# 2021 Sector Sustainability Update







14 LIFE BELOW WATER

# **COLDWATER CRAB**

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### 2021 Sector Sustainability Update

#### **MAIN AUTHORS**

Pedro Veiga (coordination) | Senior Scientist, Science Unit, M&E Division | <a href="mailto:pedro.veiga@sustainablefish.org">pedro.veiga@sustainablefish.org</a>Christiane Schmidt |SR M&E and Support Director, M&E Division | <a href="mailto:christiane.schmidt@sustainablefish.org">christiane.schmidt@sustainablefish.org</a>

### **OTHER CONTRIBUTORS**

Blake Lee-Harwood (<u>blake.lee-harwood@sustainablefish.org</u>), Christie Hendrich (<u>christie.hendrich@sustainablefish.org</u>), Patricia Amorim (<u>patricia.amorim@sustainablefish.org</u>), Ananta Murti (<u>ananta.murti@sustainablefish.org</u>), Miguel Ruano (<u>miguel.ruano@sustainablefish.org</u>), Amy Sweeting (<u>amy.sweeting@sustainablefish.org</u>), Alexia Morgan (<u>alexia.morgan@sustainablefish.org</u>), Dave Martin (<u>dave.martin@sustainablefish.org</u>)

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### **SUMMARY**

### **Production and trade**

- **Coldwater crab is a relatively small T75 sector**, with the latest (2019) catches totaling 342,000 tonnes, all from wild capture.
- Annual landings seem to have stabilized since 2000, ranging between about 350,000 and 400,000 tonnes.
- The sector is characterized by interannual peaks and drops in production, likely following the natural biological shifts of biomass in the respective crab populations.
- Russia, Canada, and the United States are the top producing countries, accounting for more than two-thirds (67 percent) of coldwater crab production.
- More than 90 percent of the crab is captured in the North Atlantic and Pacific oceans. The top capture species are queen (opilio) crab, edible crab, Tanner crabs nei, Dungeness crab, and red king crab, together representing more than threequarters of the total coldwater crab production.
- In terms of trade, Russia accounts for nearly half (46 percent) of total exported coldwater crab. Other important exporters are Canada, South Korea, and the United Kingdom. Most of the traded crab is estimated to be exported to the United States, China, and Japan.

### **T75 status and current strategy priorities**

- Almost half (47 percent) of global coldwater crab production is considered sustainable or improving. This supply is coming
  mostly from MSC-certified Canadian and Russian fisheries in the North Atlantic Ocean, <u>ASMI-certified Alaskan crab fisheries</u>,
  or fisheries involved in fishery improvement projects (FIPs) that are making good progress.
- To reach the 75-percent target, it will be necessary to reinvigorate stalled FIPs and catalyze improvements in fisheries with no prior sustainability initiatives.
- At the same time, issues such as climate change; interactions with endangered, threatened, and protected species; poor data transparency; and the Russian invasion of Ukraine threaten existing sustainability efforts and certifications.

### DISCLAIMER

This report was prepared with information 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. The trade analysis is based on FAO bilateral trade data, which may not fully depict the full trade flows from the first exporter to the last end market of certain commodities. 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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Fishing vessel loading king crab pots off the logger, Statter Harbor, Juneau, Southeast Alaska © Gillfoto, Wikimedia

### **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 <u>Target 75 (T75) initiative</u>, 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 <u>13 key sectors</u> 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.

## 1 COLDWATER CRAB SECTOR

This sector comprises all **crabs from coldwater regions and waters**, as well as **deep-sea crabs from tropical/temperate regions**. Virtually all production is from wild fisheries.

Coldwater crabs are mostly traded frozen. North America (United States) and Asia are the most important end markets, while Russia and Canada are the main exporters of this commodity.

More information on the definition and scope of this and other Target 75 sectors is available <u>here</u>.



King crab aggregation © Montgomery Don, U.S. Fish and Wildlife Service

## **2** SCOPE AND OBJECTIVES

This report provides a quick summary update on progress so far for the <u>coldwater crab sector</u> 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 <u>Metrics</u> 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 <u>FIP Evaluation Tool</u>.

Data on production refers to 2019 production and is from the FAO <u>FishStatJ</u> database. Status in terms of certifications and fisheries, and FIPs and AIPs refers to September 2021.





## **3 PRODUCTION**

Coldwater crab is one of the smallest sectors under the Target 75 initiative, with recent average annual production between 350,000 and 400,000 tonnes (FAO 2021a). After an increasing trend in landings between the mid-1980s and 1999, production has stabilized since 2000 (FAO 2021a). However, the sector production is characterized by cyclical peaks and drops in production, likely following the natural interannual biological shifts in biomass in the respective crab populations. Most crab is caught with pots and traps, followed by bottom trawl and gillnets (Pauly et al., 2020).

