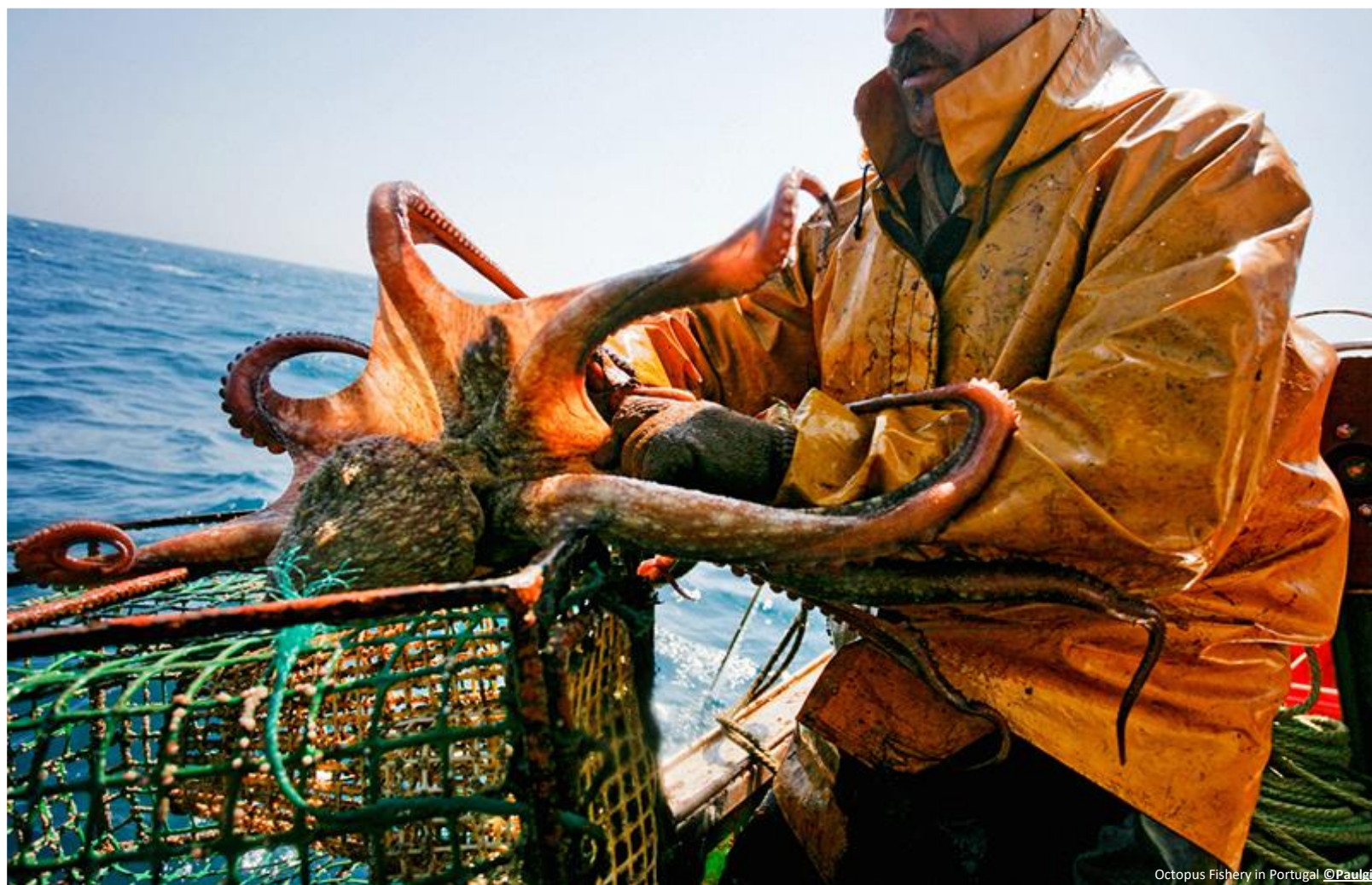


2021

Sector Sustainability Update



14 LIFE BELOW WATER



OCTOPUS

OCTOPUS

2021 Sector Sustainability update



Velodona togata Chun, 1915 ©rawpixel

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SUMMARY

Production and trade

- This sector consists of all **wild octopus stocks** exploited worldwide and is one of the smallest sectors within the scope of Target 75.
- **Virtually all production is from wild capture**, with relatively steady annual landings in the last two decades, reaching an average historical maximum during the last five years of about **500,000 tonnes**.
- Reported landings of octopus are mostly from the Pacific Ocean (60 percent), specifically the Northwest Pacific, with six countries from this region on the top ten producers list, led by Viet Nam and China.
- Almost half of all traded octopus (47 percent) **is exported to Europe**, mostly coming from Africa and Europe. The top producing Asian countries (e.g., Vietnam, China) export mainly to other neighboring Asian countries, namely South Korea and Japan.
 - These two markets can be distinguished based on target species. While European and North American markets source mostly large octopus, the Asian market targets mostly “baby octopus” (i.e., smaller octopus species or young individuals of large octopus species).
- The top ten exporters in the last decade for this commodity present a **positive trend in annual exports**. Senegal, Indonesia, Portugal, and Mauritania all grew their exports value by two percentage digits from the previous year.
- Catch reporting and traceability is still a problem in this sector, with some countries (e.g., China) reporting octopus pooled with other cephalopods (e.g., as Cephalopods nei).

T75 status and current strategy priorities

- **About 4.1 percent** (c. 20,000 t) of global octopus production is considered **sustainable or improving**. This is mostly coming from fisheries involved in active fishery improvement projects (FIPs) in Mexico and China.
- Improvement efforts focus on **engaging artisanal and industrial fisheries** in Mauritania, Morocco, Senegal, Mexico, Indonesia, Peru, and Chile in participatory fishery management.

DISCLAIMER

