



# SEAFOOD FRAUD AND MISLABELLING IN OTTAWA

Despite concerns about the safety of seafood in Canada, consumers are routinely given little to no information about the seafood we purchase. Moreover, information on labels and menus is often misleading or fraudulent, as a recent investigation in Ottawa confirmed.



# OTTAWA

## WHAT IS SEAFOOD FRAUD?

Seafood fraud is any activity that misrepresents the product being purchased.\* A particularly troubling form is substituting one type of fish for another. In some instances cheaper, less-desirable and more readily available species are sold as more expensive ones; farmed products are sold as wild caught; and black market fish are sold as legally caught. Mislabelling includes presenting false, incomplete or misleading information about the product.

Oceana Canada has made species substitution the focus of this investigation because of the many dangers it presents. Estimates suggest that up to 80 per cent of the seafood consumed in Canada is imported.<sup>1</sup> This seafood follows a complex path from a fishing vessel to our plate, with many opportunities for fraud and mislabelling along the way.

Seafood fraud hurts our health, our wallets and our oceans. It affects public health and safety, cheats consumers, hurts honest, law-abiding fishers and seafood businesses and undermines the environmental and economic sustainability of fisheries and fish populations. It even masks global human rights abuses by creating a market for illegally caught fish.

Over the last decade, numerous studies have exposed seafood fraud around the world. Studies in Canada have found up to 41 per cent of the samples collected from grocery stores and restaurants were mislabelled. Until now, no such study had been conducted in Ottawa.

\*Seafood fraud includes other practices such as short-weighting—claiming a product weighs more than it does by adding extra breading, water or glazing to increase the apparent weight of the product—and improper labelling, for example, to avoid tariffs on particular species.

<sup>1</sup> Townley, A. (2017) Risk Assessment of Illegal, Unreported, Unregulated and Mislabeled Seafood in Canadian Values Chains. Dalhousie University. Submitted for publication.

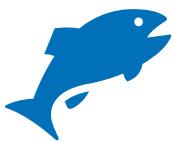


In July 2017, Oceana Canada collected seafood samples from Ottawa grocery stores and restaurants to better understand the extent of seafood fraud in the nation's capital. The results revealed widespread seafood misrepresentation. In fact, almost half of the samples tested—45 out of 98—were mislabelled.

As part of its efforts to combat seafood fraud, Oceana Canada will be conducting independent seafood testing in restaurants and grocery stores across Canada.

### Testing Methodology

#### OCEANA CANADA EMPLOYEES AND SUPPORTERS PURCHASED SEAFOOD SAMPLES FROM:



**10 GROCERY STORES**  
(28 samples)



**22 RESTAURANTS**  
(39 samples)



**12 SUSHI VENDORS**  
(31 samples)

These locations were chosen based on their popularity, including among politicians and decision-makers, and their proximity to Parliament Hill, government offices and media headquarters.†

The investigation focused on fish that studies have shown to have high levels of mislabelling. These included cod, halibut, snapper, tuna, salmon and sole. Other fish (see Figure 2) were also tested based on their popularity and availability. The number of samples taken depended on which of the target species were available. The sample's market name was collected from menus, labels and servers.

The samples were analyzed by TRU-ID, a commercial lab in Guelph, Ontario. The lab uses DNA barcoding, a genetic technique pioneered at the University of Guelph, to determine the species' identity. This involves extracting a short DNA sequence from a gene found in all animals, which is then compared to a catalogue of barcoded fish species as part of the Fish Barcode of Life initiative.

The species name was then compared to the corresponding market name(s) on the Canadian Food Inspection Agency (CFIA)'s *Fish List* for that species.‡ The *Fish List* includes the acceptable names for labelling all seafood imported into Canada or produced by a CFIA-registered establishment. If the sample's market name was acceptable, it was considered correctly labelled.

† For the complete analysis, visit [oceana.ca/StopSeafoodFraud](http://oceana.ca/StopSeafoodFraud).

