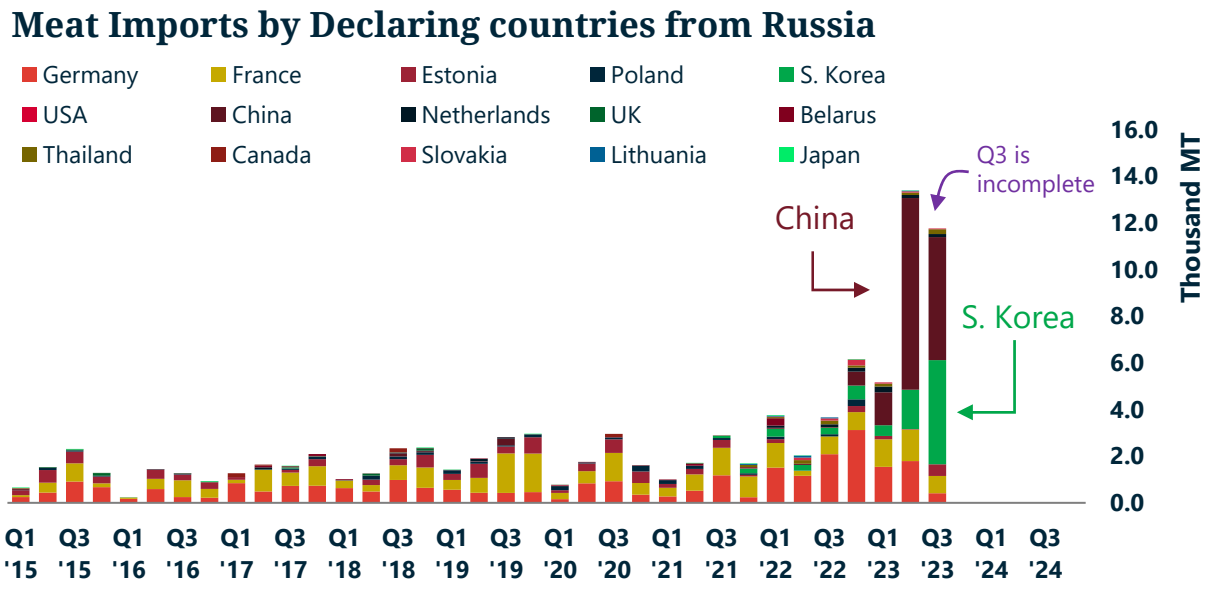

Figure 44. Countries declaring imports of Russian pollock meat (minced or not). Source: Customs, UB Consulting. *Q3 is incomplete

Continued from page 1 ... Our estimates of carp surimi production through Q2 2023 revealed a ~4 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 Q2 and preliminary data from Q3. Tropical surimi production estimates suggest a significant contraction of roughly 10 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 22 percent year-over-year through Q2. However, preliminary data through Q3 suggests surimi production estimates through Q3 will experience an even larger decrease; still, those estimates will most likely place total production in 2023 back to the levels seen before the increases in 2021 and 2022. In our last two 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 during Q2 2023 suggest a year-over-year increase of about 10 percent. However, we must consider that overall inventory data is not available and difficult to estimate, and as such, some of these figures could be understated at any particular time

Continued from page 7 – Tom Asakawa...

Also noteworthy is the dramatic increase in Russian surimi, ranked 6th. Alaska pollock surimi accounted for the entire amount, increasing 5.2 times to 16,116 tons. The presence of the country as a new surimi producer is increasing. According to a Hokkaido Trawl Fisheries Cooperative Federation report, Russia's Alaska Pollack fishery has adopted a high-level processing strategy. By 2022, the production of frozen surimi, used as a raw material for crab sticks, will increase three to four times the previous year's level. Until mid-November 2021, it produced 24,000 tons of frozen Alaska pollack surimi, four times that of the same period a year ago, of which 14,000 tons was offshore production. It was expected to reach a maximum of 28,000 in 2021, up from 8,000 tons a year ago.

In 2021, the super trawler Vladimir Limanov, belonging to the Russian Fishing Company, began production of offshore surimi, and the Shikotan Island Krabozavodsk plant, which is affiliated with Gidrostroy, a Sakhalin fishery group, began production of onshore surimi. Gidrostroy also remodeled the trawler Aleksandr Kosarev and Pavel Kutakhov to install a production line and start offshore surveillance production. In October 2022, the super trawler Kapitan Budvichenko, owned by the Russian Fishing Company, began trial fishing in the North Kuril waters. People concerned point out that Russian fisheries must compete with the United States for the Japanese market. The current production of 28,000 tons is enough to meet the demand of Russian surimi product manufacturers and to export the surplus abroad. The production could reach 50,000 tons in the next three years.
The trend of decreasing surimi production in the United States over the past few years created an excellent opportunity for Russia to enter the Japanese market. Experts analyze that the Japanese market is experiencing a decline in consumption of surimi products due to rising product prices associated with the yen's depreciation against the dollar.

Surimi products

According to the Ministry of Agriculture, Forestry, and Fisheries, the 2022 production volume of surimi products was 471,382 tons, a decrease of 4.7% compared to the previous year.
Kamaboko News reported the decline because consumers were reluctant to accept product prices raised twice yearly due to increased expenses such as raw materials, auxiliary materials, transportation, and electricity charges. Consumers' wallets were tightened due to the rise in consumer prices.

Tourist spots in various places that are popular with inbound tourists

The number of foreign tourists is becoming more noticeable, and with the lifting of the ban on group tours in China, the number of tourists visiting Japan is only increasing. Foreign tourists are flocking to all tourist spots in Tokyo, Hokkaido, Kyoto, Kamakura, and Hiroshima, which are exceptionally crowded with inbound tourists. Many surimi product manufacturers are picking up business, but some are concerned with labor shortages, fish resources, a high surimi price, and high salt, seasonings, and packaging materials costs.

Notices, Disclaimers, and more

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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.

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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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Angel Rubio, Economist
arubio@urnerbarry.com

Andrei Rjedkin, Jr. Economist
arjedkin@urnerbarry.com

Chris Ashley, Senior VP
cashley@urnerbarry.com