

Surimi Paste Supply Track Executive Summary, Q4 2023

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



Highlights

- Global surimi production estimates suggest overall volumes increased by ~1.4 percent in 2023 compared to 2022.
- Alaska Pollock production increased by 21 percent year-over-year in 2023 but has contracted by about ~12 percent through week 15 in 2024.
- According to a recent press release, Russian pollock surimi production increased substantially from ~21 to 54 thousand metric tons.
 - **We imputed previous values by using total figures recently published and applied an estimated seasonal factor.**
- Japanese pollock surimi production estimates suggest a steep decline of 28 percent in 2023.
 - **Please read Tom Asakawa's commentary on the Japanese surimi market (paste and products).**
- Itoyori surimi production estimates suggest a 25 percent decrease in 2023 but remain above the levels seen before 2022.
- Carp surimi production estimates suggest a decrease of about 14 in 2023.
- Overall, pricing of the main benchmark species, like Alaska Pollock and Itoyori surimi, to the main markets showed considerable decreases in Q3 and Q4, with partial data for Q1 '24 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 and revised Malaysian and Chinese production and trade.

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Contrary to expectations, global surimi production estimates increased in 2023 compared to 2022. Such increase was mild at roughly ~1.4 percent, led by Alaska Pollock from the US and Russia.

In our last edition of this report, we corrected Russian pollock surimi from using trade figures as a proxy to figures reported publicly by trade associations and producers. Still, we added trade figures from reporting countries from Russia since export figures from the latter have not been publicly available since early 2022. Production figures were recalculated from recently published data (see page 23) by Russian authorities, and applied an estimated seasonal factor relative to trade behavior; the latter was lagged to match the Russian catch season. These numbers may continue to be volatile as Russia ramps up its production. Regarding trade, Japan, South Korea, France, and China are the main markets. ago. (continued on page 24)

Global Surimi Production Estimates by Category

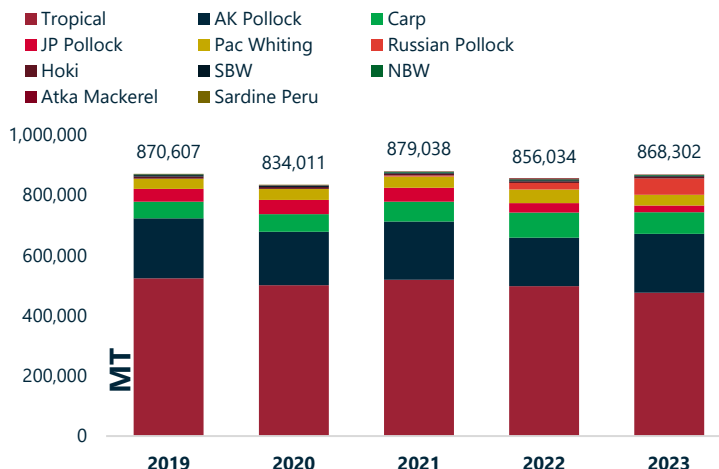


Figure 0. Overall surimi production estimates by species' category. Source: Customs, Urner Barry Consulting, GAPP.

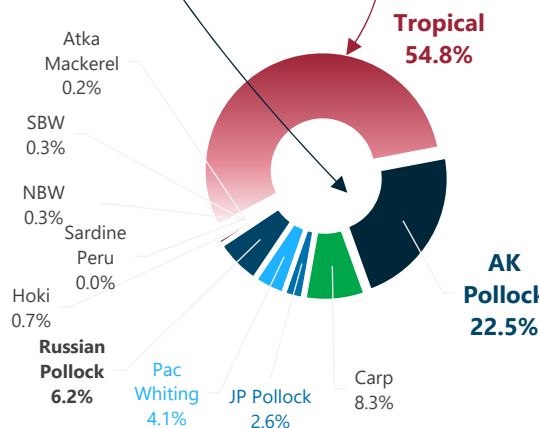
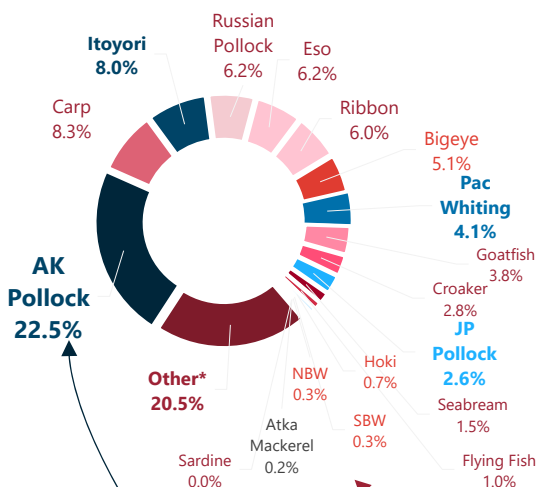


Figure 1 and 2. Pie chart of world surimi production by species and category. Source: Urner Barry Consulting, GAPP.

	2019	2020	Y-o-Y % Chg	2021	Y-o-Y % Chg	2022	Y-o-Y % Chg	2023	Y-o-Y % Chg
AK Pollock	199,451	177,141	-11.2%	193,688	+9.3%	161,297	-16.7%	195,107	+21.0%
Carp	55,042	58,797	+6.8%	65,539	+11.5%	83,568	+27.5%	71,954	-13.9%
Itoyori	68,143	64,033	-6.0%	81,246	+26.9%	92,665	+14.1%	69,437	-25.1%
Russian Pollock	354	348	-1.7%	3,766	+982.7%	21,600	+473.5%	54,000	+150.0%
Eso	66,468	56,408	-15.1%	55,868	-1.0%	56,476	+1.1%	53,482	-5.3%
Ribbon	57,900	60,431	+4.4%	56,987	-5.7%	57,125	+0.2%	52,365	-8.3%
Bigeye	41,564	39,101	-5.9%	43,942	+12.4%	49,461	+12.6%	44,224	-10.6%
Pac Whiting	33,341	36,354	+9.0%	37,349	+2.7%	45,594	+22.1%	35,916	-21.2%
Goatfish	18,163	18,430	+1.5%	27,924	+51.5%	29,968	+7.3%	33,170	+10.7%
Croaker	32,689	34,397	+5.2%	31,670	-7.9%	32,395	+2.3%	23,905	-26.2%
JP Pollock	42,620	46,981	+10.2%	46,274	-1.5%	30,903	-33.2%	22,179	-28.2%
Seabream	18,270	16,345	-10.5%	20,226	+23.7%	16,088	-20.5%	12,940	-19.6%
Flying Fish	14,210	12,915	-9.1%	15,384	+19.1%	12,357	-19.7%	8,664	-29.9%
Hoki	7,252	6,379	-12.0%	5,612	-12.0%	5,280	-5.9%	6,089	+15.3%
SBW	4,414	3,609	-18.3%	3,484	-3.5%	3,755	+7.8%	2,927	-22.1%
NBW	2,764	1,865	-32.5%	2,994	+60.5%	3,152	+5.3%	2,627	-16.7%
Atka Mackerel	817	1,110	+35.9%	1,163	+4.8%	3,330	+186.4%	1,372	-58.8%
Sardine	1,080	640	-40.7%	719	+12.3%	408	-43.3%	336	-17.6%
Other*	206,065	198,728	-3.6%	185,203	-6.8%	150,611	-18.7%	177,608	+17.9%
Total	870,607	834,011	-4.2%	879,038	+5.4%	856,034	-2.6%	868,302	+1.4%

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	523,473	500,788	-4.3%	518,450	+3.5%	497,146	-4.1%	475,795	-4.3%
AK Pollock	199,451	177,141	-11.2%	193,688	+9.3%	161,297	-16.7%	195,107	+21.0%
Carp	55,042	58,797	+6.8%	65,539	+11.5%	83,568	+27.5%	71,954	-13.9%
JP Pollock	42,620	46,981	+10.2%	46,274	-1.5%	30,903	-33.2%	22,179	-28.2%
Pac Whiting	33,341	36,354	+9.0%	37,349	+2.7%	45,594	+22.1%	35,916	-21.2%
Russian Pollock	354	348	-1.7%	3,766	+982.7%	21,600	+473.5%	54,000	+150.0%
Hoki	7,252	6,379	-12.0%	5,612	-12.0%	5,280	-5.9%	6,089	+15.3%
SBW	4,414	3,609	-18.3%	3,484	-3.5%	3,755	+7.8%	2,927	-22.1%
NBW	2,764	1,865	-32.5%	2,994	+60.5%	3,152	+5.3%	2,627	-16.7%
Atka Mackerel	817	1,110	+35.9%	1,163	+4.8%	3,330	+186.4%	1,372	-58.8%
Sardine Peru	1,080	640	-40.7%	719	+12.3%	408	-43.3%	336	-17.6%
Total	870,607	834,011	-4.2%	879,038	+5.4%	856,034	-2.6%	868,302	+1.4%

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 for 2023. This increase places production figures at the highest point since 2019 at about 195 thousand metric tons, 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. Preliminary data through Q1 and week 15 point to production decreasing by ~15 and ~13 percent, respectively, at roughly ~65 and ~74 thousand metric tons. These figures in 2024 resemble figures from 2022.

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

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

US Production

Alaska Pollock Surimi

■ 2021
■ 2022
■ 2023
■ 2024
■ 3 yr avg

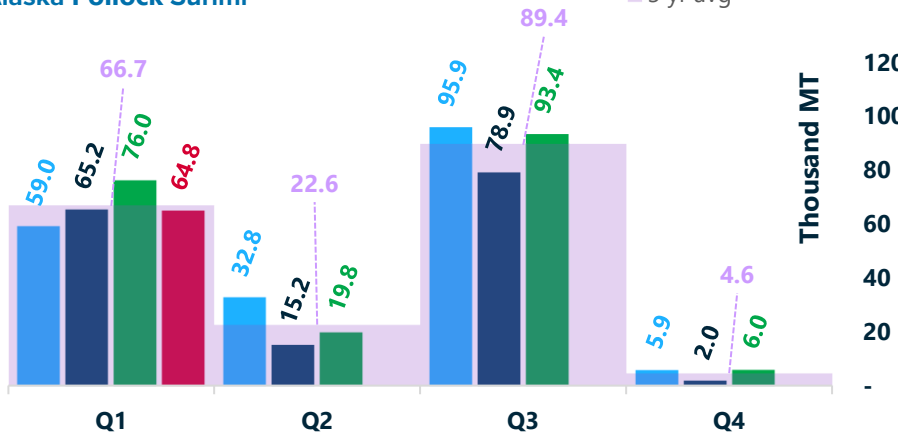


Figure 3. Alaska Pollock Surimi Production by Quarter. Source: NOAA, Uner Barry.

Alaska Pollock Surimi from week 1 to week 15

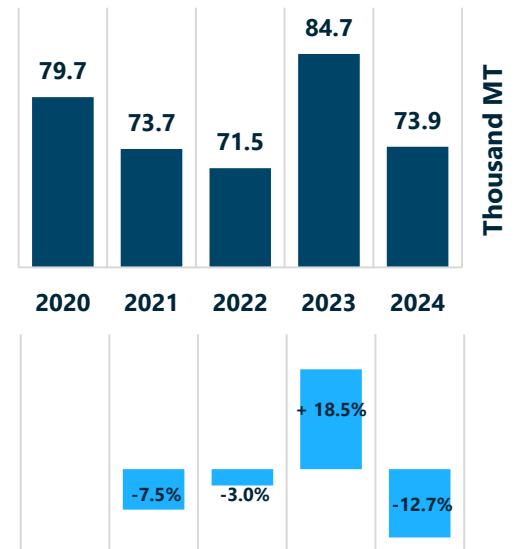


Figure 4.1 Alaska Pollock Surimi Production and YTD through week 15. Source: NOAA Fisheries, Uner Barry Consulting.

US Production

Alaska Pollock Surimi

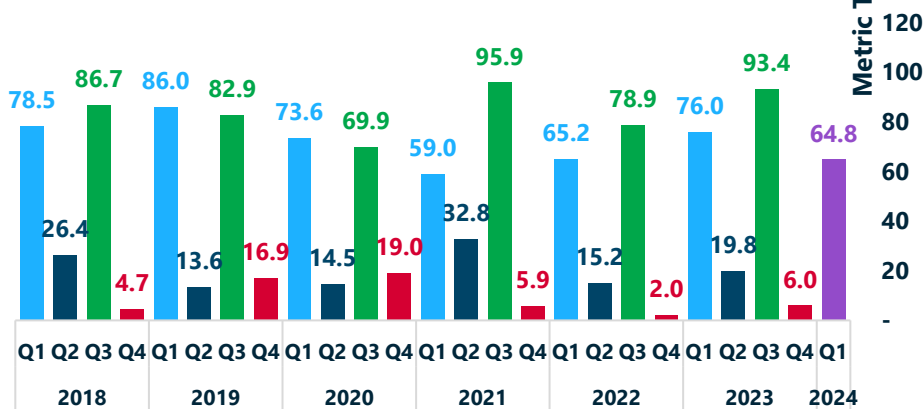


Figure 5. Alaska Pollock Surimi Production by Quarter, linear. Source: NOAA Fisheries, Uner Barry.

Alaska Pollock Surimi Trade (Imports)



Alaska Pollock Surimi Trade Imports

Countries declaring imports of AKP surimi from the US suggest a considerable increase from Q4 a year ago, helping trade figures end roughly 10 percent above 2022. The leading destination, Japan, reported an increase of about ~28 percent compared to 2022, to about ~97.5 thousand metric tons imported in 2023. However, South Korea, France, and Lithuania all contracted year-over-year. However, despite these markets falling, overall volumes increased, led by the abovementioned increase in Japan.

Alaska Pollock Surimi Imports		*YTD from (Q1 to Q4)						
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%	49,116	+ 54.7%
Total		145,992	153,833	+ 5.4%	130,377	-15.2%	143,638	+ 10.2%
*YTD		145,992	153,833	+ 5.4%	130,377	-15.2%	143,638	+ 10.2%

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

Alaska Pollock Surimi Imports

All Countries

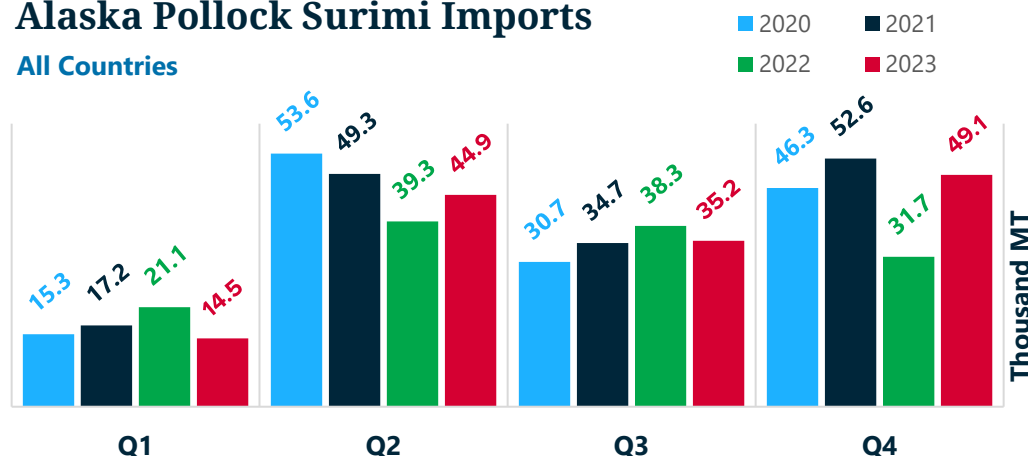


Figure 6. Alaska Pollock Surimi Imports. Aggregate of declaring countries by quarter.