This report was prepared with information available from multiple sources, accessed in late September 2021. The report is not intended to be a comprehensive review of the sector, but rather a summary of progress against the Target 75 initiative, with some selected key highlights and improvement needs for the sector. For more detailed information on seafood production, trade, or the status and attributes of particular certifications and improvement projects, the original sources should be consulted.

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Octopus vulgaris in Almeria (Spain) ©Theasereje

THE TARGET 75 INITIATIVE

Sustainable Fisheries Partnership (SFP) applies a sectoral approach to its mission of making actionable information available to the supply chain, in order to leverage market forces to achieve improvements in fisheries. Seafood sectors may be defined in terms of the shared biological characteristics of harvested species, as well as their role in defined markets.

In 2017, SFP launched the Target 75 (T75) initiative, as a dedicated and concrete benchmark on the way to our ultimate goal of 100-percent sustainable seafood. **T75 aims to ensure that 75 percent of seafood (by volume) in 13 key sectors is either sustainable or making regular, verifiable improvements.** Together, these T75 sectors cover most of the main types of seafood consumed in North America and Europe, and a significant portion of what is consumed in Japan and Oceania.



OCTOPUS SECTOR

The octopus sector comprises all octopus species (families Octopodidae, Eledonidae). Octopus is mostly traded fresh/chilled or frozen; only small volumes are traded prepared or preserved.

The most important end markets for octopus are the European Union and the United States. Asia is an important market for small (“baby”) octopus.

The most relevant species by production volume are the Common octopus (*Octopus vulgaris*) and the Mexican four-eyed octopus (*Octopus maya*).

More information on the definition and scope of this and other Target 75 sectors is available [here](#).



Octopus fishery detail ©algaedoc



Octopus trap fishery in Southern Portugal ©João Pontes

2 SCOPE AND OBJECTIVES

This report provides a quick summary update on progress so far for the octopus sector against the 75-percent goal, in terms of volume of production that is already considered as either sustainable or improving. The update also includes highlights on which sources of production had the most relevant changes, as well as the most recent trends in production and trade.