In terms of top producing countries, Russia (27 percent), Canada (24 percent), and the United States (16 percent) account for more than two-thirds (67 percent) of coldwater crab production. More than 90 percent of the crab is captured in the North Atlantic and Pacific oceans, namely in the NW Pacific (89,000 t; 26 percent), NE Atlantic (88,000 t; 26 percent), NW Atlantic (86,000 t; 25 percent), and NE Pacific (55,000 t; 16 percent) (Figure 2, Appendix IA) (FAO 2021a).

The top capture species are queen (opilio) crab (30 percent of total production), edible crab (15 percent), Tanner crabs nei (13 percent), Dungeness crab (11 percent), and red king crab (8 percent); together these five species groups account for more than three-quarters of the total coldwater crab production. Time series analyses reveal a slow but steady increasing trend in production for edible and Dungeness crab, a decreasing trend after the 1998 peak for queen crab, and a recent increasing trend for red king crab, following an historic low in 2011. As with the overall sector, significant interannual shifts in catches also occur in these main capture species (Appendix IB, IC).



#### Figure 1 | Time series of coldwater crab production (area) and annual exports (bars)







**Figure 3** | The top producing countries for coldwater crab species (2019 data)

Source: FAO FishStatJ (FAO 2021a)

## **4** TRADE STATISTICS

Coldwater crab is a relatively small but increasingly important seafood sector in terms of international trade, with recorded average annual trade of about USD 2.5 billion. As with most seafood commodities, global trade has been increasing steadily, with annual exports almost doubling in the last decade, reaching USD 3.5 billion in 2019 (Figure 1) (FAO 2021b). As expected, coldwater countries lead the exports, with Russia alone accounting for almost half (46 percent) of total exported coldwater crab by value in 2019. Other important exporters are Canada (29 percent), South Korea (5 percent), and the United Kingdom (4 percent) (Table 2) (FAO 2021c). Even though the United States is the third top producing country, the relatively low exports suggest that most crab stays in the domestic market.

Russia (31 percent increase in market share) had the most significant growth in coldwater crab exports since 2010 (FAO 2021b). This growth is mirrored by the significant increase in Russia's crab catches, which almost tripled in the last decade (from c. 38,000 tonnes in 2009 to 92,000 tonnes in 2019) (FAO 2021a).

The United States, China, and Japan are currently the largest end markets for this commodity. With combined imports in 2019 of about USD 3.5 billion and 0.21 million tonnes, these three countries accounted for more than two-thirds of global coldwater crab imports in 2019 (Table 2) (FAO 2021c). In terms of bilateral trade flows, most Russian crab is destined for the United States and Asia, namely South Korea, Japan, and China. The United States is also the main market for Canadian and Danish exported crab by value. China is among the key importers for Chile, South Korea, and also the United States. Finally, most of the coldwater crab exported by European countries is traded with other European countries (Table 2) (FAO 2021c).



satude Exporter	United States	China	Japan	South Korea	EU_EEA_UK	Viet Nam	Hong Kong	Indonesia	Taiwan	Canada	Thailand	Singapore	Other	Total 2019 exports (USD million)	% of total exports
Russia	34%	18%	20%	23%	2%	1%	0%	0%	0%	2%	0%	0%	0%	1,801.5	46%
Canada	70%	18%	4%	0%	0%	3%	1%	3%	0%	0%	0%	0%	0%	1,105.7	29%
South Korea	9%	33%	16%	0%	2%	7%	18%	1%	5%	5%	1%	2%	1%	201.2	5%
United Kingdom	0%	29%	0%	0%	59%	0%	1%	0%	1%	0%	0%	0%	9%	137.0	4%
Norway	14%	5%	11%	17%	40%	3%	1%	1%	1%	3%	0%	1%	1%	119.5	3%
Chile	13%	58%	0%	1%	9%	1%	0%	4%	6%	1%	1%	0%	6%	87.1	2%
United States	0%	25%	32%	2%	1%	9%	1%	8%	1%	8%	8%	0%	5%	84.6	2%
Ireland	0%	14%	0%	0%	84%	0%	1%	0%	0%	0%	0%	0%	1%	62.6	2%
Denmark	42%	3%	2%	0%	44%	7%	0%	0%	0%	1%	0%	0%	1%	49.4	1%
Netherlands	1%	26%	0%	0%	70%	0%	0%	0%	1%	0%	0%	0%	2%	42.4	1%
France	0%	0%	0%	0%	96%	0%	1%	0%	0%	0%	0%	0%	3%	29.4	1%
Japan	5%	7%	0%	7%	0%	1%	16%	2%	10%	0%	7%	2%	41%	27.3	1%
Other	11%	5%	1%	0%	47%	0%	0%	2%	0%	1%	1%	0%	30%	130.0	3%
% of total imports	38%	17%	15%	11%	9%	2%	2%	1%	0%	1%	0%	0%	1%		