Alaska Pollock Surimi Imports		(Q1 to Q4)						
By Declaring Country through Q4		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan		83,719	92,104	+ 10.0%	76,114	-17.4%	97,470	+ 28.1%
S. Korea		22,730	24,006	+ 5.6%	21,627	-9.9%	16,827	-22.2%
France		17,954	17,650	-1.7%	17,515	-0.8%	13,231	-24.5%
Lithuania		5,941	6,840	+ 15.1%	5,489	-19.8%	4,925	-10.3%
Thailand		4,816	3,187	-33.8%	3,922	+ 23.1%	3,438	-12.3%
Spain		6,040	5,731	-5.1%	3,126	-45.5%	4,638	+ 48.4%
Taiwan		2,126	1,732	-18.5%	1,230	-29.0%	2,168	+ 76.3%
Poland		897	1,184	+ 32.0%	819	-30.8%	590	-28.0%
Belarus		1,315	1,063	-19.2%	297	-72.1%	81	+ 1.3%
Norway		176	276	+ 56.8%	158	-42.8%	270	+ 70.9%
Ukraine		278	60	-78.4%	80	+ 33.3%	81	+ 1.3%
Total		145,992	153,833	+ 5.4%	130,377	-15.2%	143,638	+ 10.2%

Table 5. Alaska Pollock Surimi Imports by declaring country.

Alaska Pollock Surimi Imports By Declaring Country through Q4

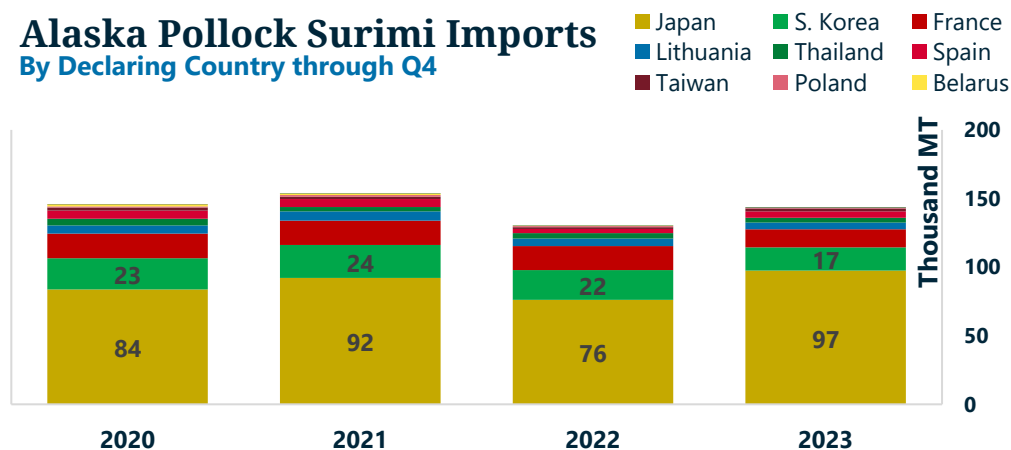


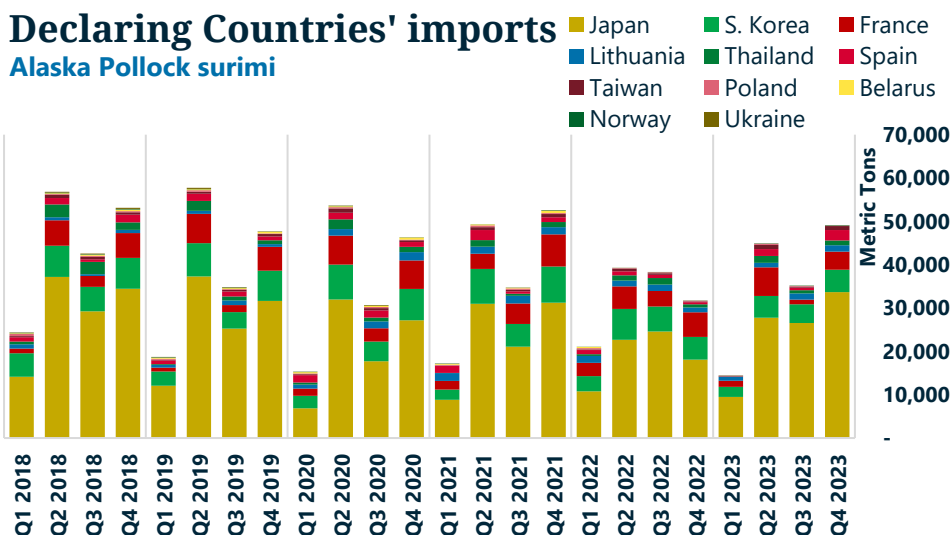
Figure 7. Alaska Pollock Surimi Imports by declaring country.

Alaska Pollock Surimi Trade (Imports), cont.



Declaring Countries' imports

Alaska Pollock surimi



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 Q4 '23 and Q1 '24 using incomplete data for Q1 '24.

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

Declaring Countries' imports vs. U.S. Exports

Alaska Pollock surimi Imports Exports

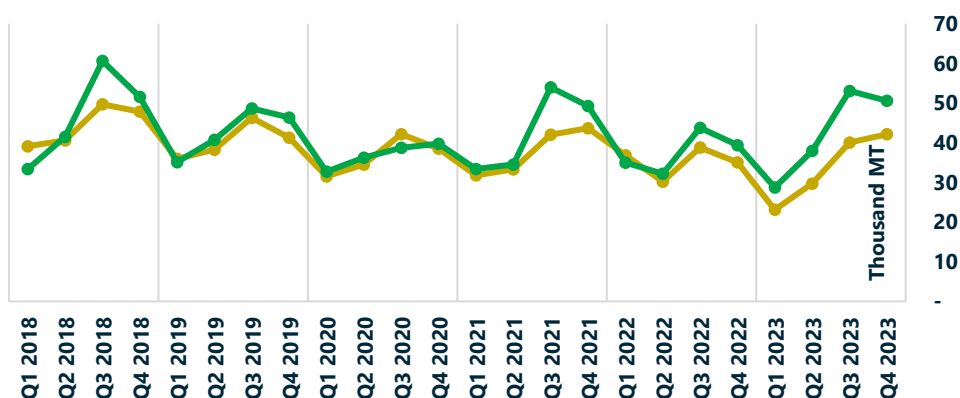


Figure 9. Alaska Pollock Surimi Imports vs. U.S. Alaska Pollock Surimi Exports. Smoothed average. *Q4 data is incomplete

Declaring Countries' imports

Alaska Pollock surimi

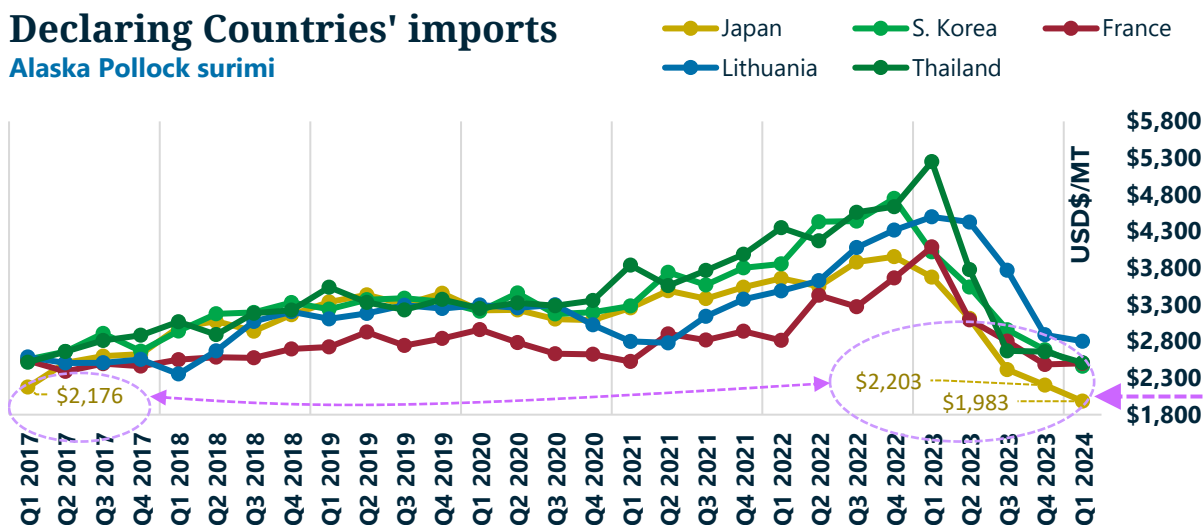


Figure 10. Alaska Pollock Surimi Import Price per MT by declaring country. Q4 '23 data is incomplete.

Alaska Pollock Surimi Trade (U.S. Exports)



Alaska Pollock Exports

U.S. customs export figures revealed a ~24 percent increase year-over-year in 2023. Although export and declaring country import figures differ, exports to Japan and South Korea increased considerably year-over-year. Although most shipments to most large destinations increased, volumes to Spain increased considerably from significant contractions experienced in 2021 and 2022.

U.S. Alaska Pollock All Countries

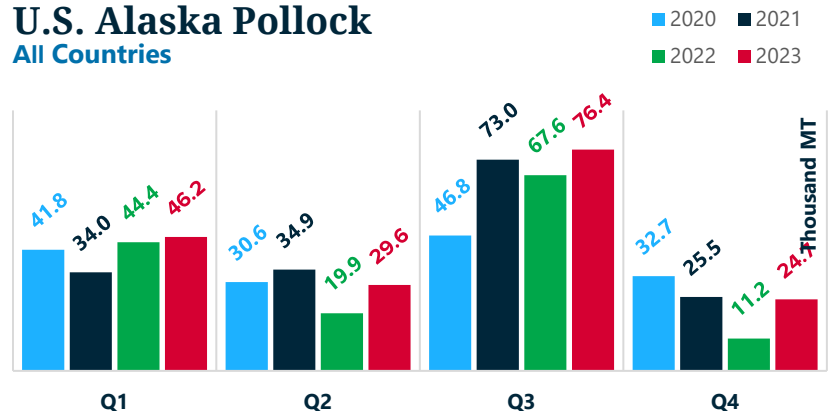


Figure 11. Alaska Pollock Surimi Exports. Aggregate of destination countries by quarter. *Q4 is incomplete

U.S. Alaska Pollock Surimi Exports By Declaring Country through Q3

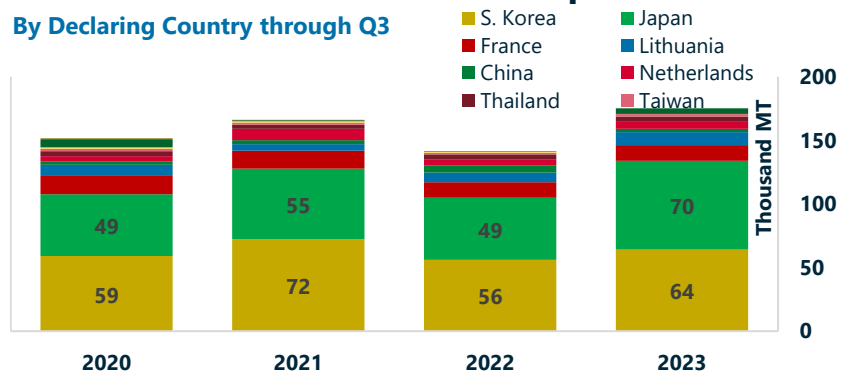


Figure 12. Alaska Pollock Surimi Exports by destination country.

U.S. Alaska Pollock Surimi Exports		*YTD from (Q1 to Q4)						
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%	24,695	+121.3%
Total		151,900	167,432	+10.2%	143,060	-14.6%	177,009	+23.7%
*YTD		151,900	167,432	+10.2%	143,060	-14.6%	177,009	+23.7%

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

U.S. Alaska Pollock Surimi Exports		(Q1 to Q4)						
By Declaring Country through Q4		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
S. Korea		59,000	72,199	+22.4%	56,063	-22.3%	64,107	+14.3%
Japan		48,547	55,481	+14.3%	48,783	-12.1%	69,730	+42.9%
France		15,007	14,088	-6.1%	12,139	-13.8%	12,379	+2.0%
Lithuania		8,141	5,193	-36.2%	7,596	+46.3%	10,143	+33.5%
China		2,791	3,035	+8.7%	5,771	+90.1%	2,681	-53.5%
Netherlands		3,966	9,007	+127.1%	4,392	-51.2%	5,940	+35.2%
Thailand		3,907	3,074	-21.3%	4,184	+36.1%	3,511	-16.1%
Taiwan		2,013	1,837	-8.7%	1,355	-26.2%	2,096	+54.7%
India		1,049	941	-10.3%	630	-33.0%	23	-96.3%
Spain		5,794	790	-86.4%	346	-56.2%	4,478	+1194.2%
Germany		1,174	400	-65.9%	95	-76.3%		
Total		151,900	167,432	+10.2%	143,060	-14.6%	177,009	+23.7%

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

Japanese Pollock

Japanese pollock surimi production estimates contracted significantly again in Q4 '23 by about 29 percent year-over-year. On a year-to-date basis, production estimates are down by about 9 thousand metric tons or 28 percent. Inventories as of November 2023 ranked the highest since at least 2018, with Alaska Pollock surimi inventory at a record high in December 2023.

Atka Mackerel

Production estimates of Atka Mackerel surimi dropped to 64 metric tons in Q4, bringing the overall figure through Q4 down to about 1,372 metric tons from 3,330 a year ago. This drop represents a massive decrease of about ~60 percent year-over-year.

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 was 258,675 MT, as revised in June 2023. The JFY 2024 TAC is set at 271,900 MT, up 5.1%.

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. As of this writing, 2023 official catch data is yet to be announced.

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 12,397 tons of Russian pollock surimi, which decreased by 23% from 16,116 tons in 2022.

Japanese Pollock Surimi Production

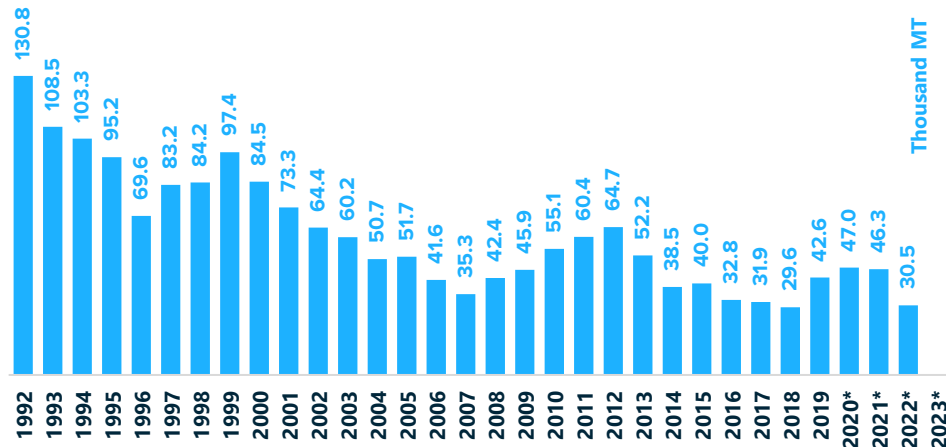


Figure 13. Japanese surimi production estimates. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News. Urner Barry Consulting

Japanese Pollock Surimi Production

TOTAL ESTIMATE

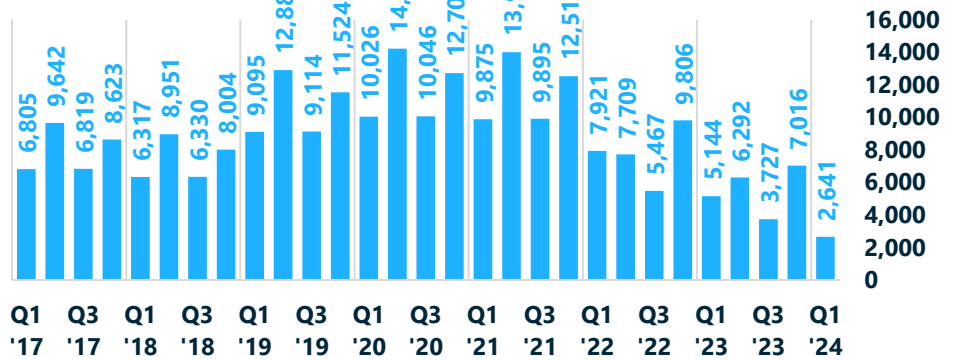


Figure 14. Japanese pollock surimi production estimates. Source: UB Consulting, Tom Asakawa, TA Pacific Co., and Kambako News.