‡ Although CFIA regulations don't apply to restaurants or sushi retailers, the regulations were used as an independent benchmark, in line with previous studies conducted across Canada: Wong, E. & Hanner, R. (2008) DNA barcoding detects market substitution in North American seafood, *Food Research International*, 41:828-837; Hanner, R. et al. (2011) FISH-BOL and seafood identification: Geographically dispersed case studies reveal systemic market substitution across Canada. *Mitochondrial DNA*, 22(S1): 106-122; Naaum, A. & Hanner R (2015) Community Engagement in seafood identification using DNA barcoding reveals market substitution in Canadian seafood. *DNA Barcodes* 3(1): 74-79.



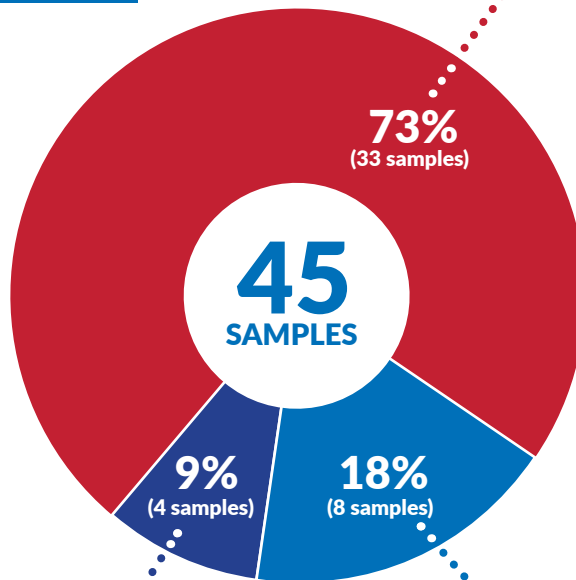
# TYPES OF SEAFOOD MISLABELLING

Figure 1: The number and percentage of samples for each category of mislabelling, as compared to the total number of mislabelled samples.



## NOT ON CFIA'S FISH LIST:

THE SPECIES HAS NOT BEEN APPROVED FOR SALE IN CANADA



## SPECIES SUBSTITUTION:

THE MARKET NAME OF THE SAMPLE WAS NOT AN ACCEPTABLE NAME FOR THE GIVEN SPECIES

(for example, selling tilapia labelled as red snapper)



## INSUFFICIENT INFORMATION:

INFORMATION REQUIRED BY CFIA REGULATIONS WAS NOT PROVIDED

(for example, not specifying the species of Pacific salmon)

# RESULTS: WIDESPREAD FRAUD AND MISLABELLING IN OTTAWA



## NEARLY HALF OF THE SAMPLES —45 OF 98—

were considered mislabelled because they did not meet CFIA's labelling requirements, based on information gathered from the menu, product labels or staff.

## ONE THIRD OF THE SAMPLES (33) were considered species substitution

since the name on the menu or label did not match the type of fish being sold.

SEAFOOD FRAUD AND MISLABELLING WERE DETECTED IN 14 OF THE 19 DIFFERENT TYPES OF FISH TARGETED (Figure 2).

