



# TROPICAL SURIMI SUPPLY AT RISK

CERTIFICATION AND RATINGS  
**COLLABORATION**

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In 2019, the Certification and Ratings Collaboration commissioned an analysis of the sustainability performance of tropical surimi fisheries. [\*The Production of Surimi and Surimi Seafood From Tropical Fish – A Landscape View of the Industry\*](#) provides a comprehensive look at the sustainability challenges facing tropical fisheries supplying surimi trade worldwide. The Certification and Ratings Collaboration is particularly grateful to Duncan Leadbitter, of Fish Matter Pty Ltd, Pascal Guennegues, of Future Seafood, and Jae Park, of the Jae Park Surimi School, for their leadership in developing this analysis.

This document provides an overview of the report's key findings for surimi businesses. Unless otherwise noted, quotations and references are drawn from the report.

## DEFINING TROPICAL SURIMI

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Surimi is predominantly a ground fish protein ingredient used in seafood dishes for nearly a millennium. The modern tropical surimi market produces 2.5 million tonnes of finished surimi seafood (using about 3.5 million metric tonnes of whole fish) annually, accounting for 70% of worldwide surimi production, with pollock, whiting, and other coldwater fishes accounting for the balance.

Tropical surimi ingredients are sourced largely from countries in Southeast Asia, India, Pakistan, and China. While threadfin breams, lizardfishes, big eye snappers and goatfishes comprise more than 90% of tropical surimi production, the trade includes more than 120 source species. Tropical surimi products like fish balls, crabsticks, and other ingredients are widely consumed across Asia, in Europe, Russia, and the United States.

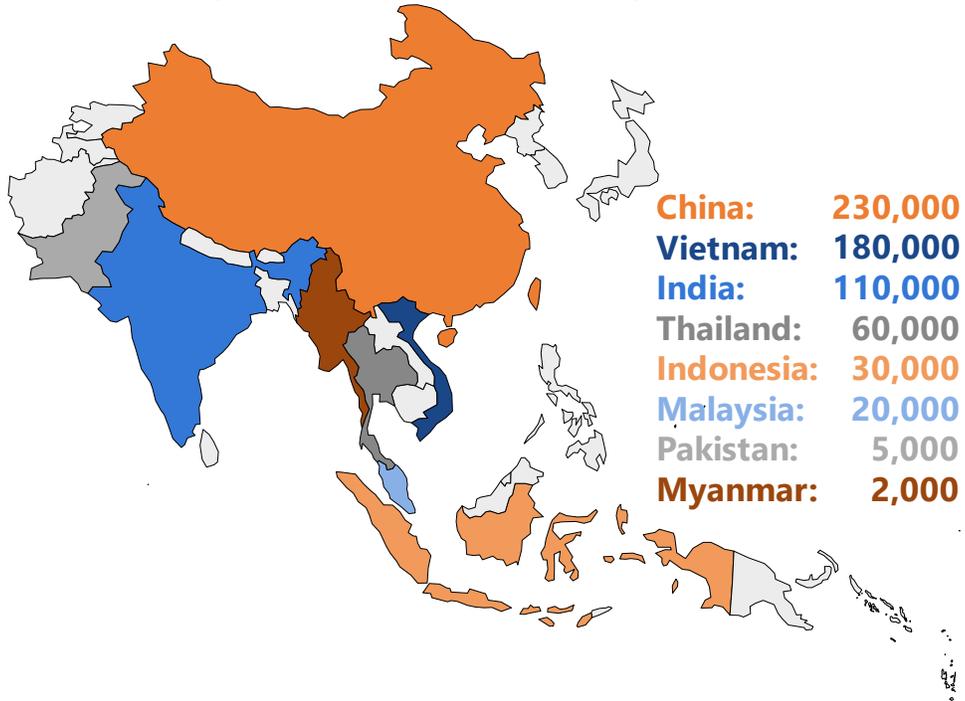
## Key countries

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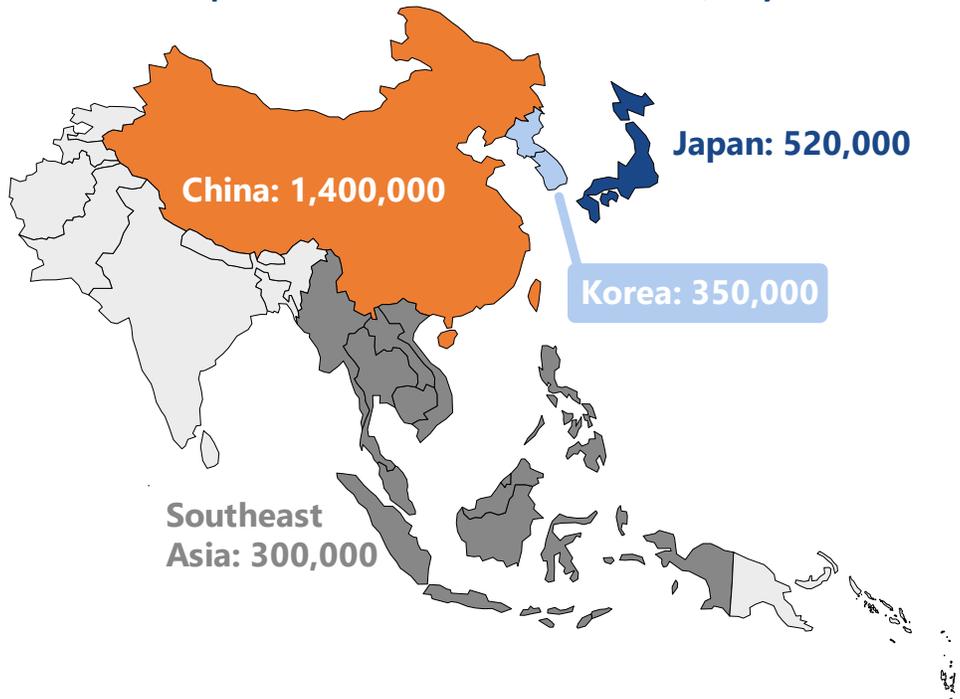
While surimi is produced worldwide, tropical surimi production, import, and export is led by several key countries. The top chart in this section illustrates the production of **surimi** (the raw material used for the production of finished surimi seafood). The bottom chart illustrates the production of finished **surimi**

**seafood** products ready for sale at retail or food service. All volumes are estimates, and unless otherwise noted, volumes in this section are in tonnes.