For the purposes of this analysis, we define a fishery as “sustainable” if it is Marine Stewardship Council (MSC)-certified or green-listed in SFP’s Metrics tool. We define a fishery as “improving” if it is certified by one of the following programs: MarinTrust, ASMI RFM, Iceland Responsible Fisheries, Fair Trade USA; if it is under full assessment in the MSC program; or if it is in a fishery improvement project (FIP) that is making good progress (i.e., with a progress rating of A, B, or C, or formed within the last 12 months but still unrated), using SFP’s FIP Evaluation Tool.

Data on production refers to 2019 production and is from the FAO FishstatJ database. Status in terms of certifications and fishery, and FIPs refers to September 2021.



Octopus traps in Kamishima (Japan) ©Yanajin33



Longarm octopus in market (South Korea) ©Ulrich Walder

3 PRODUCTION

Octopus is one of the smallest seafood sectors within the scope of T75, with average global production of 500,000 tonnes in the last five years (FAO 2021). This sector presents an increasing trend in production (Figure 1), alternating years of negative growth with years of extremely high growth.

There has been an average of 2-percent growth in the past two decades, with 8-percent growth from last year. Most octopus catches are from the Pacific Ocean (60 percent of total production), followed by the Atlantic Ocean (28 percent). The NW Pacific was the most relevant fishing area in 2019, accounting for 32 percent of total octopus catches (Figure 2).

The top ten producing countries account for 84 percent of total octopus production. Asian countries represented 62 percent of world octopus production in 2019, with Viet Nam and China together accounting for 43 percent (Figure 3). African countries are the second major contributors (23 percent), with Morocco and Mauritania representing 17 percent of world octopus production. The most relevant species are the Common octopus (*Octopus vulgaris*, 9.3 percent of total production) and the Mexican four-eyed octopus (*Octopus maya*, 4 percent).

Top producers such as China and Viet Nam report octopus landings in aggregate categories that also include also webfoot octopus (*Amphioctopus fangsiao*) and other unreported species that are commercially explored in the pacific and Indian Oceans (Appendix I).

Figure 1 Time series of global octopus production and annual export value (bars)