Notes: (1) EU\_EEA\_UK, European Union, <u>EEA</u> countries, and the United Kingdom. (2) With the exception of Russia, the trade data is based on reported exports. For Russia, the data is based on reported imports by partner countries, as all of Russia's exports do not include data on the specific importers. (3) For commodities reported as unspecified crab, exports by coldwater countries (e.g., Russia, Canada, South Korea, Japan, Argentina) were assumed to be coldwater crab.

### **5 PROGRESS AGAINST THE 75% TARGET**

Currently, almost half (**47 percent**) of global coldwater crab production is considered **sustainable or improving**. Sustainable production (i.e., from MSC-certified fisheries) is estimated to represent roughly 18 percent of the total sector. This is coming mostly from MSC-certified Canadian and Russian fisheries in the North Atlantic Ocean. Most of the improving production (97,000 tonnes, or 29 percent of total production) is from new Russian fisheries in MSC assessment, <u>ASMI-certified Alaskan crab fisheries</u>, or fisheries involved in fishery improvement projects (FIPs) that are making good progress.

This sector had one of the largest recorded increases in percent of sustainable and improving production in 2021. This was mainly due to the entry of several Russian crab fisheries into the MSC program (e.g., <u>Antey Sever Barents Sea Crab</u>, <u>Russian Crab GC Sea of Okhotsk</u> <u>crab trap</u>, <u>Sea of Okhotsk crab trap</u>). Positive contributions were also made by new Canadian <u>Gulf of St. Lawrence snow crab -</u><u>pot/trap</u> and <u>UK Orkney brown crab -pot</u> FIPs, as well as the <u>Russian</u> <u>Far East Crab</u> FIPs, now making good progress.

Learn more about SFP's Target 75 strategy in 2022 and prioritized fisheries <u>here</u>.



## **6** CHALLENGES TO SUSTAINABILITY

Despite the sustainability progress, issues still persist across the coldwater crab sector:

- **Climate change impacts** are already disrupting major coldwater crab stocks (e.g., Alaska).
- Bycatch of endangered, threatened, and protected (ETP) species remains a threat in key coldwater crab fisheries (e.g., North Atlantic right whale entanglement in the NW Atlantic Ocean).
- **Data transparency** is still lacking, even in some fisheries with fairly strong fishery management approaches (e.g., Russian fisheries).
- Several coldwater crab fisheries still have serious stock health and management issues that are not being addressed (e.g., Chile mola rock crab).

There are a number of US, UK, EU, Chilean, and Canadian crab fisheries that would be good candidates for MSC full assessment or FIPs. Buyers of these products should encourage the fisheries to enter MSC full assessment or launch a FIP to publicly verify sustainability or improvement efforts and ensure that the above-listed sustainability challenges are addressed.

SFP advises partners to source ropeless-caught crab and/or help start FIPs to address bycatch of ETP species.



#### Get started at Ropeless.org

# **ETP species bycatch**

A persisting sustainability challenge in some coldwater crab fisheries

**North Atlantic right whale populations** have been reduced to less than 350 individuals and **are considered to be <u>Critically Endangered</u>**.

The **leading causes of death are entanglement in vertical line gear** (used on pot/traps) and vessel strikes.

It is estimated that **85 percent of right whales have scars that are indicative of entanglement**.

The United States and Canada are responsible for the management of right whales and have enacted new legislation to address an increase in deaths occurring since 2017.

A fully sustainable approach to protecting the North Atlantic right whale must involve adoption of new technologies that pose a substantially reduced risk of entangling whales, such as on-demand (ropeless) gear types that use pots/traps but avoid static vertical lines in the water.

These entanglements have led to the loss of Marine Stewardship Council certifications for several fisheries, but fishery improvement projects, such as the <u>Canada Gulf of St. Lawrence snow crab – pot/trap</u> FIP, which conducts trials of on-demand gear, are a positive step forward.