## Seafood Fraud and Mislabelling in Ottawa

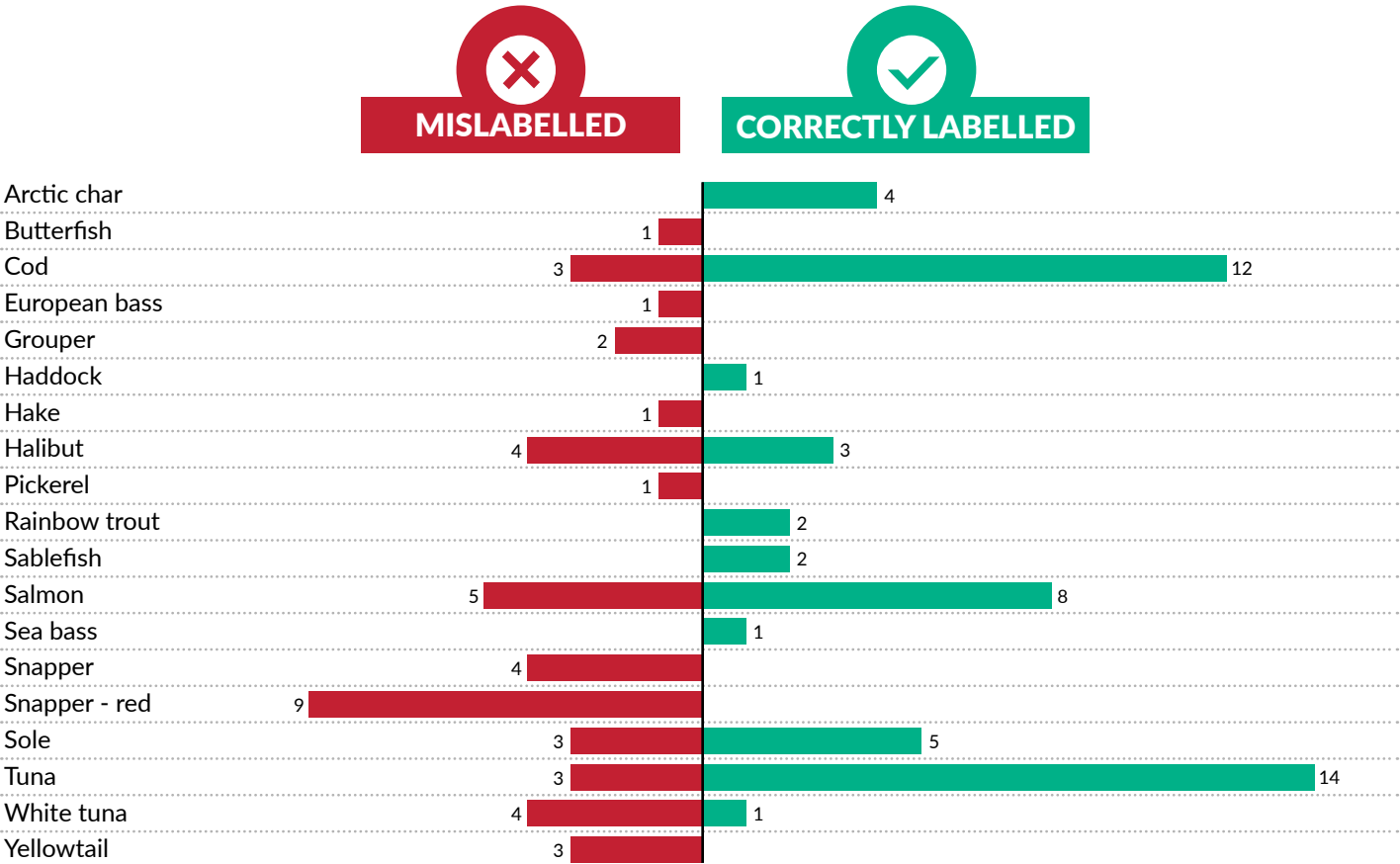


Figure 2: Names of fish refer to what was on the menu or label. Values refer to the total number of samples screened per fish. A mislabelled sample labelled "white fish" was not included in this graph, as this is a generic term rather than a type of fish.