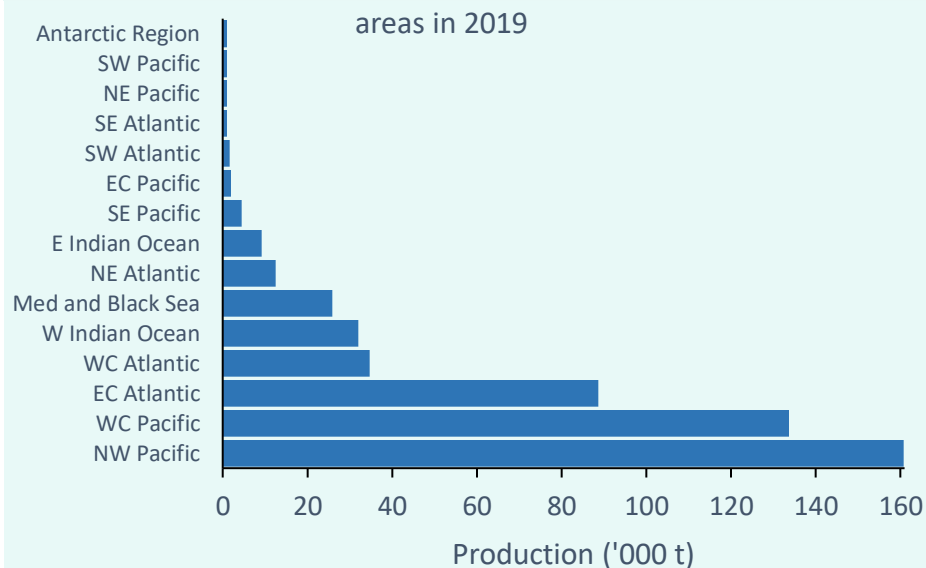
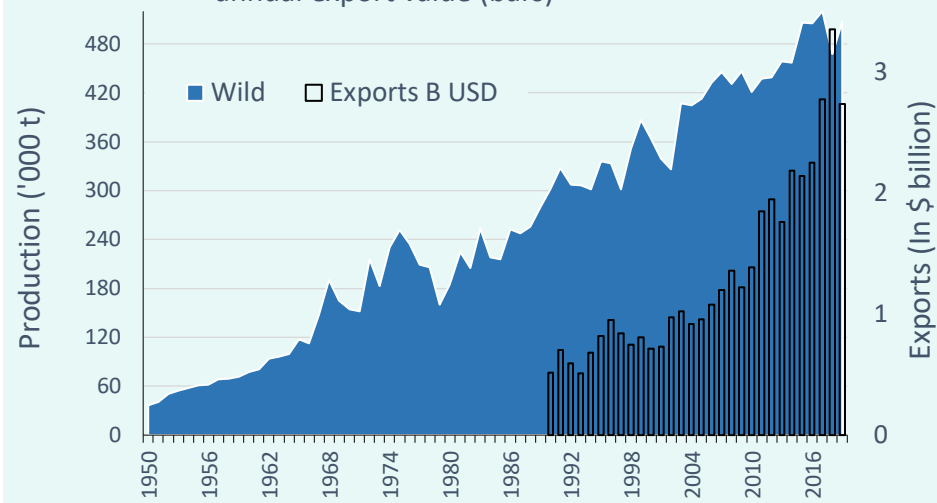
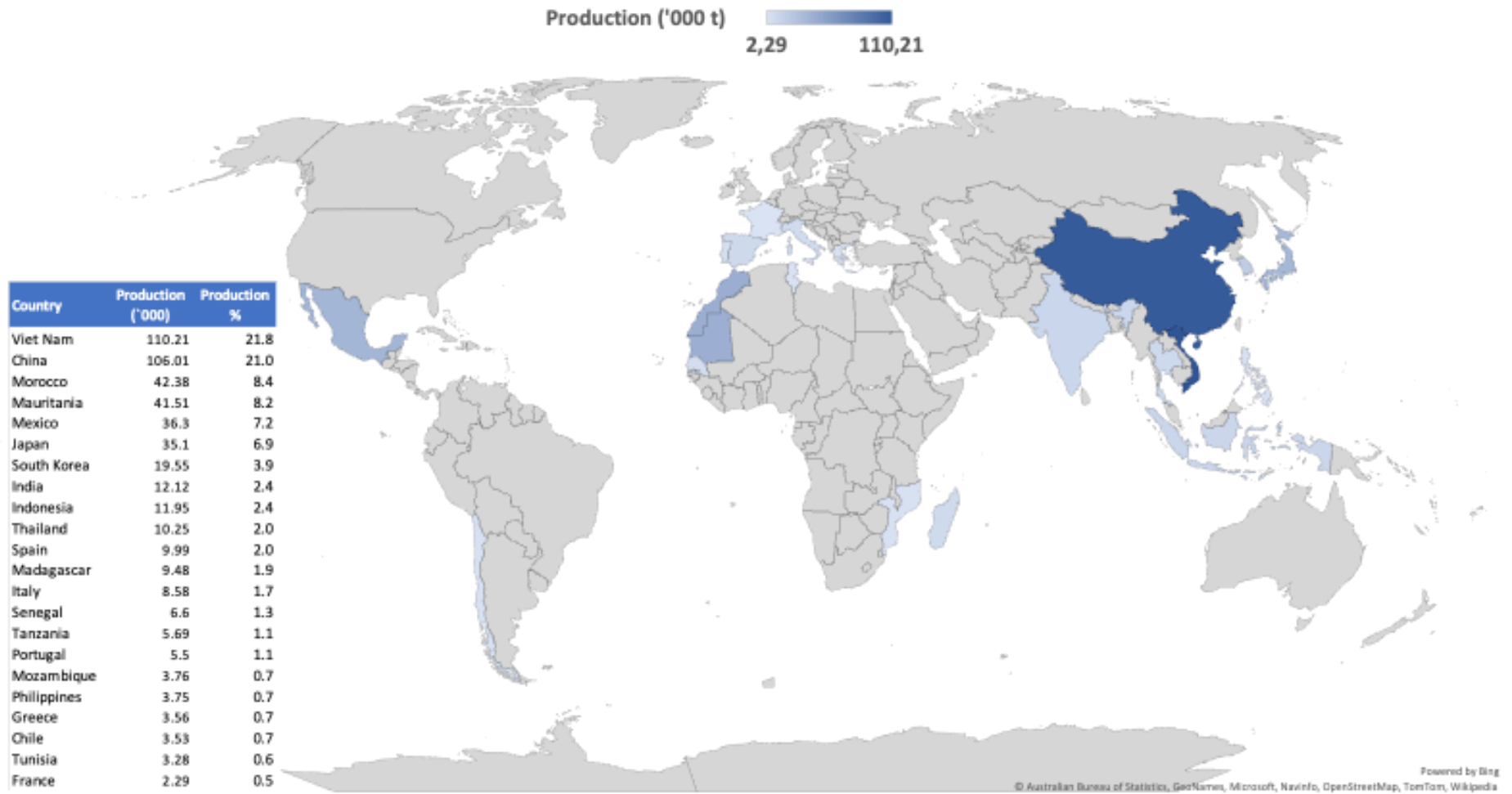