### **7** REFERENCES

- FAO. 2021a. Fishery and Aquaculture Statistics. Global production by production source 1950-2019 (FishStatJ). In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 2020. <u>http://www.fao.org/fishery/statistics/software/fishstatj/en</u>
- 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: <u>http://www.fisheryprogress.org</u>
- 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. Seafood Watch: Seafood Recommendations. MBAq website. October 2021. Accessed online at: <u>http://www.seafoodwatch.org/seafood-recommendations</u>
- Pauly D., Zeller D., Palomares M.L.D. (Editors), 2020. Sea Around Us Concepts, Design and Data <u>http://www.seaaroundus.org/</u>

Sustainable Fisheries Partnership (SFP). 2017. Our Target 75 Initiative. June 2017. 7 pp. <u>https://s3.amazonaws.com/sfpcms.sustainablefish.org/historical-</u> assets/publication 29/SFP Target 75.pdf

- Sustainable Fisheries Partnership (SFP). 2021a. FishSource. July 2021. Accessed online at: <u>http://www.fishsource.org</u>
- 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: <u>http://sustainablefisheries-</u> <u>uw.org/databases/fishery-improvement-projects-database/</u>
- S&P Global 2021. Panjiva Research platform, Macro trade data tool. S&P Global Market intelligence. New York. Accessed December 2021. <u>https://panjiva.com/macro</u>

## GLOSSARY

EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization
FIP	Fishery Improvement Project
IRF	Iceland Responsible Fisheries
ISSCAAP	International Standard Statistical Classification of Aquatic Animals and Plants
IUU	Illegal, Unreported, and Unregulated (IUU) fishing
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	Supply Chain Roundtable
T75	SFP <u>Target 75</u> initiative
UoC	Unit of Certification (for a fishery under the MSC program)

Appendix I | Reported 2019 wild production for (A) the top (95 percent by volume) coldwater crab species, (B) by FAO major fishing area and country, and (C) trends in annual production for the top crab species. *source*: FAO FishStat (FAO 2021a)

#### (A) 2019 wild production by country and FAO area

Producing Country	FAO Region	Production ('000 t)	% of total	
Russia		92.1	26.9%	
	NW Pacific (FAO 61)	72.3	21.1%	
	NE Atlantic (FAO 61)	19.7	5.8%	
	Europe inland (FAO 61)	0.1	0.0%	
Canada		82.8	24.2%	
	NW Atlantic (FAO 21)	74.5	21.8%	
	NE Pacific (FAO 67)	8.3	2.4%	
United States		55.5	16.2%	
	NE Pacific (FAO 67)	46.6	13.6%	
	NW Atlantic (FAO 21)	8.3	2.4%	
	EC Pacific (FAO 77)	0.6	0.2%	
United Kingdom		34.1	10.0%	
	NE Atlantic (FAO 27)	34.1	10.0%	
Japan		17.4	5.1%	
	NW Pacific (FAO 61)	16.7	4.9%	
	SE Atlantic (FAO 47)	0.7	0.2%	
Chile		14.0	4.1%	
	SE Pacific (FAO 87)	14.0	4.1%	
Other		46.4	13.5%	
	NE Atlantic (FAO 27)	35.1	10.2%	
	SW Atlantic (FAO 41)	4.0	1.2%	
	SE Atlantic (FAO 41)	3.3	1.0%	
	NW Atlantic (FAO 21)	2.8	0.8%	
	Mediterranean (FAO 37)	0.9	0.3%	
	W Indian ocean (FAO 51)	0.2	0.1%	
	E Indian ocean (FAO 57)	0.2	0.0%	
	EC Atlantic (FAO 77)	0.0	0.0%	
	WC Atlantic (FAO 31)	0.0	0.0%	
	Antarctic IO (FAO 58))	0.0	0.0%	

#### (B) 2019 wild production for the main coldwater cab species

Common name	Scientific name	2019 production ('000 t)	% of total
Queen crab	Chionoecetes opilio	103.5	30%
Edible crab	Cancer pagurus	50.5	15%
Tanner crabs nei	Chionoecetes spp	46.2	13%
Dungeness crab	Cancer magister	36.1	11%
Red king crab	Paralithodes	27.9	8%
Red snow crab	Chionoecetes japonicus	13.2	4%
Spinous spider crab	Maja squinado	8.7	3%
Blue king crab	Paralithodes platypus	8.6	3%
Southern king crab	Lithodes santolla	7.5	2%
Jonah crab	Cancer borealis	7.3	2%
King crabs	Paralithodes spp	4.9	1%
Softshell red crab	Paralomis granulosa	4.8	1%
West African geryon	Chaceon maritae	4.7	1%
Other		18.4	5%

#### (C) Trends in annual production for the top crab species.





### FURTHER INFORMATION

http://www.sustainablefish.org/

For additional information, please contact us at: info@sustainablefish.org