All Surimi Inventory, Japan

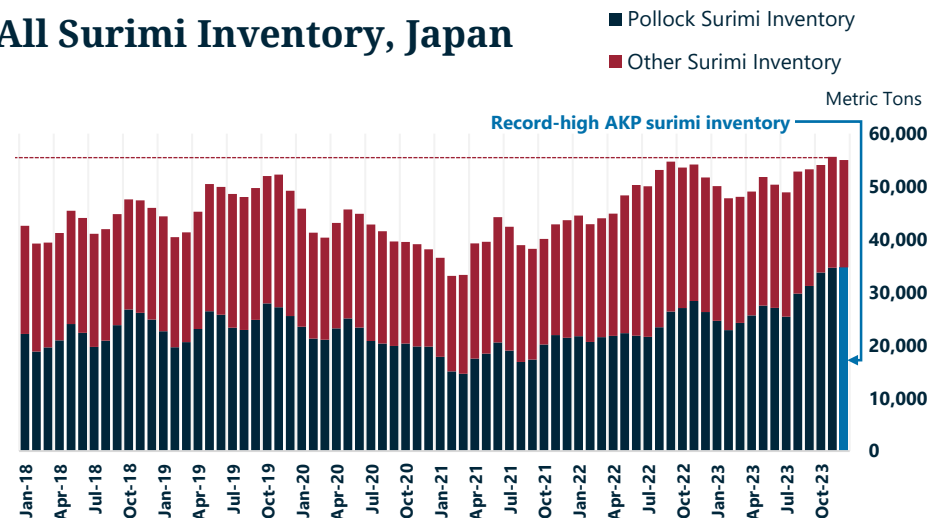


Figure 15. All surimi inventory in Japan. Tom Asakawa, TA Pacific Co., Japan MOF. Urner Barry. Monthly through July 2023.

Hokkaido Surimi Production

The National Surimi Association, comprised of five manufacturers, announced on January 25 a summary of members' reports: The production volume of surimi in Hokkaido in 2023 was 7,103 tons, down by 30% compared to the same month of the previous year. The breakdown was 6,272 tons of pollock surimi, an increase of 9%, and zero tons of Atka mackerel surimi, compared with 17 tons a year ago.

Surimi paste imports

Minato Shimbun reported that the amount of frozen surimi imported in 2023 was 217,162 tons, down 4% from the previous year and the third lowest in the past ten years, after 2020 and 2021. It is because imports from countries other than the United States, the largest producer, have fallen. Of these, the import volume of pollack surimi, which had the most significant volume by species, increased by 28% to 97,469 tons as the United States increased its Total Allowable Catch.

The volume of surimi imported exceeded the 100,000-ton mark for six consecutive years from 2014 to 2019. Although the number in 2023 was higher than the previous year, it was still a 25% decrease compared to 2017, which was the peak in recent years. Meanwhile, pollock surimi from Russia decreased by 23% to 12,397 tons.

The import volume of Itoyori surimi decreased across the board from all countries, and the total amount decreased by 37% to 14,774 tons, updated at a record low. The level is only one-fifth of its peak in 2002. By country, India, the largest producer of Itoyori surimi, saw a 30% decrease to 5,383 tons, Thailand decreased by 28% to 5,017 tons, and Vietnam decreased by 37% to 3,320 tons. Total surimi imports from India, including those other than Itoyori, decreased by 5% to 44,748 tons. By country, it was the second largest number after the United States.

Surimi products

According to the Food Marketing Research and Information Center, the national production of surimi products in 2023 was 461,711 tons, an increase of 11.8% compared to

Atka Mackerel Surimi

TOTAL ESTIMATE

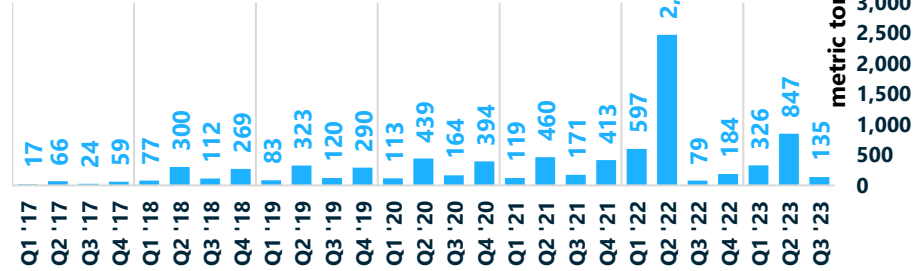


Figure 16. Japanese Atka Mackerel Harvest. FAO, Japan MOF, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

Atka Mackerel Surimi Production

TOTAL ESTIMATE

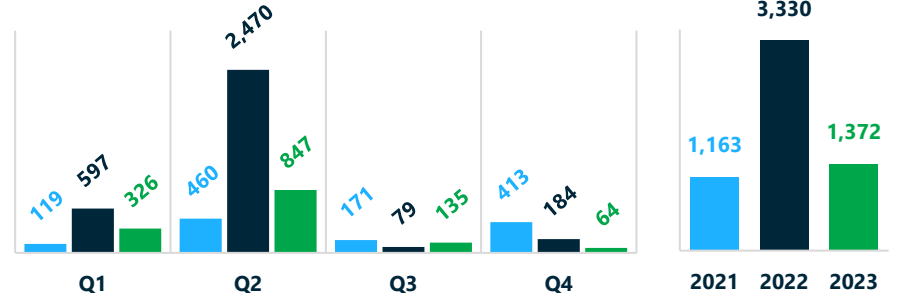


Figure 17. Hokkaido, Atka Mackerel surimi production, Tom Asakawa, TA Pacific Co., and Kambako News, Urner Barry.

a year ago. It was shy of 2015 production (470,539 tons) but above 2016 when production started to fall below the 450,000-ton level.

Monthly productions from October through December in 2023, targeting the year-end sales season, exceeded the same months of 2022. The three-month total was 128,701 tons, up 10% from 117,059 in 2022.

Looking at the breakdown of each product, only pre-packaged kamaboko (hoso-kamaboko) saw a decline by 4.6% to 10,795 tons in 2023, a three-year consecutive decrease falling below the 14,000-ton level since 2021. Other four items increased by more than 10%: the other surimi products category increased by 21.0% to 121,029 tons; authentic ita-kamaboko increased by 3.8% to 47,729 tons; fried kamaboko increased by 11.2% to 176,343 tons, naruto/hanpen by 12.0% to 36,593 tons; and chikuwa, which also maintaining increased production by 3.9% to 66,737 tons.

Household Spending Survey for 2023

According to the Ministry of Internal Affairs and Communications, household spending on surimi products increased by 2.3% to 9,115 yen (\$58.96). It has exceeded 9,000 yen (\$58.22) for the first time in eight years. The amount for each item exceeded the previous year, with fried kamaboko increasing by 1.3% to 2,347 yen (\$15.18), chikuwa increasing by 6.4% to 1,981 yen (\$12.81), kamaboko increasing by 1.2% to 3,212 yen (\$20.77), and other surimi products rose 1.1% to 1,574 yen (\$10.18).

(Continued on page 24)

Pacific Whiting Surimi



Production estimates of Pacific Whiting surimi show a significant decrease from year-ago levels but depict a regression to what had been historically "normal" when excluding 2022. Our estimates suggest 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

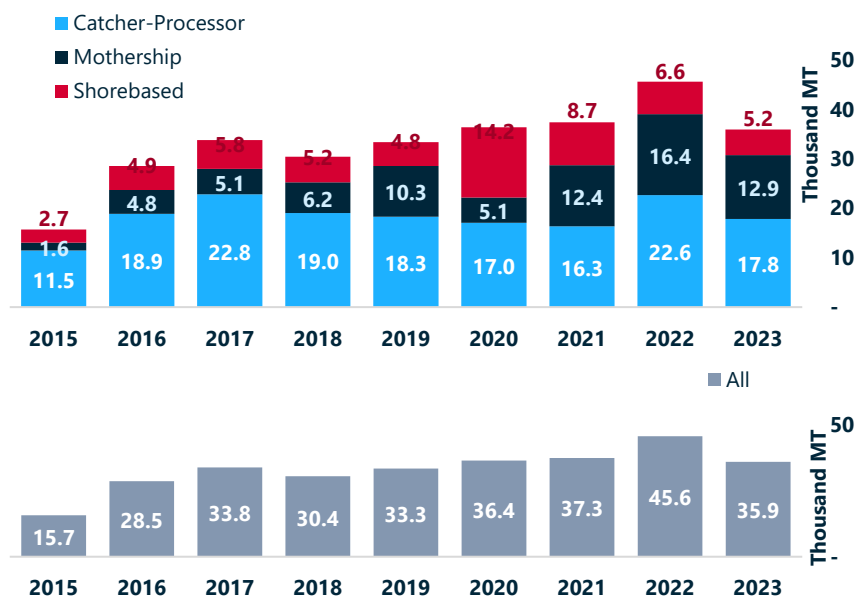


Figure 18. Pacific Whiting Surimi Production. NOAA Fisheries, Northwest Fisheries Science Center, and UB Consulting estimates for *2020, *2021, *2022, and *2023.

PW Surimi Production Estimate

PW Surimi Production Estimate

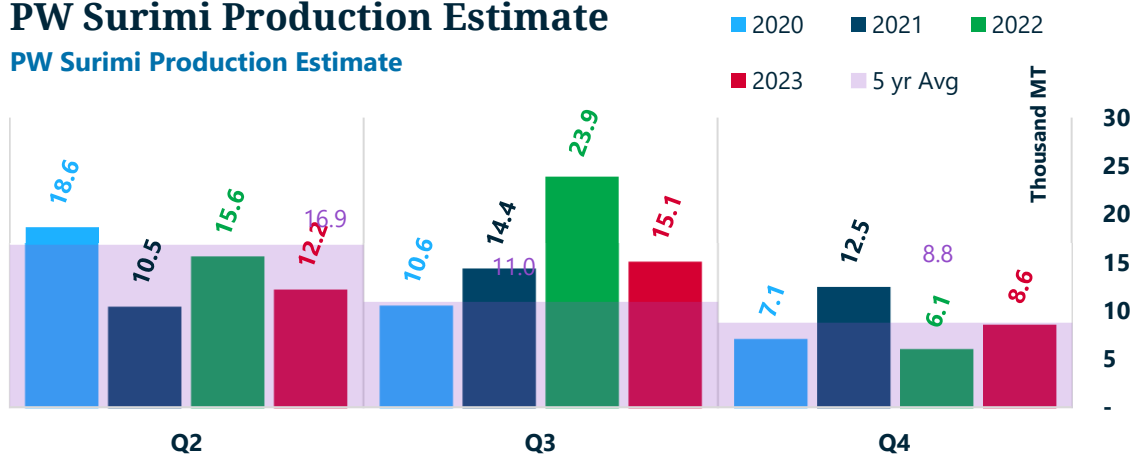


Figure 19. PW Surimi Production Estimate. NOAA, Northwest Fisheries Science Center, Urner Barry Consulting. Data for 2023 considers complete preliminary data through Q4 and incomplete data the year.

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 in Q4 '23 revealed a massive decrease of about ~51 percent compared to the same quarter last year. On a year-over-year basis, imports from these countries pointed to an overall drop of 11 percent.

Spain and Lithuania, the top two markets, declared considerable year-over-year increases, while Japan, the third largest market, decreased nearly ~70 percent, well below the levels seen in the past three years.

From a price perspective, similar to Alaska Pollock, price levels reached a multi-year low in Q4, and preliminary data for Q1 '24 also showed downward pressure.

Pacific Whiting Surimi Imports		*YTD from (Q1 to Q4)						
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%	3,295	-51.4%	
Total	21,394	18,257	-14.7%	21,047	+15.3%	18,688	-11.2%	
*YTD	21,394	18,257	-14.7%	21,047	+15.3%	18,688	-11.2%	

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

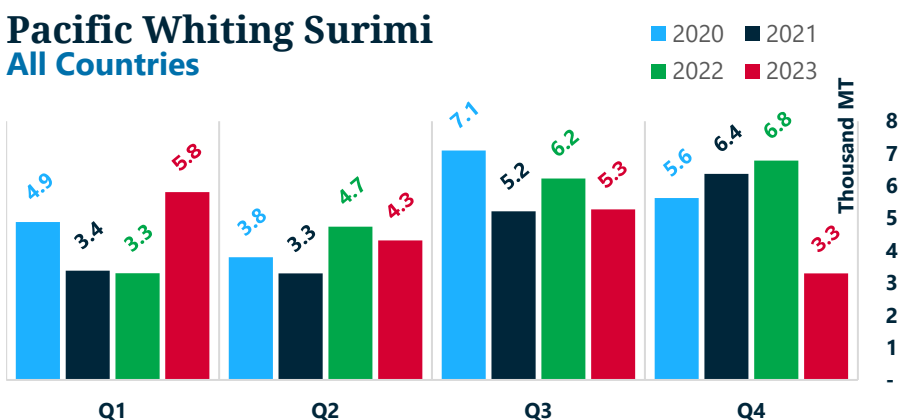


Figure 20. PW surimi imports, all countries by quarter from the U.S.—each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Imports		*(Q1 to Q4)						
By Declaring Country		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	8,383	7,633	-8.9%	7,459	-2.3%	8,419	+12.9%	
Lithuania	6,133	5,668	-7.6%	4,827	-14.8%	5,929	+22.8%	
Japan	2,823	2,392	-15.3%	4,349	+81.8%	1,361	-68.7%	
France	1,743	872	-50.0%	1,989	+128.1%	457	-77.0%	
Poland	1,337	1,060	-20.7%	1,404	+32.5%	1,595	+13.6%	
Canada	343	396	+15.5%	544	+37.4%	485	+10.8%	
Taiwan	103	229	+122.3%	208	-9.2%	278	+33.7%	
Latvia	133	7	-94.7%	150	+2042.9%	69	-54.0%	
S. Korea	391			116		3	-97.4%	
*Total	21,394	18,257	-14.7%	21,047	+15.3%	18,688	-11.2%	

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

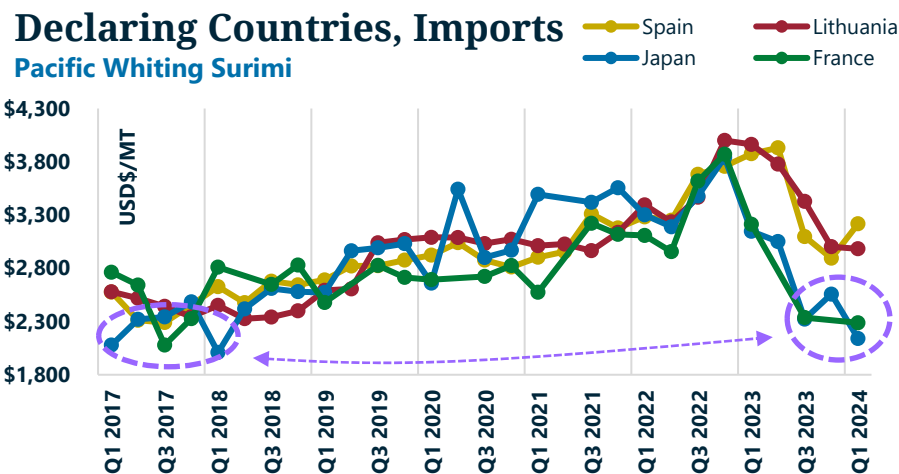


Figure 21. PW surimi import \$/MT—each country's customs, Urner Barry Consulting.

