May 10, 2019

THE IMPACT OF WIDESPREAD SEAFOOD MISLABELLING ON CANADIANS

Presentation to the House of Commons Standing Committee on Fisheries and Oceans

OCEANA Protecting the World's Oceans

About Oceana Canada

Oceana Canada is an independent charity and part of the largest international advocacy group dedicated solely to ocean conservation. 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. We work 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.

Oceana Canada has been investigating the prevalence of seafood fraud and species substitution across the country since 2017. Internationally, Oceana has been investigating seafood fraud since 2011.

Seafood fraud is a global problem

Seafood fraud includes any activity that misrepresents a seafood product being sold. It negatively affects public health, undermines food safety, cheats consumers and the Canadian fishing industry and weakens the environmental and economic sustainability of fisheries and fish populations. It can even mask global human rights abuses by creating a market for illegally caught fish. A 2016 review by Oceana of more than 200 published studies from 55 countries found that one in five of more than 25,000 seafood samples were mislabelled.[1]

Mislabeling at this scale is possible because the global seafood supply chain is obscure and increasingly complex. Once a fish has been caught, it can travel halfway around the world for processing, passing across many national borders before it ends up on a plate.

Seafood fraud can be addressed with full-chain traceability; requiring that key information be paired with fish products along the supply chain, from the point of harvest to the point of sale. By tracking fish products this way, we can significantly reduce instances of fraud and mislabelling and better understand where it happens, as well as enhance confidence in our food system and support access to global markets that already demand stronger traceability.

Seafood fraud is prevalent in Canada

Canada produces high-quality seafood, however it exports roughly 85 per cent of it, and about 80 per cent of what is consumed in Canada is shipped from overseas. Seafood is traded globally more than any other food. The supply chains are long, complex and obscure, often crossing many national borders, with many opportunities for mislabelling and illegally activity along the way.

In 2017 and 2018, Oceana Canada conducted the most comprehensive investigation into seafood fraud across Canada, collecting nearly 400 seafood samples from 177 retailers and restaurants in Halifax, Ottawa, Toronto, Vancouver and Victoria. It found an alarming 44 per cent of samples were mislabelled.[2]

These results are consistent with past investigations in Canada conducted by Dr. Bob Hanner at the University of Guelph, which found up to 41 per cent mislabelling of the samples tested.[3] Similarly, testing in Vancouver by the University of British Columbia found that 25 per cent of seafood samples were mislabelled.[4] The Canadian Food Inspection Agency (CFIA)'s own research found a 15 per cent rate of mislabelling before seafood products even reached the processing stage.[5] These findings demonstrate that

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[1] Warner *et al*. (2016) Deceptive Dishes: Seafood swaps found worldwide. Oceana. Available at: https://usa.oceana.org/sites/default/files/global_fraud_report_final_low-res.pdf. *https://usa.oceana.org/publications/reports/deceptive-dishes-seafood-swaps-found-worldwide*

[2] Levin, J. (2018) Seafood fraud and mislabelling across Canada. Oceana Canada. Available at: *https://oceana.ca/en/publications/reports/seafood-fraud-and-mislabelling-across-canada*

[3] Hanner *et al*. (2011) FISH-BOL and seafood identification: Geographically dispersed case studies reveal systemic market substitution across Canada. *Mitochondrial DNA*, 22. Available at: *https://www.ncbi.nlm.nih.gov/pubmed/21980986*

[4] Yaxi Huet al. (2018) Study of fish products in Metro Vancouver using DNA barcoding methods reveals fraudulent labeling. Available at *https://www.sciencedirect.com/science/article/pii/S095671351830313X*

[5] Shehata, H. et al. (2018) "DNA barcoding as a regulatory tool for seafood authentication in Canada." Food Control, 92, 147-153, Wong, E. & Hanner, R. (2008)

seafood fraud is happening both before products are imported into Canada and after they enter Canadian supply chains.

According to a 2019 Abacus Data market research study commissioned by Oceana Canada, 85 per cent of Canadians are concerned about seafood fraud or mislabelling. Forty-six per cent believe seafood labels are not accurate in representing what fish they're buying and where it came from. Further, one in five feel that Canada is doing a poor job of ensuring the safety of Canada's food supply.

Recommendation: national regulations requiring full boat-to-plate traceability

Oceana Canada is calling for traceability regulations that ensure key information follows seafood products throughout the supply chain, from boat or farm to the final point of sale, paired with improved consumer labelling. We ask that the House of Commons Standing Committee on Fisheries and Oceans include the following recommendations in its report:

1. Establish and invest in a multi-department task force to ensure all relevant departments work together to detect and prevent seafood fraud through full-chain traceability. This includes CFIA, Fisheries and Oceans Canada, Health Canada, Agriculture and Agri-Food Canada and Canada Border Services Agency.
2. Improve regulations to require full chain traceability, including information about when, where, how and by whom the fish was caught or farmed and how it may have been processed. This information must be readily accessible by regulatory bodies through electronic systems.
3. Improve seafood labelling standards so consumers can make informed purchasing decisions, including essential information such as the scientific species name, whether the fish was wild-caught or farmed, its geographic origin and the type of fishing gear used.
4. Introduce DNA testing for imported and domestic species authentication into CFIA's inspection program and invest in inspection, verification and enforcement mechanisms at levels high enough to deter fraud.
5. Require catch documentation to identify the origin and legality of all imported and domestic seafood, in line with that currently required by the European Union and recommended by the Food and Agriculture Organization of the United Nations, which Canada agreed to support at the 2018 G7 Summit.