## Seafood Fraud and Mislabelling by Retail Type

### SUSHI VENDORS AND RESTAURANTS HAD THE HIGHEST RATES OF SEAFOOD FRAUD AND MISLABELLING:



**68% OF SUSHI VENDOR SAMPLES**  
10 of 12 sushi vendors tested



**51% OF RESTAURANT SAMPLES**  
(excluding sushi vendors);  
16 of 22 restaurants tested



**18% OF GROCERY STORE SAMPLES**  
4 of 10 grocery stores tested

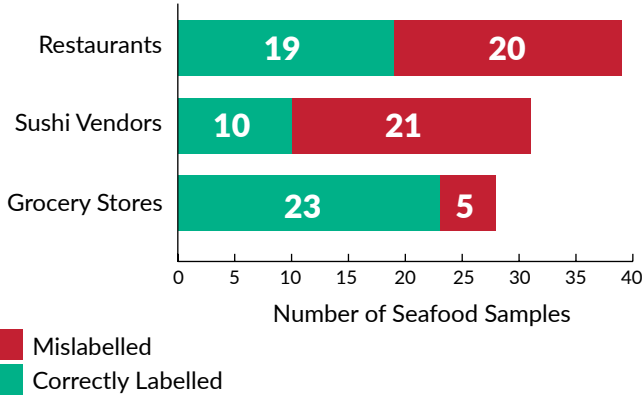
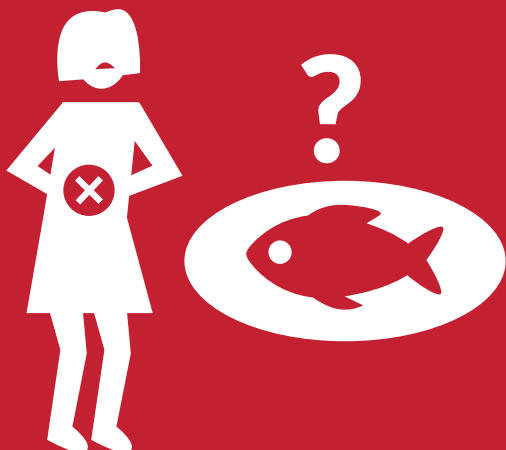


Figure 3: Number of samples taken from each retail category. Sushi vendors were not included in the restaurant category.

# SEAFOOD FRAUD HURTS OUR HEALTH, OUR WALLETS AND OUR OCEANS

## Health Risks

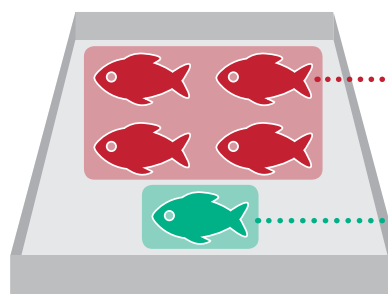
Seafood fraud can have serious health implications. When one species of fish is substituted for another, or correct information is not provided, consumers are put at risk of exposure to parasites, allergens, contaminants, aquaculture drugs and pesticides used in industrial farming operations or natural toxins found in certain fish species. Mislabelling can hide these risks.



## THE LAXATIVE OF THE SEA

ESCOLAR, AN OILY FISH THAT CAN CAUSE ACUTE GASTROINTESTINAL SYMPTOMS SUCH AS DIARRHEA, VOMITING AND NAUSEA, WAS FOUND AS A SUBSTITUTE FOR BOTH WHITE TUNA AND BUTTERFISH. "WHITE TUNA" IS ITSELF A MISLEADING NAME, AS IT IS NOT ACTUALLY AN ACCEPTABLE MARKET NAME FOR ANY TYPE OF TUNA.