Pacific Whiting Surimi Trade (Exports)



Pacific Whiting Surimi Exports		*YTD from (Q1 to Q4)					
All Countries							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Q1	495	1,778	+ 259.2%	238	-86.6%	303	+ 27.3%
Q2	1,780	3,218	+ 80.8%	1,521	-52.7%	199	-86.9%
Q3	860	742	-13.7%	3,085	+ 315.8%	813	-73.6%
Q4	2,383	6,789	+ 184.9%	3,875	-42.9%	4,907	+ 26.6%
Total	5,518	12,527	+ 127.0%	8,719	-30.4%	6,222	-28.6%
*YTD	5,518	12,527	+ 127.0%	8,719	-30.4%	6,222	-28.6%

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

Pacific Whiting Surimi Exports		*YTD from (Q1 to Q4)					
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%	3,435	+ 224.4%
Total	2,009	5,233	+ 160.5%	4,151	-20.7%	3,877	-6.6%
YTD	2,009	5,233	+ 160.5%	4,151	-20.7%	3,877	-6.6%

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

Pacific Whiting Surimi Exports		*(Q1 to Q4)					
By Reported Destination Country through Q4							
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Spain	2,009	5,233	+ 160.5%	4,151	-20.7%	3,877	-6.6%
Netherlands	1,276	4,650	+ 264.4%	1,277	-72.5%	1,367	+ 7.0%
Lithuania	977	11	-98.9%	1,269	#####		
S. Korea	440	1,253	+ 184.8%	653	-47.9%	96	-85.3%
Canada	483	709	+ 46.8%	629	-11.3%	707	+ 12.4%
Japan	134	211	+ 57.5%	334	+ 58.3%	69	-79.3%
Thailand	130	332	+ 155.4%	137	-58.7%	42	-69.3%
China	48			29			
Poland						46	
*Total	5,518	12,527	+ 127.0%	8,719	-30.4%	6,222	-28.6%

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

Pacific Whiting Surimi Exports

All Countries

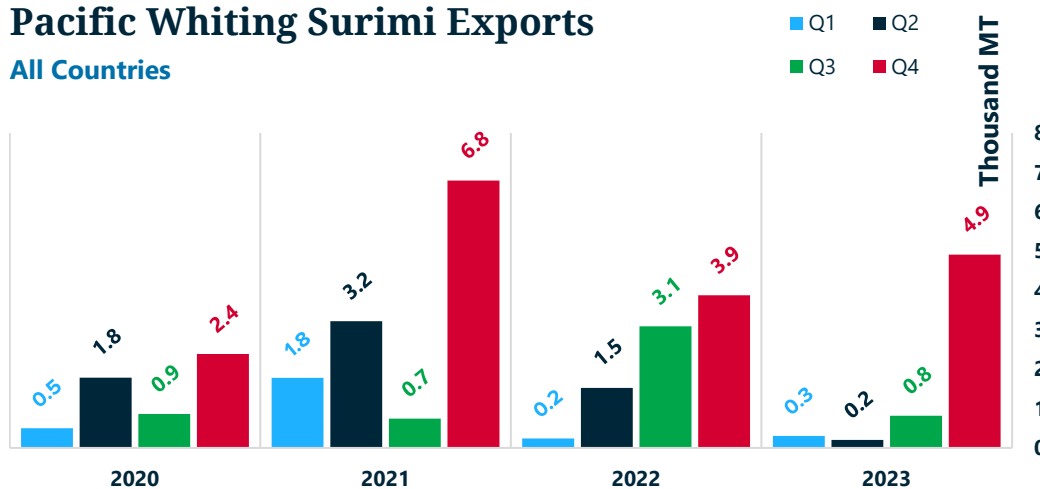


Figure 22. Pacific Whiting surimi exports by quarter. U.S. Customs, Urner Barry Consulting.

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 an 87 and 73 percent decrease year-over-year, respectively. In Q4, however, we noticed a 27 percent increase compared to the same quarter last year. Still, on a year-to-date basis, total exports pointed to a 29 percent decrease compared to 2022. 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 could be 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 ~30 percent in Q4 '23 year-over-year. On a year-to-date basis, overall production was down by about ~22 percent year over year. Argentina still represents the bulk of production, and its production ended virtually unchanged from last year. Production from Chile declined considerably to 200 metric tons from ~1,028 last year. New Zealand production increased ~5 percent to 394 metric tons from 374 the previous year.

Hoki

Hoki surimi production estimates ended 2023 about ~15 percent above the figures registered last year. Argentina's production remained virtually flat while New Zealand increased its production by ~64 percent in 2023 year-over-year. Conversely, Chile's hoki production contracted to a mere 25 metric tons. 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 Q4)	
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%	908	-30.5%	
Total	3,609	3,484	-3.5%	3,755	+ 7.8%	2,927	-22.1%	
*YTD	3,609	3,484	-3.5%	3,755	+ 7.8%	2,927	-22.1%	

Table 14. Southern Blue Whiting surimi estimated production.

Southern Blue Whiting Surimi Production							(Q1 to Q4)	
Production by Country								
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	
Argentina	2,918	2,171	-25.6%	2,353	+ 8.4%	2,333	-0.9%	
Chile	204	999	+ 389.7%	1,028	+ 2.9%	200	-80.5%	
New Zealand	487	314	-35.5%	374	+ 19.1%	394	+ 5.3%	
Total	3,609	3,484	-3.5%	3,755	+ 7.8%	2,927	-22.1%	

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

Hoki Surimi Production							*YTD from (Q1 to Q4)	
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%	1,208	-1.9%	
Total	6,379	5,612	-12.0%	5,280	-5.9%	6,089	+ 15.3%	
*YTD	6,379	5,612	-12.0%	5,280	-5.9%	6,089	+ 15.3%	

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

Hoki Surimi Production							(Q1 to Q4)	
Production by Country								
	2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22	
Argentina	4,376	3,256	-25.6%	3,529	+ 8.4%	3,499	-0.9%	
Chile	135	85	-37.0%	184	+ 116.5%	25	-86.4%	
New Zealand	1,868	2,271	+ 21.6%	1,567	-31.0%	2,565	+ 63.7%	
Total	6,379	5,612	-12.0%	5,280	-5.9%	6,089	+ 15.3%	

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

Southern Blue Whiting Surimi

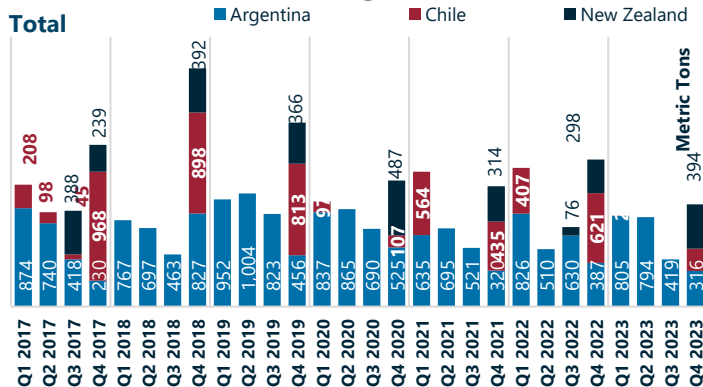


Figure 23. Southern Blue Whiting surimi estimated production by country. *Q4 is complete.

Hoki Surimi

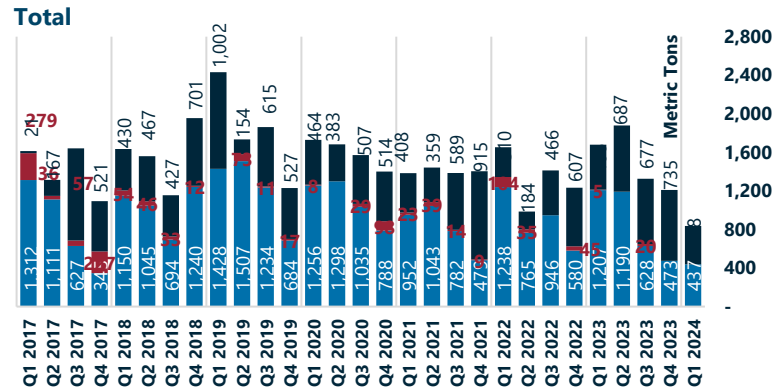


Figure 24. Hoki surimi production estimates. Each country's customs, Urner Barry Consulting. *Q4 is complete.

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 Q4)						
Countries Importing from: Argentina		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan		6,167	4,795	-22.2%	5,797	+20.9%	5,688	-1.9%
Russian Federation		1,031	439	-57.4%	61	-86.1%		
Spain							144	
Belarus		96	168	+75.0%	24	-85.7%		
South Africa			25					
*Total		7,294	5,427	-25.6%	5,882	+8.4%	5,832	-0.9%

Table 18. Surimi imports from Argentina by country.

Countries importing from Argentina All Surimi Total

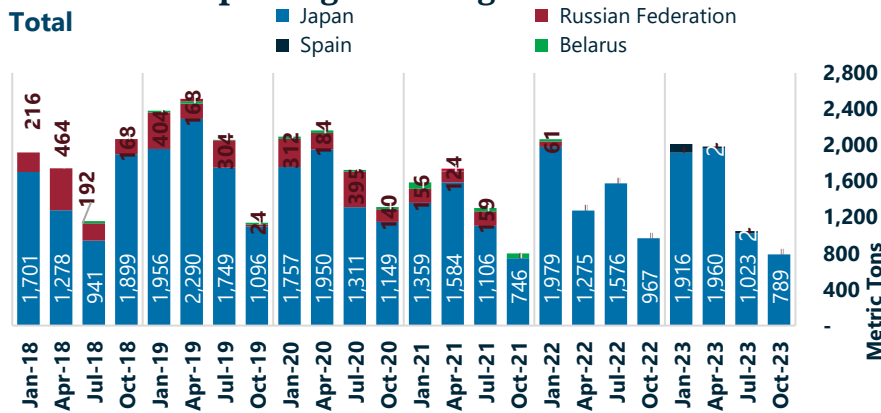


Figure 25. SBW and Hoki Surimi imports from Argentina. *Q4 2023 data is complete.

Surimi Imports from Chile		*YTD from (Q1 to Q4)						
Countries Importing from: Chile		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan		2,040	2,442	+19.7%	2,910	+19.2%	2,511	-13.7%
Russian Federation		44	205	+365.9%				
Spain					41		23	-43.9%
Belarus								
*Total		2,084	2,647	+27.0%	2,951	+11.5%	2,534	-14.1%

Table 19. Surimi imports from Chile by country.

Surimi Imports from New Zealand		*(Q1 to Q4)						
Countries Importing from: New Zealand		2020	2021	'21 vs. '20	2022	'22 vs. '21	2023	'23 vs. '22
Japan		753	578	-23.2%	827	+43.1%	755	-8.7%
South Africa			20					
*Total		753	598	-20.6%	827	+38.3%	755	-8.7%

Table 20. Surimi imports from New Zealand by country.

Countries importing from Chile All Surimi Total

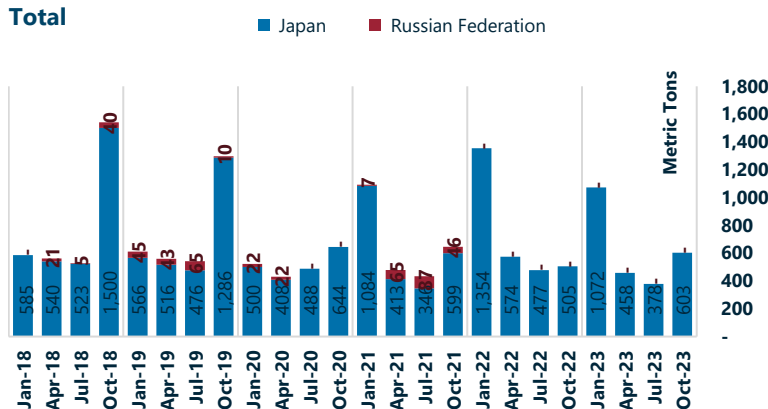


Figure 26. Surimi imports from Chile by country. *Q4 2023 data is complete.

Countries importing from New Zealand All Surimi Total

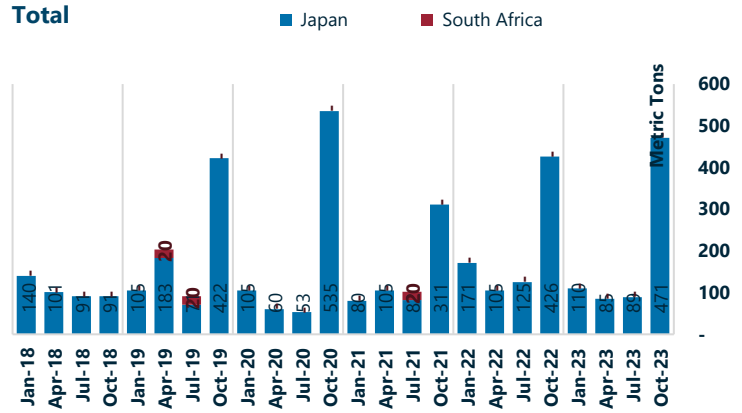


Figure 27. Surimi imports from New Zealand by country. *Q4 2023 data is complete.

Imports from Argentina:

Japanese imports of Argentinean surimi decreased by ~2 percent year-over-year. 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 decreased by about ~14 percent in 2023 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 ~14 percent, from 2,910 metric tons in 2022 to 2,511 in '23.

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 Q4 '23 was below last year's levels by about ~17 percent. On a year-to-date basis, production estimates suggest 2023 contracted by ~16 percent. Regarding trade, Japanese imports of NBW surimi were about 575 metric tons in 2023, a decrease of about ~53 percent.

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

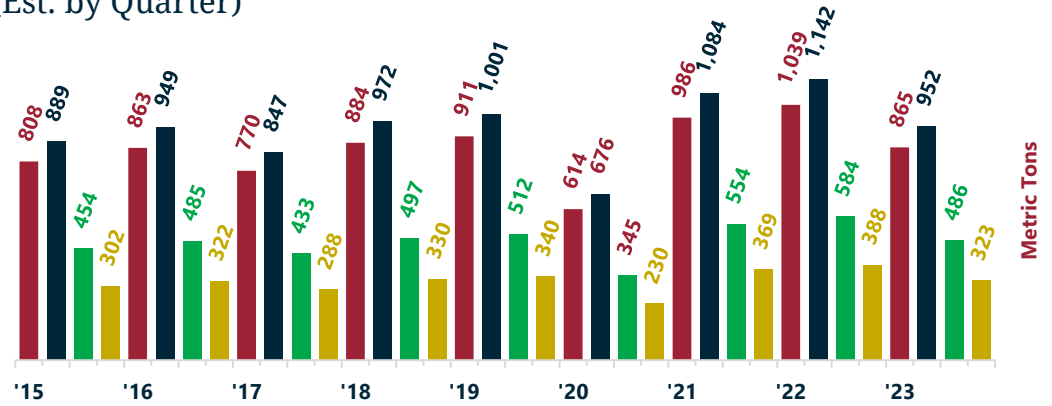


Figure 28. Northern blue whiting surimi production estimates. Source: GAPP, Urner Barry Consulting. *extrapolated + working group feedback, **extrapolated for all 2023.