Figure 3 | The top 20 octopus producing countries in 2019 (97 percent of total catches)



Source: FAO FishstatJ

4 TRADE STATISTICS

As with production, octopus is a relatively small seafood sector in terms of trade. Global exports represented about USD 2.7 billion in value in 2019, with an 18-percent contraction from last year. In the past decade, there was an 85-percent increase in economic gross growth in global trade for this commodity, from USD 1.2 billion in 2009 to USD 2.7 billion in 2019, representing an average annual growth variation of 8 percent (Figure 1) (FAO 2021b).

The top 10 exporters represented 89.3 percent of global trade value in 2019, with Asia accounting for 37 percent, led by China with USD 0.5 billion in value, followed by Africa with 35 percent and Europe with 17 percent (Table 1).

Globally, the top ten exporters of this commodity registered a positive trend in annual exports revenues over the last decade. Senegal, Indonesia, Portugal, and Mauritania all increased their export values by two percentage digits from the previous year, while Morocco registered the lowest growth rate for exports among the top countries for the same period (S&P 2021).

The top nine importers represented 96 percent of total trade volume for this commodity in 2019. Bilateral trade flows show

Europe as the largest importer for octopus (47 percent), representing USD 1.3 billion, followed by Asia with USD 1.1 billion (40 percent), mostly small-size octopus, and finally North America (US and Canada) representing about USD 0.2 billion (8 percent) (Table 1).

Table 1 | Bilateral trade flows showing the main octopus exporters in 2019 and their top trade partners, by percentage of each country’s total exports and respective market shares.