**WHITE TUNA**  
LABELLED SAMPLES WERE **ACTUALLY**  
**ESCOLAR**  
**4 TIMES OUT OF 5**



**4** SAMPLES WERE  
**ESCOLAR**

**1** SAMPLE WAS  
**ALBACORE**

**WHITE TUNA**  
**OR HARMFUL**  
**ESCOLAR?**



# 20% OF THE SAMPLES TESTED (20 OUT OF 98) WERE FARMED FISH LABELLED AS WILD CAUGHT.

**FARMED OR  
WILD CAUGHT?**

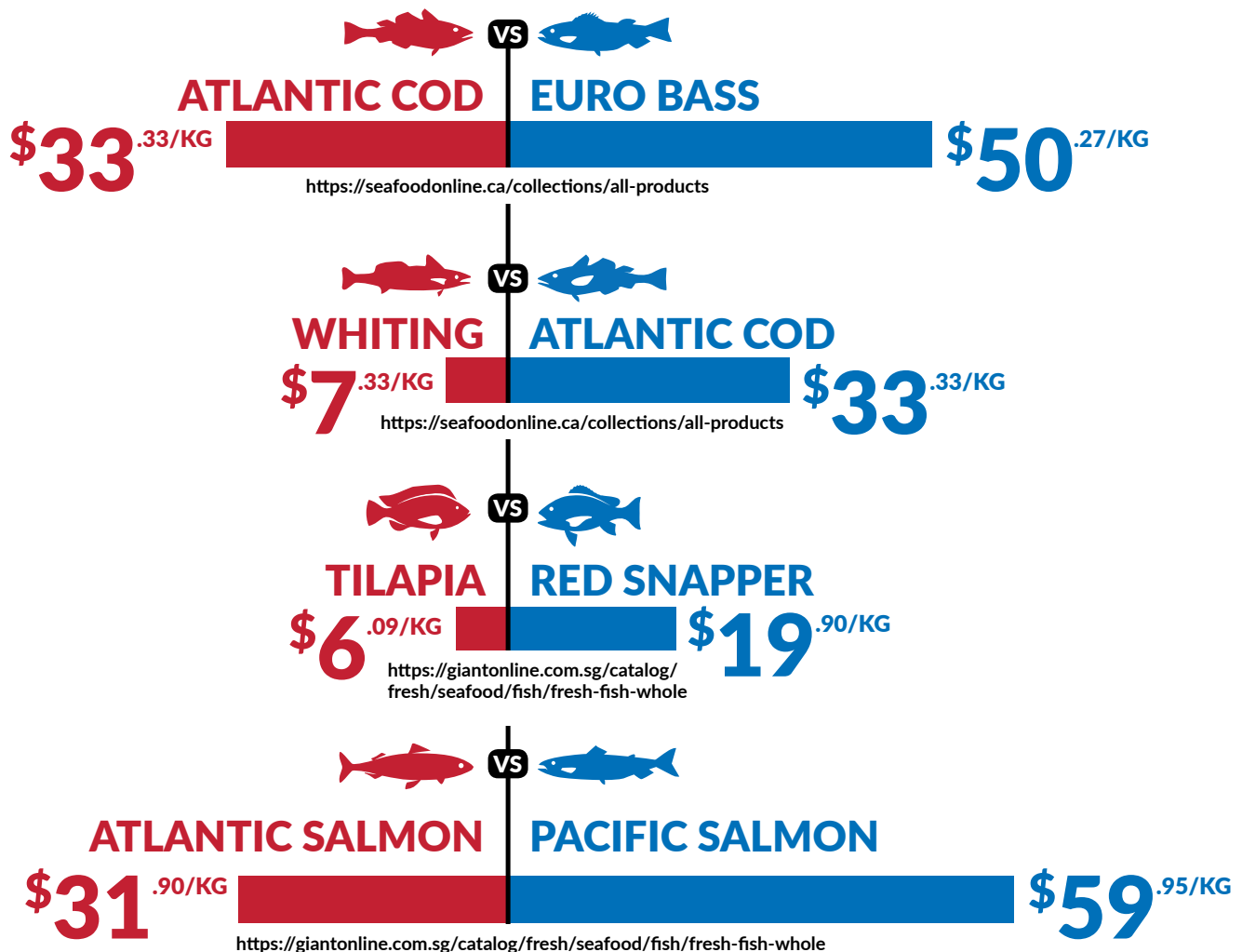


Not disclosing that fish were farmed can cause health risks for consumers. According to CFIA, farmed tilapia, salmon and catfish may contain drug residues and contaminants that pose health hazards.<sup>2</sup> In the Ottawa investigation, Oceana Canada found farmed tilapia sold as snapper, farmed salmon sold as wild and farmed catfish sold as sole.