	Metric Tons	2016	2017	2018	2019	2020	2021	2022	2023
nbw surimi	Japan	670	854	679	958	239	551	1,221	575
	Belarus	-	-	168	379	293	429	156	-
	China (People's Republic of)	-	48	166	119	-	24	-	24
	Spain	-	-	-	87	26	34	69	82
	Poland	-	-	-	-	-	116	-	-
	Other	-	-	-	36	2	-	52	31
	Total	671	903	1,014	1,577	561	1,155	1,498	712

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.

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

Tropical Surimi

Production estimates of tropical surimi suggest a contraction of ~4.3 percent in 2023 year over year. Itoyori production estimates suggest a decrease of ~25 percent in 2023 year over year. Meanwhile, Japanese prices for itoyori and pollock surimi expressed in USD collapsed in Q3 '23 and fell further in Q4 '23 and Q1 '24—using preliminary data—with both AK pollock from Russia and the US dropping the most. When adjusted for the exchange rate, these price levels are not as low but show the same downward trend.

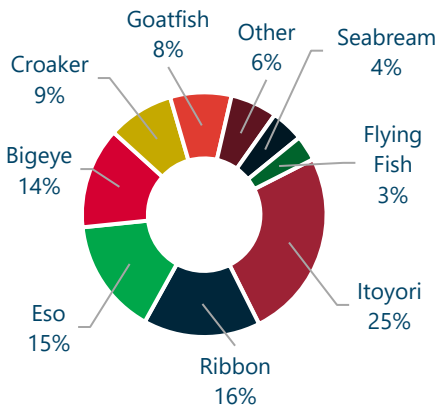


Figure 29. Tropical Surimi estimated breakdown by species. *Does not include China.

Price Comparison

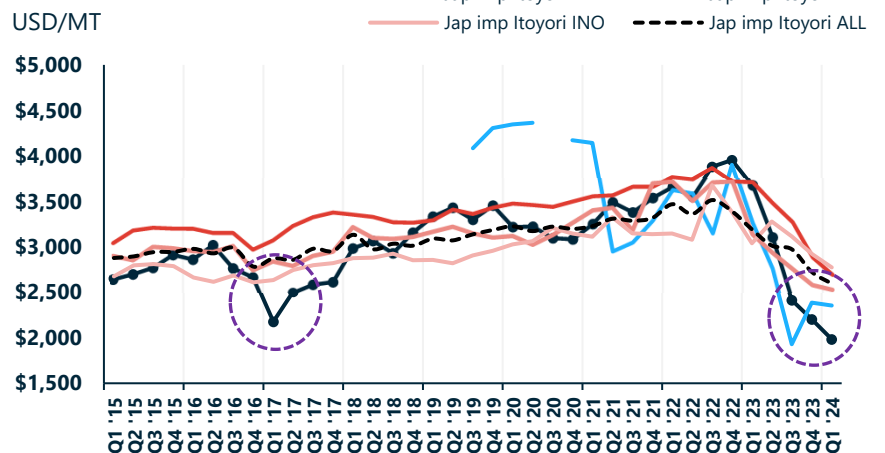


Figure 30. Itoyori vs. AK Pollock of Japan import \$/mt comparison. Source: Urner Barry Consulting. Q3 data is incomplete

Tropical Surimi, Thailand



Thailand's surimi production estimates indicate a significant decrease of about ~14 percent in '23 compared to last year, making it the lowest production year since at least 2010. Almost all species experienced a decline, particularly Itoyori, which decreased by about the same percentage ~14. 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 30 percent year-over-year in 2023. Japanese imports of Thai itoyori surimi decreased by 28 percent in 2023, 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 36 percent year-over-year. Due to 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 Q4

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Other	Total
2010	36,444	11,763	9,345	5,468	3,580	3,708	574	4,914	75,795
2011	31,636	10,993	8,734	4,787	3,407	3,485	537	7,258	70,838
2012	23,442	10,385	8,251	7,198	3,155	4,060	3,098	7,331	66,921
2013	21,566	7,885	5,719	4,616	2,446	1,544	2,124	4,906	50,806
2014	22,180	8,451	6,714	3,553	2,624	3,444	2,212	5,276	54,454
2015	18,292	6,874	5,461	4,764	2,129	1,321	1,192	4,261	44,295
2016	15,323	6,330	5,029	3,616	1,926	2,997	2,403	3,164	40,788
2017	12,090	4,870	3,553	2,815	1,482	2,882	810	2,882	31,384
2018	10,734	4,884	3,880	3,336	1,542	2,168	1,483	3,448	31,475
2019	11,878	5,006	3,978	2,870	1,531	1,358	2,109	3,534	32,263
2020	13,546	5,098	4,217	2,238	1,692	3,049	993	3,373	34,207
2021	12,290	4,326	3,688	2,090	1,417	1,694	1,395	3,016	29,917
2022	9,962	6,408	4,480	1,007	2,043	97	234	1,978	26,209
2023	8,602	5,334	3,707	1,070	2,084	78	172	1,609	22,655

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

Thailand's estimated Production by Species (Imports and Exports) thru Q4

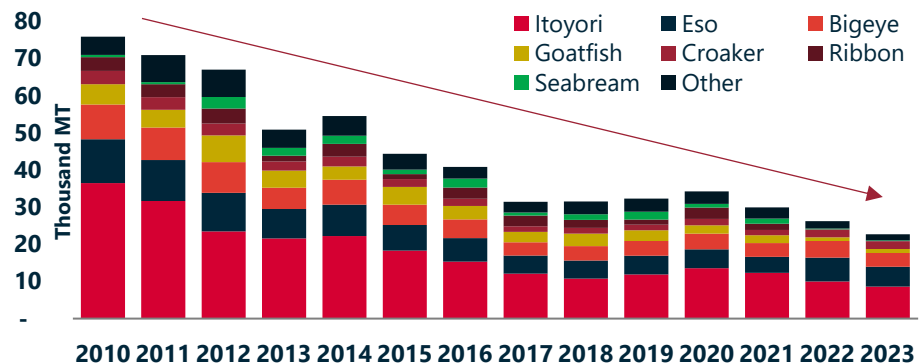


Figure 31. Yearly estimates of Thailand's surimi production by species.

Countries declaring surimi imports from Thailand from Q1 to Q4

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	37	▼ 39.3%	25	▼ 32.4%	14	▼ 44.0%	21	▲ 50.0%	37	▲ 76.2%	113	▲ 205.4%	170	▲ 50.4%
	Itoyori	8,022	▼ 23.7%	7,242	▼ 9.7%	8,319	▲ 14.9%	8,580	▲ 3.1%	8,634	▲ 0.6%	6,985	▼ 19.1%	5,014	▼ 28.2%
	Other	14,391	▼ 23.4%	14,638	▲ 1.7%	15,037	▲ 2.7%	13,307	▼ 11.5%	12,107	▼ 9.0%	11,054	▼ 8.7%	7,984	▼ 27.8%
	Sardine, Other	2	▼ 94.1%	3	▲ 50.0%					7		12	▲ 71.4%	10	▼ 16.7%
S. Korea	All	1,824	▼ 34.4%	1,464	▼ 19.7%	1,147	▼ 21.7%	1,627	▲ 41.8%	1,248	▼ 23.3%	1,728	▲ 38.5%	960	▼ 44.4%
Russia	All	1,406	▼ 48.1%	2,133	▲ 51.7%	2,841	▲ 33.2%	3,541	▲ 24.6%	3,351	▼ 5.4%	2,238	▼ 33.2%	1,427	▼ 36.2%
Malaysia*	All	233	▼ 56.6%	252	▲ 8.3%	449	▲ 78.2%	430	▼ 4.2%	373	▼ 13.4%	309	▼ 17.0%	230	▼ 25.7%
China	All	229	▼ 57.0%	504	▲ 120.1%	348	▼ 31.0%	846	▲ 143.1%	1,063	▲ 25.7%	791	▼ 25.6%	666	▼ 15.8%
Taiwan	All	96	▼ 57.7%	91	▼ 5.2%	306	▲ 236.3%	702	▲ 129.4%	825	▲ 17.5%	587	▼ 28.8%	510	▼ 13.1%
Hong Kong	All	146	▼ 10.4%	174	▲ 19.2%	344	▲ 97.7%	487	▲ 41.6%	595	▲ 22.2%	599	▲ 0.7%	498	▼ 16.9%
Canada	All			104		250	▲ 140.4%	222	▼ 11.2%	278	▲ 25.2%	946	▲ 240.3%	484	▼ 48.8%
Philippines	All			378		348	▼ 7.9%	122	▼ 64.9%	235	▲ 92.6%	224	▼ 4.7%	149	▼ 33.5%
New Zealand	All	79	▼ 71.6%	61	▼ 22.8%	82	▲ 34.4%	68	▼ 17.1%	39	▼ 42.6%	25	▼ 35.9%	33	▲ 32.0%
France	All	520	▲ 36.8%	470	▼ 9.6%	307	▼ 34.7%								
Lithuania	All	54		379	▲ 601.9%	442	▲ 16.6%	256	▼ 42.1%	215	▼ 16.0%	92	▼ 57.2%	115	▲ 25.0%
Other		5	▼ 98.9%									608		75	▼ 87.6%
Total		27,044	▼ 28.1%	27,884	▲ 3.1%	30,074	▲ 7.9%	30,087	▲ 0.0%	28,668	▼ 4.7%	26,311	▼ 8.2%	18,325	▼ 30.4%

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.

According to our surimi production estimates, volumes out of India increased by ~3.7 percent in 2023 year-over-year, reaching a record high of ~122 thousand metric tons.

However, production estimates of itoyori surimi contracted by about ~27 percent in 2023 year-over-year. Still, itoyori production estimates in 2023 point to ~15 thousand metric tons, the third largest yearly figure since at least 2015. 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 Q4

Year	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Other	Total
2015	11,254	14,780	7,591	2,724	-	24,874	4,692	65,915
2016	8,920	16,212	8,277	2,988	-	28,867	7,199	72,463
2017	14,321	25,621	11,769	4,246	-	39,485	7,517	102,958
2018	18,140	20,772	11,403	4,245	-	40,713	8,674	103,947
2019	8,936	23,786	10,628	3,901	-	38,379	9,514	95,145
2020	3,881	22,659	12,347	5,278	-	39,757	8,406	92,328
2021	12,372	20,611	15,020	8,584	-	36,333	11,157	104,078
2022	20,958	20,611	16,543	9,082	-	40,025	10,327	117,547
2023	15,193	23,374	18,016	12,072	-	39,258	13,929	121,843

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

India's Production by Species (Imp. & Exp., est.) thru Q4

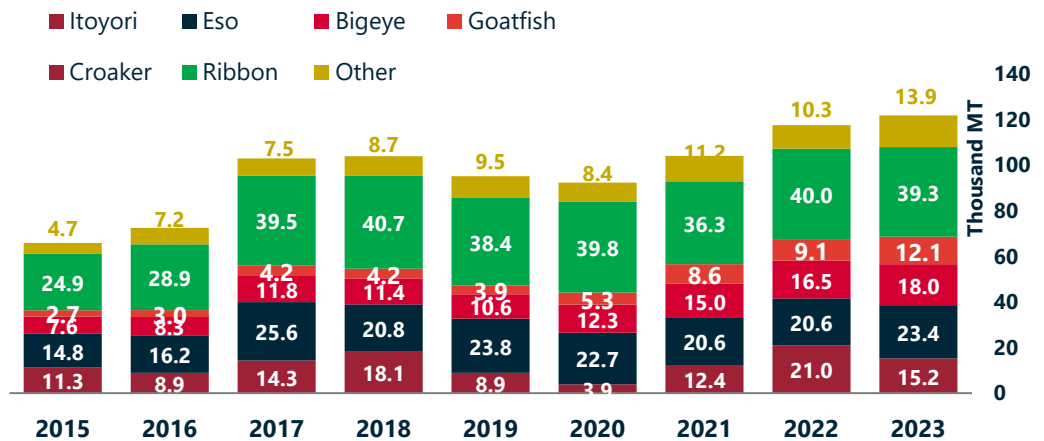


Figure 32. Yearly estimated surimi production from India by species

Countries declaring surimi imports from India from Q1 to Q4

Reporter Name	Species	2017		2018		2019		2020		2021		2022		2023	
		'17 vs. '16	'18 vs. '17	'19 vs. '18	'20 vs. '19	'21 vs. '20	'22 vs. '21	'23 vs. '22							
Japan	Itoyori	5,410 ▲ 33.3%	6,837 ▲ 26.4%	3,600 ▼ 47.3%	1,442 ▼ 59.9%	4,763 ▲ 230.3%	7,691 ▲ 61.5%	5,383 ▼ 30.0%							
	Other	32,999 ▲ 12.8%	32,589 ▼ 1.2%	35,938 ▲ 10.3%	31,217 ▼ 13.1%	34,705 ▲ 11.2%	39,590 ▲ 14.1%	39,366 ▼ 0.6%							
	Sardine, Other	10	67 ▲ 570.0%												
Taiwan	All	14,890 ▲ 14.4%	17,432 ▲ 17.1%	15,476 ▼ 11.2%	14,881 ▼ 3.8%	13,906 ▼ 6.6%	15,062 ▲ 8.3%	17,231 ▲ 14.4%							
Thailand	All	5,099 ▲ 713.2%	5,277 ▲ 3.5%	6,896 ▲ 30.7%	8,173 ▲ 18.5%	14,613 ▲ 78.8%	16,748 ▲ 14.6%	16,192 ▼ 3.3%							
	Other	455 ▼ 12.5%	273 ▼ 40.0%	157 ▼ 42.5%	416 ▲ 165.0%	75 ▼ 82.0%									
S. Korea	All	6,249 ▲ 87.8%	7,021 ▲ 12.4%	6,306 ▼ 10.2%	5,894 ▼ 6.5%	5,422 ▼ 8.0%	6,383 ▲ 17.7%	8,139 ▲ 27.5%							
Russia	All	8,383 ▲ 21.8%	9,695 ▲ 15.7%	6,695 ▼ 30.9%	3,802 ▼ 43.2%	5,754 ▲ 51.3%	225 ▼ 96.1%								
Malaysia	All	5,336 ▲ 402.9%	4,963 ▼ 7.0%	2,769 ▼ 44.2%	4,104 ▲ 48.2%	3,642 ▼ 11.3%	5,288 ▲ 45.2%	7,006 ▲ 32.5%							
Belarus	All	4,304 ▲ 37.3%	4,839 ▲ 12.4%	4,713 ▼ 2.6%	5,085 ▲ 7.9%	4,532 ▼ 10.9%	2,475 ▼ 45.4%								
China*	All	3,724 ▲ 143.1%	3,311 ▼ 11.1%	2,987 ▼ 9.8%	2,406 ▼ 19.5%	1,738 ▼ 27.8%	2,345 ▲ 35.0%	6,039 ▲ 157.5%							
Lithuania	All	1,774 ▼ 30.1%	1,478 ▼ 16.7%	1,286 ▼ 13.0%	658 ▼ 48.8%	980 ▲ 48.9%	2,944 ▲ 200.4%	3,313 ▲ 12.5%							
Singapore	All	1,303 ▲ 1637.3%	1,732 ▲ 32.9%	3,014 ▲ 74.0%	2,905 ▼ 3.6%	2,250 ▼ 22.5%	205 ▼ 90.9%	1,025 ▲ 400.0%							
Spain	All	1,100 ▼ 11.4%	655 ▼ 40.5%	535 ▼ 18.3%	492 ▼ 8.0%	367 ▼ 25.4%	868 ▲ 136.5%	576 ▼ 33.6%							
Poland	All		1	144 ▲ 14300.0%	840 ▲ 483.3%	1,344 ▲ 60.0%	1,273 ▼ 5.3%	1,260 ▼ 1.0%							
Other		2,535 ▲ 264.3%	1,602 ▼ 36.8%	1,381 ▼ 13.8%	1,361 ▼ 1.4%	1,617 ▲ 18.8%	2,742 ▲ 69.5%	4,223 ▲ 54.0%							
Total		93,561 ▲ 37.6%	97,715 ▲ 4.4%	91,964 ▼ 5.9%	83,676 ▼ 9.0%	95,708 ▲ 14.4%	103,839 ▲ 8.5%	109,753 ▲ 5.7%							

Table 25. Countries declaring surimi imports from 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.