Exporter	Importer										Total 2019 exports (USD billion)	% Total Exports
	EU / EEA / UK	South Korea	Japan	United States	Taiwan	China*	Viet Nam	Canada	Australia	Other		
China*	1%	48%	27%	4%	11%	3%	0%	1%	0%	5%	0.51	19%
Mauritania	64%	5%	27%	0%	0%	5%	0%	0%	0%	0%	0.46	17%
Morocco	86%	0%	12%	0%	0%	0%	0%	1%	0%	0%	0.43	16%
Spain	74%	0%	0%	21%	0%	0%	0%	1%	0%	4%	0.39	14%
Viet Nam	8%	60%	23%	3%	0%	2%	0%	0%	1%	3%	0.29	11%
Indonesia	38%	6%	11%	21%	1%	9%	1%	0%	3%	11%	0.11	4%
Portugal	83%	0%	0%	10%	0%	0%	0%	1%	0%	5%	0.07	3%
Senegal	88%	0%	8%	0%	0%	2%	0%	0%	0%	3%	0.07	2%
India	26%	0%	2%	14%	0%	19%	34%	0%	1%	3%	0.05	2%
Thailand	2%	69%	11%	8%	2%	1%	1%	0%	3%	1%	0.05	2%
% Total Imports	47%	18%	15%	7%	2%	3%	1%	1%	0%	4%		

(*) Includes Hong Kong

Source: FAO 2021c

Note: For some countries (e.g., the Philippines) octopus species are reported with other cephalopods, and thus export value might be overestimated.

5 PROGRESS AGAINST THE 75% TARGET

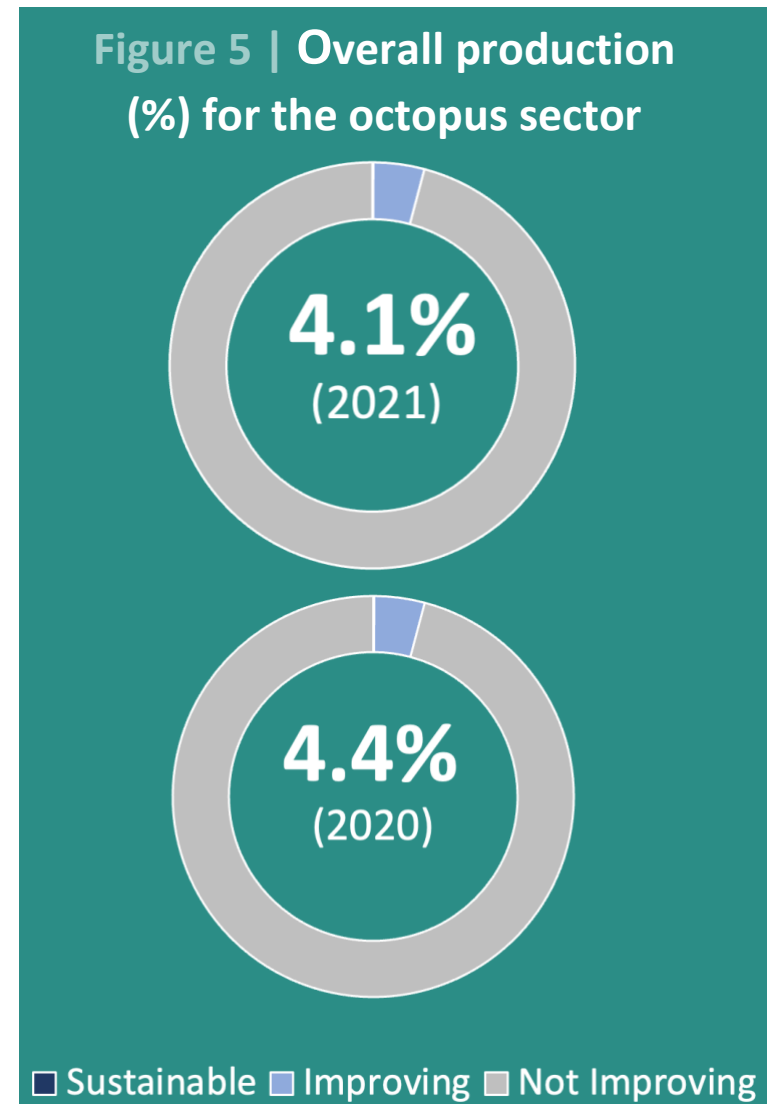
Currently, roughly 21,000 tonnes, or 4.1 percent of global production, are considered sustainable or improving (Figure 5 and Appendix II). The top contributing countries of improving production for this commodity were Mexico (two FIPs; 2 percent of the total sector production), and China (one FIP; 1.6 percent).