### Tropical Surimi Production, Key Countries



### Finished Tropical Surimi Seafood Production, Key Countries



## Real sustainability threats

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Coldwater surimi available in North America is largely sourced from fisheries certified to the Marine Stewardship Council Fisheries Standard. [The Alaskan pollock snapshot](#) on the Collaboration's Sustainable Seafood Data Tool illustrates this, as does the [U.S. hake snapshot](#). Tropical surimi fisheries are much less likely to have earned certification or a Best Choice rating by the Monterey Bay Aquarium's Seafood Watch Program. As illustrated by the Data Tool snapshot of two common tropical surimi ingredients, [threadfin dwarf bream and threadfin breams nei](#), tropical surimi fisheries are typically rated Avoid by Seafood Watch or, even more likely, have not even been assessed.

Many tropical fisheries (e.g. shrimp) targeting a few species typically have discard rates of non-target fish equal to 70-90% of the total catch. Those that take fish for surimi, by contrast, often have no discards, as all components of the catch have a market. Such multispecies fisheries present unique management challenges. For example, these fisheries face different maximum sustainable yield (MSY) values for each species and, since the concept of MSY is commonly defined solely in terms of fishing productivity, it does not consider predation or other species interaction. Research has shown that employing single species MSY estimates "can overestimate the combined sustainable yield of the combined fishery by 25-50% or more." Having said this the lack of selectivity can be beneficial as it makes use of both predators and prey, helping reduce ecosystem distortion if managed carefully. New management approaches are already available to guide fishery managers and stakeholders.

### **In Their Own Words:** *Selected Sustainability Improvement Obstacles, According to Surimi Producers*

- Lack of knowledge at the company level about sustainability issues
- Lack of concern of the consumers toward sustainability
- Consumers' ignorance regarding the problems of sustainability
- Price issues, sustainable surimi being more expensive than non-sustainable

Beyond the inherent complexity of multispecies fishery management, tropical surimi fisheries typically face a range of other sustainability challenges. These include but are not limited to:

- Diverse catches that make detailed catch logs challenging
- Complex supply chains that make traceability difficult
- Labour, equity, community engagement, and other social issues, contributing to a wide range of illegal practices ranging from license avoidance and the use of banned gear to the employment of slave labour and forced labour in some cases
- Governmental management systems with significant limitations, such as
  - Infrequent stock assessments, resulting in insufficient data for informed management decisions
  - The absence of transparent and accountable governance structures
  - Failure to adopt fishery management plans with responsible and accountable objectives
  - Deviating from scientific evidence to limit the number of fishing vessels during a fishery's development, in favor of "open access" policies

- A lack of remedial action in response to clear evidence of declines in catches and Catch Per Unit Effort
- Illegal, Unregulated and Unreported fishing is poorly controlled for both domestic and foreign vessels

Surimi producers have begun to feel the impact of overfishing, leading some to worry that surimi is “a sunset industry.” A survey of producers in China, India, Malaysia, and Vietnam found that, in recent years:

- The average size of fish has declined by about 30%
- Landing volumes have declined by as much as 50%

As overfishing has taken its toll, some surimi businesses have ignored the productivity declines [and price increases](#), opting instead to fish elsewhere, make use of smaller fish, use new species or substitute farmed fish. This approach does nothing to mitigate the harm to the initial fishery. It also perpetuates a cycle that will, over time, make surimi supplies less dependable, more expensive, and of lower quality. Moreover, it means that the power of businesses to help promote good management for the benefit of the fish and those that depend on them is lost.

## Government and industry interest in improvement

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While the overall sustainability and social responsibility landscape for tropical surimi fisheries remains challenging, there are encouraging examples of effective management among countries producing tropical surimi. Thailand, in particular, has demonstrated real leadership. Noteworthy signs of management improvements within the region include:

- Thailand and Malaysia have implemented limited entry regimes in response to indicators of overfishing
- Thailand and India conduct stock assessments on regular and effective intervals
- Indonesia has taken strong action against foreign vessels fishing illegally in its waters
- Thailand and Vietnam have made progress toward effective governance structures, and Indonesia has begun making advances
- Thailand has a well-articulated management planning system
- The Thai government has begun a reform process aimed at addressing labor rights issues, opening a long, difficult, and well overdue transition period

### **In Their Own Words:** *Selected Sustainability Improvement Incentives, According to Surimi Producers*

- Declining raw material availability that makes sourcing difficult
- Increasing consumers awareness regarding the issue of sustainability
- Pressure of the retail distribution that forces processors to reject surimi raw material of non-certified origin

Some in the industry are also taking action to improve surimi's sustainability performance or welcome market-based interventions. The Thai Frozen Foods Association, which counts several surimi producers among its members, is participating in FIPs, including the first ever conducted under the [Marin Trust multispecies pilot](#). Indian and Vietnamese stakeholders also launched surimi fishery FIPs in the past. A survey of 19 surimi seafood producing companies found majority support for market-based reforms, including:

- Increased retailer demand for sustainable product
- Incentives for increased supplies of sustainable surimi ingredients
- Consumer awareness efforts