Revised data

Vietnam's **production estimates suggest a decrease of about 21 percent in 2023 year-over-year at about 155 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 significant 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 Q4

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	lying Fish	Other	Total
2015	30,940	18,468	22,997	17,546	20,311	9,003	13,668	9,318	7,820	150,070
2016	21,591	23,785	17,356	16,968	16,568	12,815	12,725	10,851	10,165	142,825
2017	24,588	25,034	19,448	15,087	17,971	10,430	10,430	8,807	9,907	141,702
2018	25,240	30,501	25,519	8,202	22,950	13,871	13,871	11,799	12,088	164,040
2019	30,980	31,387	21,149	8,635	25,788	14,823	14,823	12,619	12,489	172,693
2020	32,386	22,952	18,975	8,601	27,178	14,177	14,177	11,344	11,831	161,622
2021	44,116	27,290	22,887	15,427	26,165	16,995	16,995	14,260	9,698	193,835
2022	51,304	26,117	26,299	17,832	26,299	14,707	14,707	10,764	7,835	195,865
2023	35,203	21,593	20,606	18,095	18,004	11,503	11,376	7,760	11,063	155,203

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

Viet-Nam's Production estimates by Species thru Q4

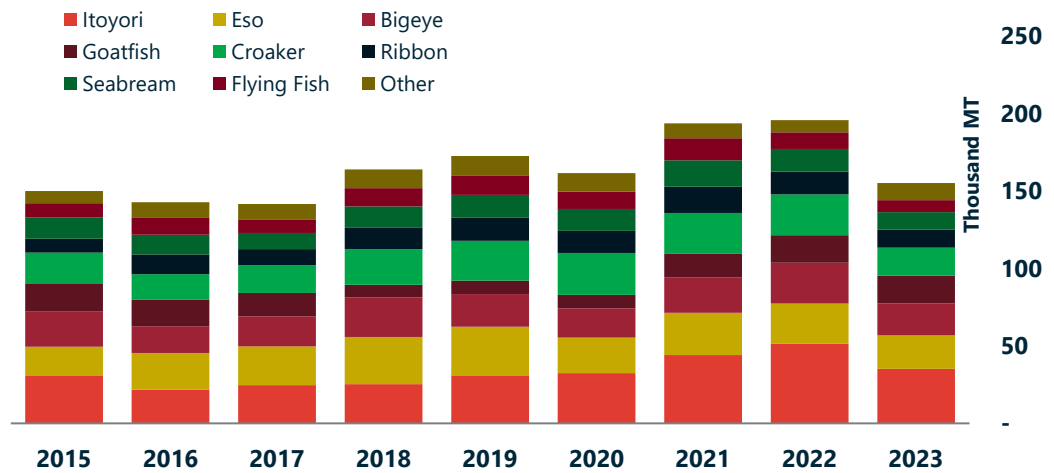


Figure 33. Yearly estimates of Vietnam's surimi production by species.

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		52,191	▼ 1.6%	62,954	▲ 20.6%	57,246	▼ 9.1%	53,115	▼ 7.2%	55,555	▲ 4.6%	52,832	▼ 4.9%	46,130	▼ 12.7%
Thailand	All		28,221	▲ 13.7%	35,193	▲ 24.7%	31,064	▼ 11.7%	31,086	▲ 0.1%	38,652	▲ 24.3%	40,988	▲ 6.0%	29,162	▼ 28.9%
	Other		2,880	▲ 0.2%	1,804	▼ 37.4%	438	▼ 75.7%	119	▼ 72.8%	50	▼ 58.0%			11	
China	All		14,610	▲ 26.6%	18,871	▲ 29.2%	25,183	▲ 33.4%	27,963	▲ 11.0%	28,872	▲ 3.3%	25,815	▼ 10.6%	17,911	▼ 30.6%
Japan	Barrac, Sea Breams, Kingclip		434	▼ 18.9%	771	▲ 77.6%	366	▼ 52.5%	392	▲ 7.1%	377	▼ 3.8%	651	▲ 72.7%	201	▼ 69.1%
	Itoyori		2,640	▲ 10.6%	2,604	▼ 1.4%	3,075	▲ 18.1%	2,864	▼ 6.9%	4,274	▲ 49.2%	5,251	▲ 22.9%	3,321	▼ 36.8%
	Other		12,716	▼ 5.8%	14,309	▲ 12.5%	14,380	▲ 0.5%	11,237	▼ 21.9%	14,526	▲ 29.3%	14,720	▲ 1.3%	11,433	▼ 22.3%
	Sardine, Other		20	▼ 75.6%	4	▼ 80.0%	20	▲ 400.0%	30	▲ 50.0%	7	▼ 76.7%	6	▼ 14.3%		
Russia	All		6,740	▼ 16.4%	6,308	▼ 6.4%	9,612	▲ 52.4%	7,427	▼ 22.7%	12,771	▲ 72.0%	12,268	▼ 3.9%	12,897	▲ 5.1%
Malaysia*	All		6,265	▲ 40.4%	6,726	▲ 7.4%	8,203	▲ 22.0%	8,085	▼ 1.4%	12,320	▲ 52.4%	11,645	▼ 5.5%	7,661	▼ 34.2%
	All		3,698	▼ 30.7%	4,567	▲ 23.5%	5,712	▲ 25.1%	5,945	▲ 4.1%	7,490	▲ 26.0%	9,546	▲ 27.4%	4,270	▼ 55.3%
Lithuania	All		2,060	▲ 13.2%	713	▼ 65.4%	2,140	▲ 200.1%	1,534	▼ 28.3%	2,293	▲ 49.5%	1,697	▼ 26.0%	1,036	▼ 39.0%
Indonesia	All		2,298	▼ 30.8%	968	▼ 57.9%	1,948	▲ 101.2%	1,373	▼ 29.5%	2,687	▲ 95.7%	12,603	▲ 369.0%	14,848	▲ 17.8%
	Other												125		925	▲ 640.0%
Ukraine	All		1,544	▲ 26.8%	1,742	▲ 12.8%	2,550	▲ 46.4%	2,275	▼ 10.8%	2,599	▲ 14.2%	945	▼ 63.6%	688	▼ 27.2%
Other			5,385	▼ 45.3%	6,506	▲ 20.8%	10,756	▲ 65.3%	8,177	▼ 24.0%	11,362	▲ 39.0%	7,891	▼ 30.6%	5,884	▼ 25.4%
Total			141,702	▼ 0.8%	164,040	▲ 15.8%	172,693	▲ 5.3%	161,622	▼ 6.4%	193,835	▲ 19.9%	196,983	▲ 1.6%	156,378	▼ 20.6%

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.

Revised data

Surimi production estimates from Indonesia suggest an ~11.6 percent decrease in 2023 year-over-year to about 14.3 thousand metric tons. This production level is the lowest since at least 2015.

Itoyori surimi production estimates a contraction of about ~9 percent in 2023, to about 4.7 thousand metric tons.

Regarding trade, volumes from countries declaring imports declined by about 16 percent in 2023 compared to the previous year. Adjusted figures from Malaysia, the largest market, show a significant decrease of about 26 percent year-over-year. South Korea and Japan also noticed significant decreases. However, China saw its imports from Indonesia increase but are still shy of the peak registered in 2020.

Indonesia's Production by Species (est.) thru Q4

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	9,205	2,996	2,306	798	2,746	2,894	998	2,176	3,120	27,238
2016	9,088	3,289	2,763	1,448	2,682	2,884	1,163	1,161	2,337	26,815
2017	6,060	2,315	2,563	356	2,103	1,601	647	356	1,787	17,788
2018	7,542	2,673	3,020	728	2,228	2,225	1,130	948	1,782	22,276
2019	9,830	3,699	4,450	555	2,774	2,720	555	941	2,219	27,743
2020	8,625	3,621	2,452	535	3,333	2,947	535	1,037	3,648	26,733
2021	7,281	2,019	1,468	566	2,066	1,652	1,231	623	1,468	18,374
2022	5,141	1,768	1,286	872	1,998	2,015	535	1,080	1,327	16,022
2023	4,708	1,565	1,138	781	1,795	1,303	685	285	1,969	14,230

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

Indonesia's Production by Species (est.) thru Q4

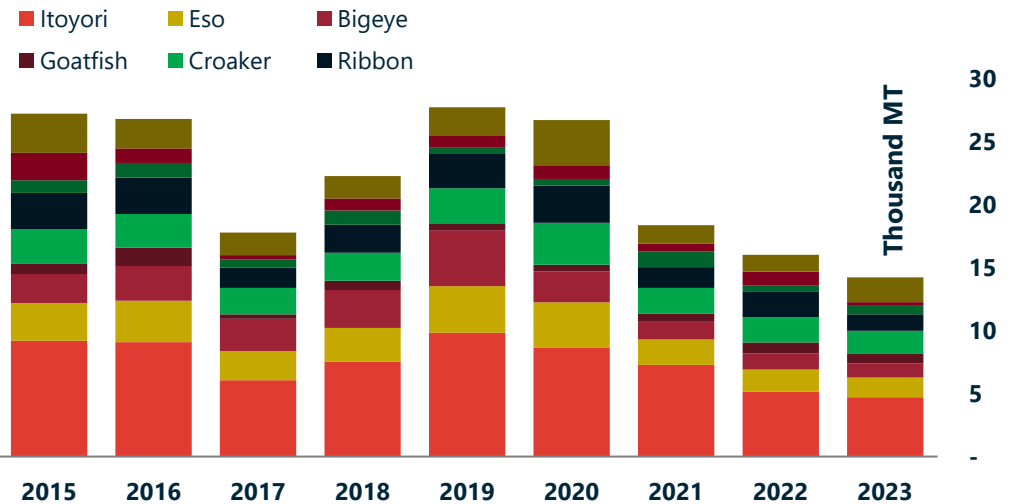


Figure 34. Yearly estimates of Indonesia's surimi production by species.

Countries declaring surimi imports from Indonesia from Q1 to Q4

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	2,848	▼ 57.5%	3,505	▲ 23.1%	4,368	▲ 24.6%	6,804	▲ 55.8%	6,530	▼ 4.0%	5,783	▼ 11.5%	4,260	▼ 26.3%
S. Korea	All	4,459	▼ 30.2%	3,810	▼ 14.6%	5,005	▲ 31.4%	5,647	▲ 12.8%	4,311	▼ 23.7%	3,923	▼ 9.0%	3,075	▼ 21.6%
Japan	Itoyori	2,760	▲ 11.7%	1,766	▼ 36.0%	1,425	▼ 19.3%	1,217	▼ 14.6%	1,626	▲ 33.6%	1,105	▼ 32.0%	491	▼ 55.6%
	Other	3,372	▲ 31.0%	3,988	▲ 18.3%	2,963	▼ 25.7%	1,830	▼ 38.2%	1,481	▼ 19.1%	1,211	▼ 18.2%	802	▼ 33.8%
	Sardine, Other	45	▲ 181.3%	29	▼ 35.6%	4	▼ 86.2%								
Taiwan	All	1,986	▼ 31.5%	2,437	▲ 22.7%	2,574	▲ 5.6%	2,629	▲ 2.1%	1,764	▼ 32.9%	1,236	▼ 29.9%	741	▼ 40.0%
China	All	2,179	▼ 10.2%	3,479	▲ 59.7%	5,791	▲ 66.5%	7,255	▲ 25.3%	3,253	▼ 55.2%	2,112	▼ 35.1%	2,513	▲ 19.0%
Thailand	All	644	▼ 74.5%	1,233	▲ 91.5%	3,745	▲ 203.7%	2,703	▼ 27.8%	2,163	▼ 20.0%	445	▼ 79.4%	275	▼ 38.2%
	Other	61	▼ 59.9%	16	▼ 73.8%	49	▲ 206.3%	12	▼ 75.5%	4	▼ 66.7%	15	▲ 275.0%	20	▲ 33.3%
Hong Kong	All	132	▼ 54.2%	178	▲ 34.8%	268	▲ 50.6%	288	▲ 7.5%	329	▲ 14.2%	299	▼ 9.1%	281	▼ 6.0%
Australia	All	87	▼ 61.7%	108	▲ 24.1%	89	▼ 17.6%	92	▲ 3.4%	165	▲ 79.3%	101	▼ 38.8%	123	▲ 21.8%
Philippines	All			249		264	▲ 6.0%	198	▼ 25.0%	207	▲ 4.5%	219	▲ 5.8%	65	▼ 70.3%
USA	All											204		583	▲ 185.8%
Singapore	All	227	▲ 254.7%			76		104	▲ 36.8%			200		246	▲ 23.0%
Other															
Total		16,073	▼ 45.0%	17,401	▲ 8.3%	22,283	▲ 28.1%	21,984	▼ 1.3%	15,328	▼ 30.3%	11,097	▼ 27.6%	9,323	▼ 16.0%

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.

Surimi **production estimates for Malaysia suggest levels contracted ~21 percent year-over-year in 2023. Such a decrease marks the lowest production levels on record since at least 2015.

Regarding trade, volumes from countries declaring imports from Malaysia in 2023 revealed a decrease of ~16 percent year-over-year. It is worth noting that Japan's imports decreased considerably in 2023. Furthermore, China declared a considerable year-over-year increase of about 46 percent in 2023, from 399 to 582 metric tons.

Malaysia's Estimated Production by Species thru Q4

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	1,488	1,567	816	1,567	778	572	285	157	604	7,833
2016	1,386	1,459	759	1,459	724	532	266	146	563	7,294
2017	1,080	1,137	592	1,137	565	415	207	114	439	5,685
2018	1,141	1,201	625	1,201	596	438	219	120	463	6,004
2019	1,525	1,605	836	1,605	797	586	292	161	619	8,025
2020	1,215	1,279	666	1,279	635	467	233	128	494	6,397
2021	725	763	397	763	379	278	139	76	294	3,817
2022	635	668	348	668	332	244	122	67	258	3,341
2023	556	582	187	582	187	187	82	108	161	2,631

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

Malaysia's Estimated Production by Species thru Q4

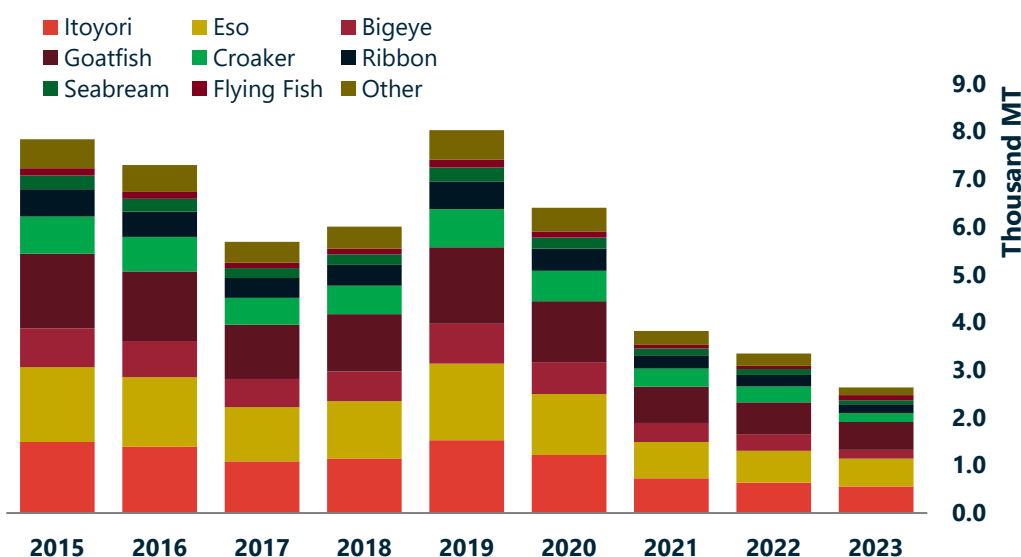


Figure 35. Yearly estimates of Malaysia's surimi production by species.