Compared to 2020, the octopus sector showed a decrease in relative volume (~0.3 percent). Although absolute sustainable or improving volume was the same, there was an increase of overall volume covered by this sector of 7.4 percent.

This sector includes both FIPs (7) and MSC-certified fisheries (2), distributed across nine countries from all continents. As in the previous year (2020), Mexican FIPs accounted for most of this improvement (48 percent of improving volume), followed by China (38 percent) (Appendix II). Also, about 10 species are reported in these fisheries, and only two of them have official volume reported on annual basis by FAO (FAO 2021).

In terms of ongoing FIP catalyzation efforts, there were two prospective FIPs at the time of the analysis: Indonesia octopus - spear & diver-caught and Mauritania octopus - bottom trawl/trap.

Learn more about SFP’s Target 75 strategy in 2022 and prioritized fisheries [here](#).



6 CHALLENGES TO SUSTAINABILITY

Octopus is mainly harvested by artisanal fleets spread out across large areas and involving many vessels and fishers. While some fisheries are well-assessed and managed, many have not been a priority for management authorities, and there remain the following challenges:

- Lack of data and fisheries assessment
- Weak management and regulatory frameworks
- Low enforcement
- Fishers are not engaged in fishery management decisions
- Fishers are not adequately registered.

As such, the focus for improvement efforts lies in developing a co-management approach that will better engage fishers in managing octopus resources.

SFP is working with the octopus industry across the supply chain to address these issues.

Further information can be found on the SFP website:
<https://sustainablefish.org/roundtable/global-octopus/>



Octopus artisanal fishing fleet in port (Mauritania) © SFP

7 REFERENCES

- FAO. 2021. Fishery and Aquaculture Statistics. Global production by production source 1950-2019 (FishstatJ). In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 2020. <http://www.fao.org/fishery/statistics/software/fishstatj/en>
- FAO. 2021b. Fishery and Aquaculture Statistics. Global Fish Trade - All partners aggregated 1976-2019 (FishstatJ). In: FAO Fisheries and Aquaculture Division [online]. Rome. Updated 2021. www.fao.org/fishery/statistics/software/fishstatj/en
- FAO. 2021c. Fishery and Aquaculture Statistics. Global fish trade - By partner country. 2019 (FishstatJ). In: FAO Fisheries and Aquaculture Division [online]. Rome. Updated 2021. www.fao.org/fishery/statistics/software/fishstatj/en
- FishChoice. 2021. FisheryProgress.org. October 2021. Accessed online at: <http://www.fisheryprogress.org>
- MarinTrust. 2021a. "MarinTrust Approved whole fish and by-product raw material." MarinTrust website. October 2021. Accessed online at: <https://www.marin-trust.com/marintrust-approved-whole-fish>
- Marine Stewardship Council (MSC). 2021. Fisheries in the MSC program. MSC website. October 2021. Accessed online at: <https://fisheries.msc.org/en/fisheries/>
- Monterey Bay Aquarium (MBAq) 2021. SeafoodWatch: Seafood Recommendations. MBAq website. October 2021. Accessed online at: <http://www.seafoodwatch.org/seafood-recommendations>
- Sustainable Fisheries Partnership (SFP). 2017. Our Target 75 Initiative. June 2017. 7 pp. <https://www.sustainablefish.org/News/SFP-launches-Target-75-initiative>
- Sustainable Fisheries Partnership (SFP). 2021a. FishSource. World Wide Web electronic publication. July 2021. Accessed online at: <http://www.fishsource.org>
- SFP and UW. 2021. Fishery Improvement Projects Database (FIP-DB). 2020 version. Sustainable Fisheries Partnership (SFP). University of Washington (UW). Last updated December 2020. Accessed online at: <http://sustainablefisheries-uw.org/databases/fishery-improvement-projects-database/>
- S&P Global 2021. Panjiva Research platform, Macro trade data tool. S&P Global Market intelligence. New York. Accessed December 2021. <https://panjiva.com/macro>
- Warwick H. H. Sauer, Ian G. Gleadall, Nicola Downey-Breedt, Zöe Doubleday, Graham Gillespie, Manuel Haimovici, et al. (2021) World Octopus Fisheries, Reviews in Fisheries Science & Aquaculture, 29:3, 279-429, [DOI: 10.1080/23308249.2019.1680603](https://doi.org/10.1080/23308249.2019.1680603)