## Economic Risks

Seafood fraud cheats consumers who are not getting what they pay for. Honest fishers and seafood businesses face unfair market competition, as low-cost substitutions undercut prices for responsibly caught seafood. Below are only some of the examples found in Ottawa of cheaper species being sold as more expensive fish, highlighting the current cost differences for each species as featured on seafood retailer websites.

### Examples of cheaper species sold as more expensive ones



<sup>2</sup> Canadian Food Inspection Agency. Product Ingredients and Incoming Materials. Available: <http://active.inspection.gc.ca/rdhi-bdrld/english/rdhi-bdrld/hazdane.aspx?i=2> Accessed: September 15, 2017.

## Conservation impact of Ottawa findings

### Conservation Risks

Market-driven conservation efforts depend on consumers being able to make informed decisions about the seafood they purchase, based on what it is and where and how it was caught. This becomes nearly impossible when fish are mislabelled or the relevant information is not available.

Mislabelling can also alter perceptions of the true availability of seafood. The International Union for Conservation of Nature (IUCN) has listed red snapper as a vulnerable species. However, because the market is flooded with fish labelled as red snapper, including other snappers that are not doing well, consumers may have the impression that the species is doing just fine.

### Mislabelled species of concern:

**THE FOLLOWING FISH WERE LABELLED AS ENTIRELY DIFFERENT SPECIES**



**LANE SNAPPER:**  
**“NEAR THREATENED”<sup>3</sup>**

due to overfishing, according to IUCN.

**WHITE HAKE:**  
**LISTED AS “ENDANGERED”**



by the Committee on the Status of Endangered Wildlife in Canada because of past overfishing.<sup>4</sup> Seafood Watch recommends that consumers avoid white hake.<sup>5</sup>

**SPINYCHEEK GROUPE:**  
**LISTED AS “NEAR THREATENED”**

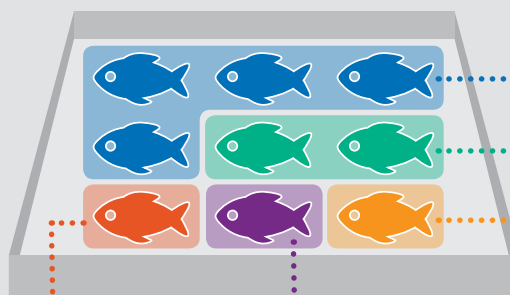


by IUCN,<sup>6</sup> and not on the *Fish List*.



**CHANCES ARE SLIM THAT THE “RED SNAPPER” YOU BOUGHT IS ACTUALLY RED SNAPPER. NONE OF THE SAMPLES TESTED BY OCEANA CANADA WERE!**

**9 RED SNAPPER LABELLED SAMPLES WERE ACTUALLY...**



**4 WERE NILE TILAPIA**

**2 WERE MOZAMBIQUE TILAPIA**

**1 WAS LANE SNAPPER**

**1 WAS ROCKFISH**

**1 WAS PACIFIC OCEAN PERCH**

<sup>3</sup> IUCN Red List (2016). *Lutjanus synagris*. The IUCN Red List of Threatened Species. Available: <http://www.iucnredlist.org/details/194344/0> Accessed: October 23, 2017.

<sup>4</sup> Fisheries and Oceans Canada (2016) White Hake (Southern Gulf of St. Lawrence). Available: <http://www.dfo-mpo.gc.ca/species-especes/profiles-profil/hake-merluche-eng.html>. Accessed: October 25, 2017.

<sup>5</sup> Seafood Watch. Hake recommendations. Monterey Bay Aquarium. Available: <http://www.seafoodwatch.org/seafood-recommendations/groups/hake?q=white%20hake&t=white%20hake&type=white&o=775356278>. Accessed: October 25, 2017.