Countries declaring surimi imports from Malaysia from Q1 to Q4

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						36				214		96	▼ 55.1%
	Other	5,489	▼ 15.4%	4,546	▼ 17.2%	4,734	▲ 4.1%	4,661	▼ 1.5%	2,586	▼ 44.5%	2,815	▲ 8.9%	1,802	▼ 36.0%
	Sardine, Other					44		57	▲ 29.5%	32	▼ 43.9%	71	▲ 121.9%	31	▼ 56.3%
Hong Kong	All			10		127	▲ 1170.0%	315	▲ 148.0%	365	▲ 15.9%	210	▼ 42.5%	225	▲ 7.1%
China	All	897	▼ 2.0%	971	▲ 8.2%	933	▼ 3.9%	929	▼ 0.4%	623	▼ 32.9%	399	▼ 36.0%	582	▲ 45.9%
Canada	All	34		34	▲ 0.0%	60	▲ 76.5%	34	▼ 43.3%	34	▲ 0.0%	68	▲ 100.0%	70	▲ 2.9%
Australia	All					5						108		152	▲ 40.7%
Singapore	All	66	▼ 28.3%	114	▲ 72.7%	48	▼ 57.9%	40	▼ 16.7%	36	▼ 10.0%	11	▼ 69.4%	204	▲ 1754.5%
Thailand	All			24		574	▲ 2291.7%	25	▼ 95.6%						
Taiwan	Other														
	All	164	▲ 34.4%	25	▼ 84.8%	91	▲ 264.0%	78	▼ 14.3%	66	▼ 15.4%				
Malaysia	All			11											
Philippines	All			33								23		3	▼ 87.0%
S. Korea	All	268	▼ 41.2%	300	▲ 11.9%	251	▼ 16.3%	1,106	▲ 340.6%	330	▼ 70.2%	48	▼ 85.5%	216	▲ 350.0%
Other								75		175	▲ 133.3%	665	▲ 280.0%	500	▼ 24.8%
Total		6,966	▼ 15.8%	6,068	▼ 12.9%	6,867	▲ 13.2%	7,356	▲ 7.1%	4,247	▼ 42.3%	4,632	▲ 9.1%	3,881	▼ 16.2%

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 of about ~17 percent in 2023 compared to 2022. At roughly 9 thousand metric tons, Pakistan remains a steady source of itoyori and other tropical surimi species. Production estimates of Itoyori surimi reached about ~5 thousand metric tons in 2023, up 12 percent from the previous year.

Regarding trade, volumes from countries declaring imports from Pakistan decreased by about ~3 percent in 2023. Notably, Thailand saw a 16 percent decrease, now ranking second to South Korea. As such, imports from South Korea and China increased considerably by about 54 and 45 percent, respectively.

Pakistan's Production estimates by Species thru Q4

	Itoyori	Eso	Bigeeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	2,637	527	264	264	527	-	264	264	527	5,274
2016	1,949	362	181	181	221	-	181	181	362	3,616
2017	3,335	651	325	325	469	-	325	325	752	6,508
2018	4,398	800	400	400	400	-	400	400	800	7,997
2019	4,550	890	445	445	652	-	445	445	1,030	8,902
2020	3,948	723	362	362	393	-	362	362	723	7,234
2021	4,028	755	378	378	418	-	418	378	800	7,551
2022	4,230	795	397	397	441	-	441	397	848	7,947
2023	4,749	927	463	463	579	-	579	463	1,042	9,266

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

Pakistan's Production estimates by Species thru Q4

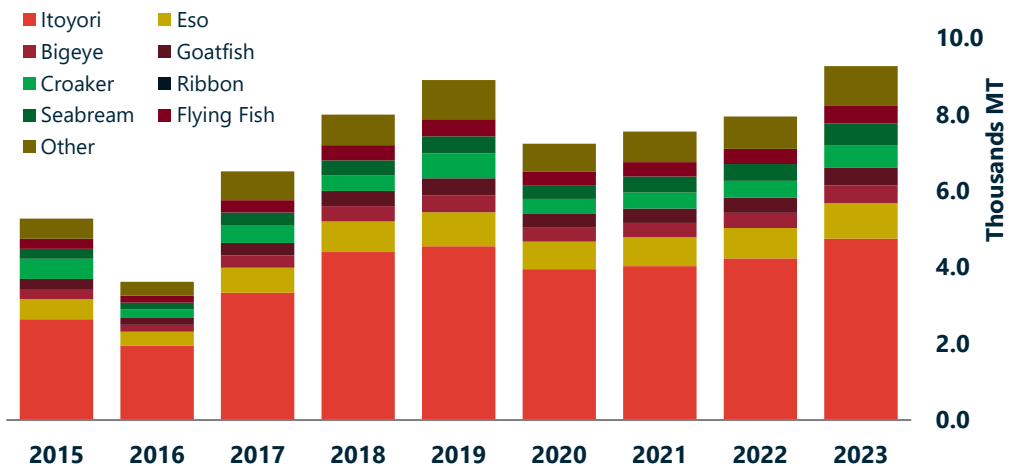


Figure 36. Yearly estimates of Pakistan's surimi production by species.

Countries declaring surimi imports from Pakistan from Q1 to Q4

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	1,175	▲ 727.5%	3,074	▲ 161.6%	3,647	▲ 18.6%	2,748	▼ 24.7%	3,487	▲ 26.9%	3,735	▲ 7.1%	3,139	▼ 16.0%
	Other	19	▼ 42.4%					10		167	▲ 1570.0%	50	▼ 70.1%		
S. Korea	All	4,040	▲ 25.2%	3,449	▼ 14.6%	2,371	▼ 31.3%	1,955	▼ 17.5%	2,421	▲ 23.8%	2,123	▼ 12.3%	3,279	▲ 54.5%
Japan	Itoyori	1,347	▲ 185.4%	1,336	▼ 0.8%	979	▼ 26.7%	559	▼ 42.9%	1,414	▲ 153.0%	1,640	▲ 16.0%	241	▼ 85.3%
	Other			122		444	▲ 263.9%	305	▼ 31.3%	312	▲ 2.3%	370	▲ 18.6%	188	▼ 49.2%
China	All	983	▲ 2791.2%	1,102	▲ 12.1%	2,440	▲ 121.4%	2,169	▼ 11.1%	1,038	▼ 52.1%	1,528	▲ 47.2%	2,220	▲ 45.3%
Malaysia	All	260	▲ 22.6%	348	▲ 33.8%	374	▲ 7.5%	247	▼ 34.0%	473	▲ 91.5%	422	▼ 10.8%	365	▼ 13.5%
Hong Kong	All	25				46		90	▲ 95.7%	132	▲ 46.7%	113	▼ 14.4%	48	▼ 57.5%
Indonesia	All														
Taiwan	All			24		24	▲ 0.0%								
Philippines	All											26			
Other		25						25						215	
Total		7,874	▲ 90.3%	9,455	▲ 20.1%	10,325	▲ 9.2%	8,108	▼ 21.5%	9,444	▲ 16.5%	10,007	▲ 6.0%	9,695	▼ 3.1%

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.

Myanmar's surimi production estimates showed a 2 percent decrease year-over-year in 2023. 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 from Myanmar contracted 2.6 percent year-over-year in 2023. Japan is Myanmar's largest market, followed by Thailand and South Korea.

Myanmar's Production estimates by Species thru Q4

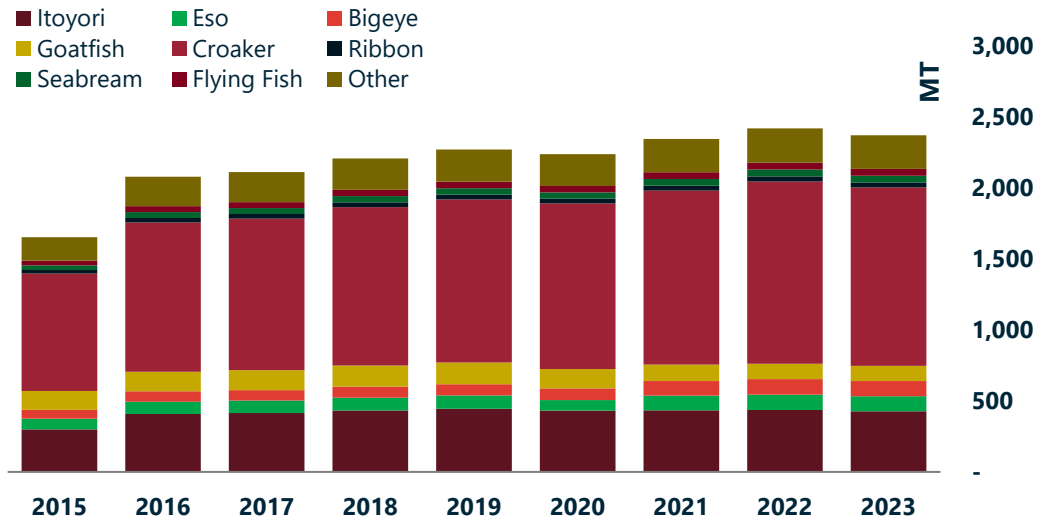


Figure 37. Yearly estimates of Myanmar's surimi production by species.

Myanmar's Production estimates by Species thru Q4

	Itoyori	Eso	Bigeye	Goatfish	Croaker	Ribbon	Seabream	Flying Fish	Other	Total
2015	299	75	63	133	826	25	33	33	165	1,652
2016	408	87	73	138	1,051	31	42	42	208	2,078
2017	415	87	74	140	1,067	32	42	42	211	2,110
2018	432	90	77	149	1,115	33	44	44	221	2,206
2019	444	94	79	153	1,147	34	45	45	227	2,269
2020	432	74	82	137	1,166	34	45	45	224	2,236
2021	434	103	103	116	1,224	35	47	47	234	2,343
2022	435	109	109	109	1,282	36	48	48	242	2,418
2023	426	107	107	107	1,256	36	47	47	237	2,369

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.

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	All	32		65	▲ 103.1%	54	▼ 16.9%	50	▼ 7.4%	22	▼ 56.0%	39	▲ 77.3%	38	▼ 2.6%
		Itoyori	604	▲ 3.4%	582	▼ 3.6%	575	▼ 1.2%	529	▼ 8.0%	434	▼ 18.0%	530	▲ 22.1%	226	▼ 57.4%
		Other	489	▲ 22.3%	664	▲ 35.8%	625	▼ 5.9%	494	▼ 21.0%	500	▲ 1.2%	535	▲ 7.0%	412	▼ 23.0%
S. Korea	All	All	675	▼ 21.8%	573	▼ 15.1%	511	▼ 10.8%	506	▼ 1.0%	330	▼ 34.8%	173	▼ 47.6%	249	▲ 43.9%
		All	111	▼ 15.3%	176	▲ 58.6%	277	▲ 57.4%	57	▼ 79.4%	38	▼ 33.3%	522	▲ 1273.7%	156	▼ 70.1%
Thailand	Other	All							257		498	▲ 93.8%			172	
		All			63		157	▲ 149.2%	247	▲ 57.3%	456	▲ 84.6%	492	▲ 7.9%	277	▼ 43.7%
China	All	55		63	▲ 14.5%	50	▼ 20.6%	19	▼ 62.0%	19	▲ 0.0%	69	▲ 263.2%	338	▲ 389.9%	
Malaysia	All	112	▲ 43.6%			9		64	▲ 611.1%	9	▼ 85.9%	26	▲ 188.9%	76	▲ 192.3%	
Other	All	32	▲ 45.5%	20	▼ 37.5%	11	▼ 45.0%	13	▲ 18.2%	37	▲ 184.6%	32	▼ 13.5%	425	▲ 1228.1%	
Total			2,110	▲ 1.5%	2,206	▲ 4.5%	2,269	▲ 2.9%	2,236	▼ 1.5%	2,343	▲ 4.8%	2,418	▲ 3.2%	2,369	▼ 2.0%

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 decreased ~40 percent in Q4 compared to the same quarter last year. On a total basis, Japanese imports of Peruvian sardine surimi were down 17.6 percent in 2023. When bundling "other" surimi and "sardine" surimi, overall Japanese imports of Peruvian surimi were down by 12.5 percent in 2023 compared to 2022. Meanwhile, "sardine" and "other" surimi imports from all countries were 2.7 percent up year-over-year in 2023.

Japan importing Sardine, Other surimi from Peru

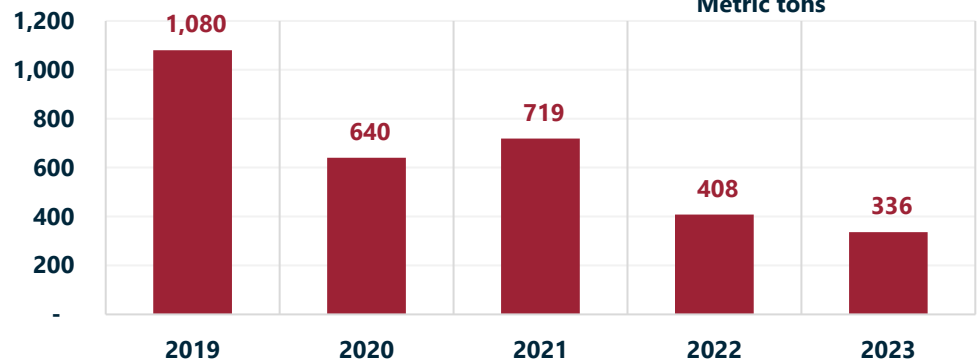


Figure 38. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting

Japan importing Sardine, Other surimi from Peru

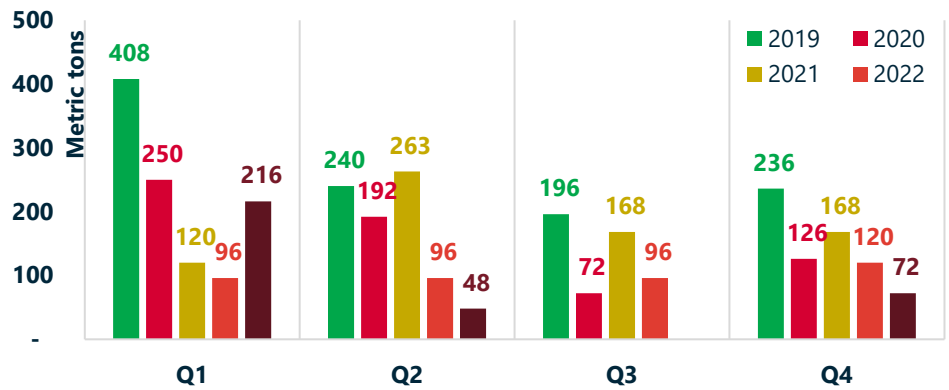


Table 39. Japanese imports of sardine surimi from Peru. Source: Japan's customs, UB Consulting. *Q4 is incomplete

Sardine surimi, to Japan, Total

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

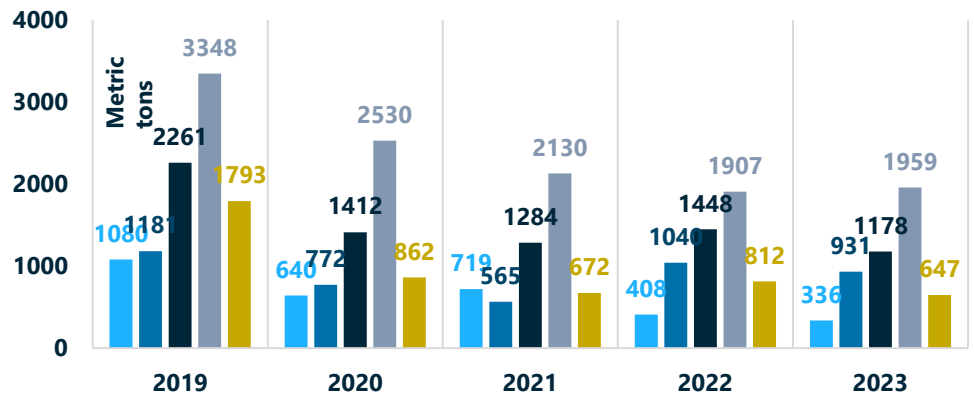


Figure 40. Japanese imports of sardine surimi from Peru, and Peruvian exports of surimi to Japan Source: Japan's customs, Peru's customs, UB Consulting

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 3.9 percent compared to 2022. Tropical surimi production estimates suggest an increase of roughly ~15.5 percent in 2023, while carp estimates show a decrease of nearly 14 percent during the same period.