8 GLOSSARY

ASMI	Alaska Seafood Marketing Institute	UoC	Unit of Certification (for a fishery under the MSC program)
EEZ	Exclusive Economic Zone		
FAO	Food and Agriculture Organization		
FIP	Fishery Improvement Project		
IRF	Iceland Responsible Fisheries MARINTRUST Global Standard for Responsible Supply of marine ingredients (Formerly IFFO RS)		
MBAq	Monterey Bay Aquarium		
MSC	Marine Stewardship Council		
MSC C	Marine Stewardship Council Certified		
MSC FA	Marine Stewardship Council Full Assessment		
NEI	Not Elsewhere Included		
NGO	Nongovernmental Organization		
SFW	Seafood Watch		
SR	Supplier Roundtable		
T75	SFP Target 75 initiative		

Appendix I | List of top octopus species and respective 2019 reported production.

Common name	Scientific name	2019 production ('000 t)	% of total
Common octopus	<i>Octopus vulgaris</i>	46.9	9.3
Mexican four-eyed octopus	<i>Octopus maya</i>	20.1	4.0
Horned octopus	<i>Eledone cirrhosa</i>	3.7	0.7
Musky octopus	<i>Eledone moschata</i>	2.2	0.4
Horned and musky octopuses	<i>Eledone spp</i>	1.2	0.2
Unihorn octopus	<i>Scaevargus unicolor</i>	0	0
Antarctic octopuses	<i>Pareledone spp</i>	0	0
Other	Octopuses, etc. <i>nei</i>	431.1	85.3

Source: FAO Fishstat (FAO 2021)

Appendix II | List of countries and octopus species covered by FIPs or MSC fisheries, and the respective percentage of the total estimated sustainable and improving volume for 2019. Data obtained from last T75 analysis (2021).

Country	Common name	Scientific name	% of sustainable/ improving total
Mexico	Verill's two-spot octopus	<i>Octopus bimaculatus</i>	47.9
	Hubbs' Octopus	<i>Octopus hubbsorum</i>	
	Mexican four-eyed octopus	<i>Octopus maya</i>	
	Common octopus	<i>Octopus vulgaris</i>	
China	Webfoot octopus	<i>Amphioctopus fangsiao</i>	38.3
India	Veined octopus	<i>Amphioctopus marginatus</i>	6.6
	Neglected ocellate octopus	<i>Octopus neglectus</i>	
Chile	Red octopus	<i>Enteroctopus megalocyathus</i>	3.5
Australia	Octopuses <i>nei</i> , etc.		1.6
Madagascar	Big blue octopus	<i>Octopus cyanea</i>	1.4
Spain	Common octopus	<i>Octopus vulgaris</i>	0.4
Japan	Giant Pacific octopus	<i>Enteroctopus dofleini</i>	0.2
Indonesia	Big blue octopus	<i>Octopus cyanea</i>	0
Mauritania	Common octopus	<i>Octopus vulgaris</i>	0



Octopus traps in Tunisia ©Goldendream21

FURTHER INFORMATION

<http://www.sustainablefish.org/>

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