<sup>6</sup> IUCN Red List (2008). *Epinephelus diacanthus*. The IUCN Red List of Threatened Species. Available: <http://www.iucnredlist.org/details/132777/0> Accessed: October 23, 2017.



# STOP SEAFOOD FRAUD



## WHAT THE GOVERNMENT CAN DO

**OCEANA CANADA IS CALLING ON THE CANADIAN FOOD INSPECTION AGENCY TO ENSURE ALL SEAFOOD SOLD IN CANADA IS SAFE, LEGALLY CAUGHT AND HONESTLY LABELLED.**

As seafood imports continue to increase, the path from the fishing boat to our plate becomes more complex. An essential part of combatting seafood fraud is a traceability system in which information such as when, where and how a fish was caught follows the seafood product throughout the supply chain.

The European Union, the largest importer of seafood in the world, has implemented full chain traceability and comprehensive labelling requirements. The United States is moving quickly in this direction. Unfortunately, Canada lags behind and the federal government's current efforts to fight seafood fraud are not sufficient to address the key drivers of this phenomenon.

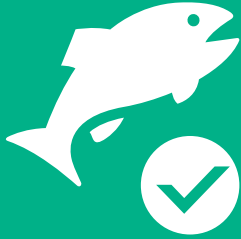
Full boat-to-plate traceability, paired with comprehensive labelling, can help our oceans, our wallets and our health, while restoring consumer confidence.





# WHAT CONSUMERS CAN DO

**PRICE THAT SEEMS TOO GOOD TO BE TRUE? IT PROBABLY IS.**



VS



## BUY THE WHOLE FISH:

It is harder to misrepresent a whole fish than a fillet.

## INFORM YOURSELF ABOUT THE SEASONALITY OF YOUR FAVORITE SEAFOOD:

As products sold out of seasons are more likely to be fraudulent.



## KNOW THE FISH YOU EAT:

Ask what species it is and where and how it was caught. This can trigger a chain reaction extending back to the seafood supplier.



## SUPPORT COMPANIES AND FISHERS THAT HAVE VOLUNTARILY INTRODUCED TRACEABILITY SYSTEMS AND THOSE THAT SHARE DETAILED INFORMATION ABOUT THE FISH WITH THE PURCHASER.

## CHECK PRICES:

If a seafood item is being sold at a price that seems too good to be true, it probably is.



## ADD YOUR NAME TO A PETITION URGING CFIA TO IMPLEMENT FULL BOAT-TO-PLATE TRACEABILITY AT

[oceana.ca/StopSeafoodFraud](https://oceana.ca/StopSeafoodFraud)



**FULL BOAT-TO-PLATE  
TRACEABILITY, PAIRED  
WITH COMPREHENSIVE  
LABELLING, CAN HELP OUR  
OCEANS, OUR WALLETS  
AND OUR HEALTH, WHILE  
RESTORING CONSUMER  
CONFIDENCE.**

*Oceana Canada thanks Dr. Amanda Naaum  
for providing invaluable input.*

## WE CAN SAVE THE OCEANS AND FEED THE WORLD.

Oceana Canada was established as an independent charity in 2015 and is part of the largest international advocacy group dedicated solely to ocean conservation. Canada has the longest coastline in the world, with an ocean surface area of 7.1 million square kilometres, or 70 per cent of its landmass. Oceana Canada believes that Canada has a national and global obligation to manage our natural resources responsibly and help ensure a sustainable source of protein for the world's growing population.

Oceana Canada works with civil society, academics, fishers, Indigenous Peoples and the federal government to return Canada's formerly vibrant oceans to health and abundance. By restoring Canada's oceans, we can strengthen our communities, reap greater economic and nutritional benefits, and protect our future.

Sign up as a *Wavemaker* today, and follow us on Facebook, Twitter and Instagram.

Join us at [oceana.ca](http://oceana.ca).



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 **OCEANA** Protecting the  
World's Oceans