Japanese imports of Chinese surimi point out a contraction of about 26 percent in 2023 compared to 2022.

Surimi Production Estimates, China Total

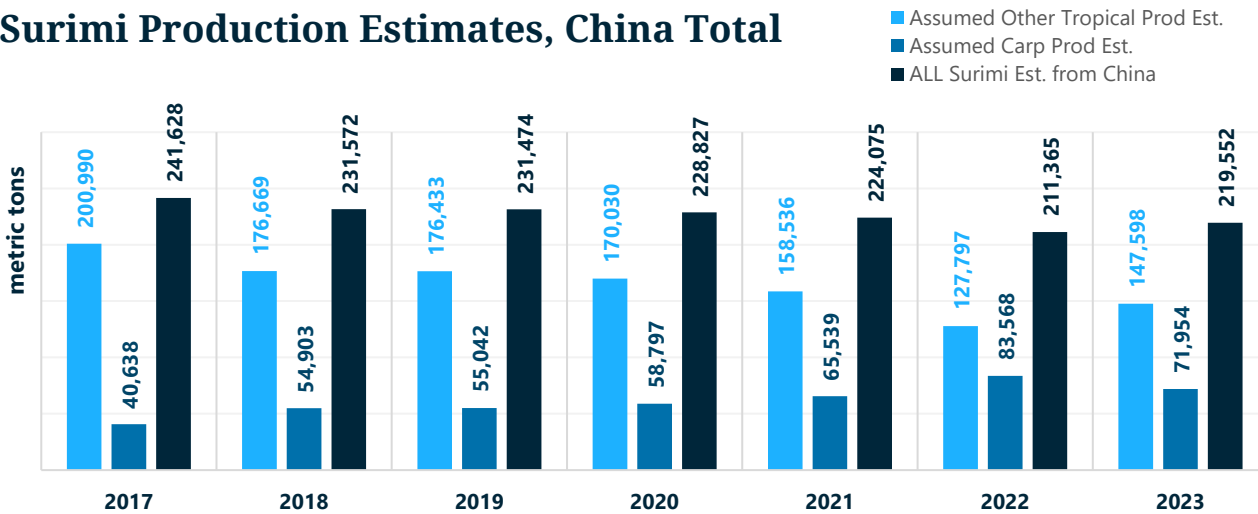


Figure 41. Production estimates of Chinese surimi. Source: Customs, UB Consulting.

Surimi Imports from China Total

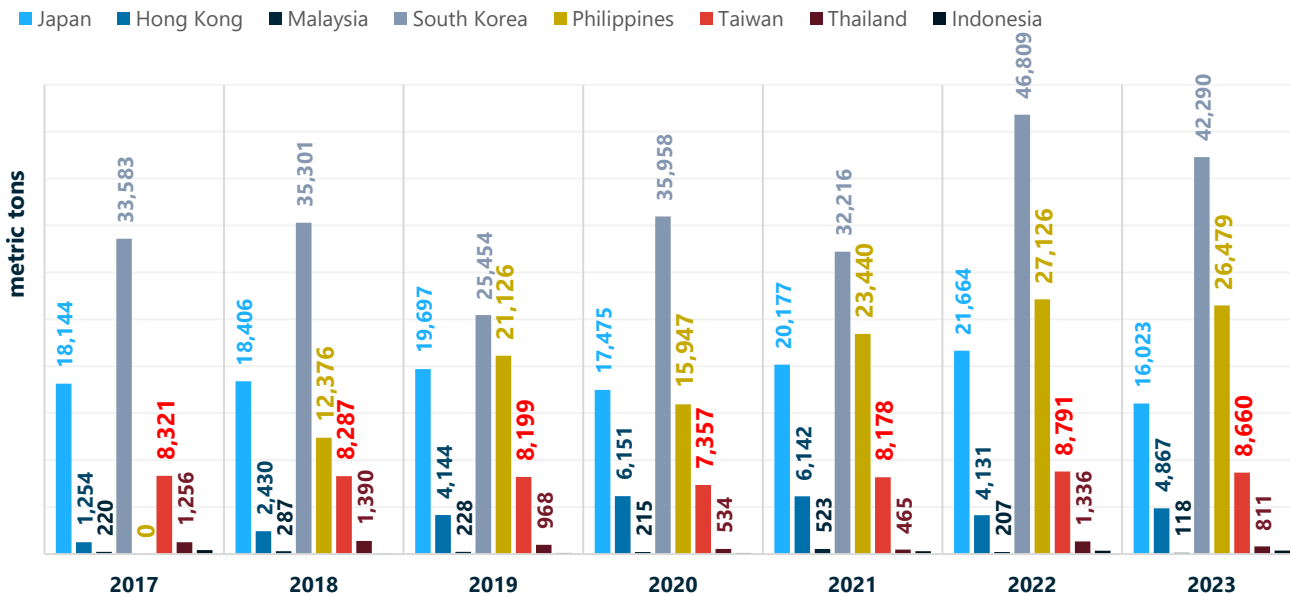


Figure 42. Countries declaring imports of Chinese surimi. Source: Customs, UB Consulting.

Russian Surimi, Japanese and other imports



According to a presentation given late last year by the Deputy CEO of Russian Fish Company, Russian surimi paste production in 2023 was 54,000 mt and forecasted to grow to 70,000 mt in 2024. From late 2021 through December 2022, total trade data accounted for about 22 thousand metric tons of Russian Pollock surimi, which matches figures released by the Pollock Catchers Association.

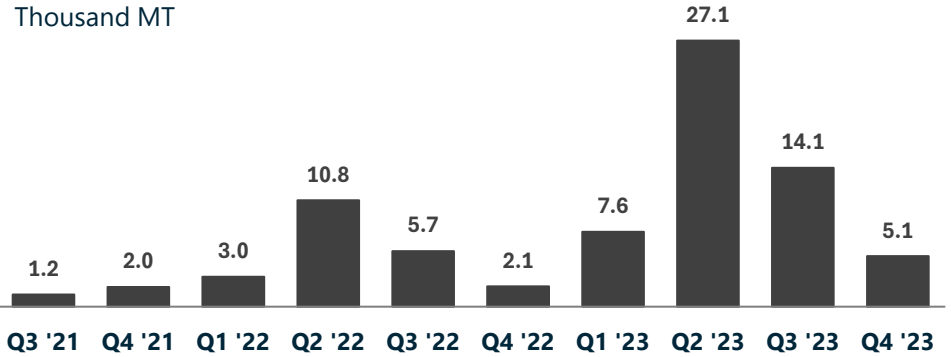
However, it is difficult to confirm the 2023 production when looking at international trade data. For example, some categories disclose if it is surimi, while others only disclose "Meat, whether minced or not," a category as "Minced, other," and "other." For example, there have been significant increases in imports in categories that may include surimi paste, such as "Minced, other." In 2023, imports from Russia under these categories for all countries totaled ~57.6 thousand metric tons. If labeled only "surimi," the number would be around 24 thousand metric tons, while the rest would be considered "meat." The difference could be product that stays in the Russian domestic market or within categories we are not capturing. There could also be other explanations. We will continue to pursue reconciling the production estimates and what shows up in international trade.

As a result, we have taken the numbers published in the above press release and applied a seasonal factor, rooted and lagged in trade data. The data is displayed in the top chart. Using countries declaring imports from Russia—since Russia is not making their trade data available—we noticed considerable increases in pollock surimi trade over the last several quarters.

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

Russian Production of Alaska Pollock Surimi (Est.)

Source: Urner Barry Consulting, GAPP Surimi Tracker. Importing countries' customs authority, press release



Surimi Imports by Declaring countries from Russia

Source: Urner Barry Consulting, GAPP Surimi Tracker. Importing countries' customs authority

Q1 '24 is incomplete

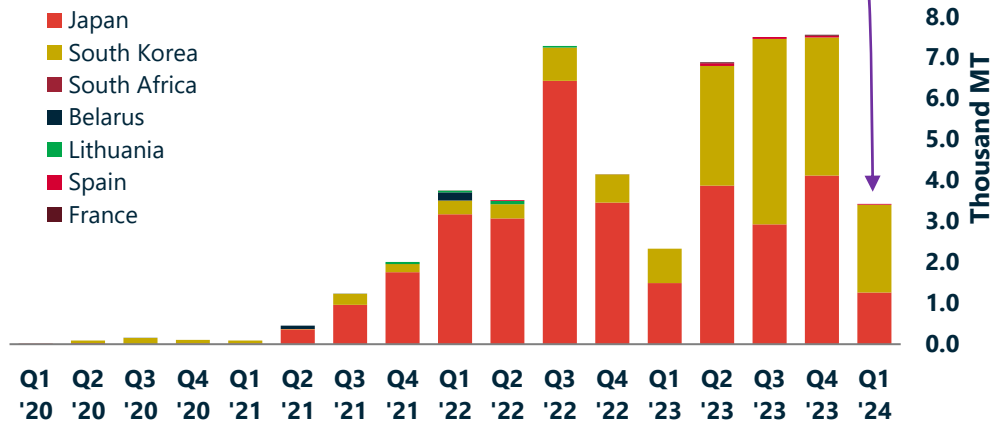


Figure 43. Production estimates of Russian pollock surimi and countries declaring imports. Source: Customs, UB Consulting. *Q4 is incomplete

Meat Imports by Declaring countries from Russia

Source: Urner Barry Consulting, GAPP Surimi Tracker. Importing countries' customs authority

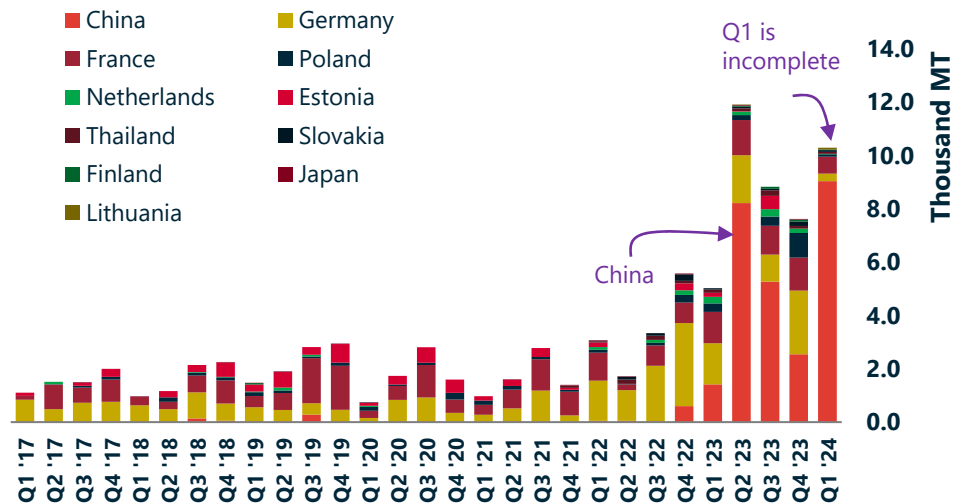


Figure 44. Countries declaring imports of Russian pollock meat (minced or not). Source: Customs, UB Consulting. *Q4 is incomplete

Continued from page 1 ... Alaska Pollock surimi production increased ~21 percent year-over-year, recording the largest production since 2019, or pre-pandemic. Preliminary total numbers for Alaska Pollock surimi production in Q1 of 2024 revealed a contraction compared to last year by about ~15 percent, which resembles figures from 2022; however, on a weekly basis, AKP surimi production through week 15 is down by ~12.7 percent compared to the same period a year ago. Production estimates of Japanese Pollock showed an alarming ~28 percent decrease year-over-year; however, we are still missing about three months of catch data. However, according to some sources, production of Japanese pollock surimi is still expected to decline compared to a year ago. Production of Itoyori surimi, the most immediate substitute of AK Pollock surimi, registered a decrease of ~25 percent year-over-year; however, at ~69 thousand metric tons, itoyori surimi production estimates suggest larger figures than in 2020 and 2019. Our estimates of carp surimi production in 2023 revealed a ~14 percent decline compared to last year; however, such a decrease is minor compared to the growth experienced in 2022. We might continue to see overall corrections in both volumes and prices from the pandemic, possibly throughout 2024, particularly amid low prices seen through Q4 and preliminary data from Q1 2024.

Tropical surimi production estimates suggest a contraction of roughly ~4 percent year-over-year. But even despite the contraction in this category, which is the largest of all surimi production, production increases in other species like AK Pollock from Russia and the US were sufficient to offset a potential shortfall.

Pacific Whiting production estimates suggest a contraction of about 21 percent in 2023, year-over-year.. These production levels are in line with estimates before 2022.

Continued from page 7 – Tom Asakawa – Japanese Surimi Market

Processed seafood market will increase by 1% in 2024

According to market research company Fuji Keizai, the domestic market size for processed seafood products in 2024 is expected to reach 954.3 billion yen, an increase of 0.6% from the previous year. In addition to incorporating consumers' health consciousness, expanding suggestions for ways to eat is helping revitalize the market. The company predicts that sales will expand to 955.1 billion yen in 2025.

Despite the challenges, manufacturers have shown resilience in raw material shortages. The raw material situation for processed seafood products in 2022 and 2023 has worsened due to poor catches, mainly in Japan, and rising prices for imported raw materials due to the weak yen. It has resulted in a shortage of seaweed, smoked salmon, and canned seafood products. However, manufacturers have proactively found solutions, even when normal sales promotion activities cannot occur. Despite soaring transportation, packaging materials, and labor costs, they have also maintained product quality.

Manufacturers have been innovative in their strategies to attract new users. They have shifted from focusing solely on fish's DHA and EPA to promoting health by highlighting fish as a good source of protein. They also promote its effectiveness in suppressing blood sugar levels before meals. This creative approach attracts new users and contributes to the market's growth.

In addition, some companies are seizing the return to cooked rice due to the rise in prices of wheat products such as bread and pasta as an opportunity to propose ways to eat it, such as using it for cooking purposes or toppings.

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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