Traceability prevents species swapping

Seafood fraud includes species substitution: swapping cheaper, less-desirable or more readily available species for more expensive ones; farmed products for wild-caught; and black-market fish for legally caught varieties. It is a huge issue globally, with some estimates suggesting it represents a $70-billion problem.[6]

When one fish is substituted for another, consumers risk exposure to allergens, parasites, environmental chemicals, aquaculture drugs or natural toxins found in certain fish species and not others. Economic profit is a primary driver for seafood fraud: cheap or more readily available species are mislabelled so they can be sold as expensive, desirable or supply-limited ones. Not only do consumers get cheated out of what they paid for, but responsible seafood businesses face unfair market competition.

In 74 per cent of the instances of mislabelling Oceana Canada uncovered, the fish on the label was a more expensive variety than the fish actually being sold. The most common substitutes include farmed tilapia, catfish and salmon – all three of these pose health hazards as well as environmental hazards due to the use of antibiotics and other contaminants. Oceana Canada found Atlantic salmon ($37.66/KG) being sold as sockeye salmon ($101.69KG) and catfish ($11.64/KG) being sold as sea bass ($113.88/KG).

Traceability protects wild fish and people

Seafood fraud harms our oceans by disguising vulnerable, threatened and endangered species and allowing illegally caught fish to enter the market by giving it a new "legal" identity. This undermines efforts to stop overfishing, manage fisheries responsibly and protect areas and animals in need of conservation. When a

[6] Charlebois, S. (2017) Canadian food fraud presents fresh challenge for officials. *The Globe and Mail*. Available at: *https://www.theglobeandmail.com/report-on-business/rob-commentary/canadian-food-fraud-presents-fresh-challenge-for-officials/article35712072/*

cheaper, more abundant fish is labelled as a more expensive, less abundant one, it can give consumers the perception that the stock is healthier than it actually is.

Thirty per cent of the mislabelled samples Oceana Canada found were endangered, threatened or vulnerable species. In the case of another 38 per cent, there isn't enough information available about the fish stocks to know their conservation status. Eating these fish puts further stress already-depleted populations.

Illegal fishing is often tied to human rights violations, including modern slavery and child labour. Global estimates suggest a minimum of 20 per cent of seafood worldwide is either caught illegally or unreported, with an estimated value of up to $23.5 billion USD annually.[7] According to the Global Slavery Index, Canada imports more than $500 million worth of fish from countries suspected of having modern slavery in their fishing industries.

Europe: A model for traceability

The EU, the largest importer of seafood, is leading the way with robust proof of legality and traceability requirements to deter fraud and prevent the entry of illegally caught seafood into their markets. This includes stringent catch documentation and comprehensive labelling. Key information, including the scientific species name, catch area and date, harvest method and fishing gear, vessel information and other key data travels with the seafood product along the entire supply chain with all supply chain actors providing the required information at each step.

These regulations are working: fraud rates have declined significantly since they were put in place. Analysis by Oceana revealed a drop from approximately 23 per cent before 2011 to seven per cent after 2014.[8] The U.S. has also recently implemented boat-to-border traceability for at-risk species groups representing 40 per cent of seafood imports.

Canada's fragmented regulatory system

Unfortunately, Canada lags behind comparable jurisdictions, with fewer regulatory requirements governing traceability. No single agency is in charge of combatting seafood fraud. Seafood is regulated and managed by multiple government departments at the federal, provincial and municipal levels, with a patchwork of various legislative and regulatory provisions. To further complicate the regulatory landscape, provinces and municipalities also play a role in regulating various levels of the seafood supply chain, and these responsibilities are not consistent across the country.

There is no legislation or set of regulations that oversees each step in the supply chain. Federal legislation does not outline traceability requirements and there are legal and regulatory gaps at the fishing, processing and point of sale stages. The federal agencies that share responsibility for the integrity of seafood supply chains have not identified a common goal, established joint strategies, or agreed on roles and responsibilities. Collaboration between these key agencies and departments is therefore crucial to reducing seafood fraud in Canada.

If Canadian traceability requirements continue to lag behind those of major trading partners, Canada's food safety reputation is at risk and Canadian businesses risk losing access to important markets. Canada needs a comprehensive system that harmonizes with our major trading partners, protects ocean health and safeguards consumers.

Improving regulations

CFIA, through its own research, has acknowledged that seafood fraud is an issue. The *Safe Food for Canadians Regulations (SFCR)*, which came into force in 2019, only requires products to be tracked "one-step-forward, one-step back". This falls short of international best practices and does not address the need keep illegally caught seafood out of Canadian supply chains. One-step-forward, one-step-backward traceability requirements had been in place in the EU and U.S. since the early 2000s, but have since been updated with stronger regulations.

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[7] Agnew, D.J. *et al.* (2009) Estimating the worldwide extent of illegal fishing. PLoS ONE, 4(2). doi: 10.1371/journal.pone.0004570 Available at *https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0004570*.

[8] Warner *et al.* (2016) Deceptive Dishes: Seafood swaps found worldwide. Oceana.

Transparent labelling for consumers

Key information about seafood products needs to be passed on to consumers via accurate and transparent labelling and menus. Current country-of-origin labeling regulations, which allow the country of last substantial transformation to be the only listed location, can mask products that may have originated from illegal fishing or from countries with vastly different sustainability, control and/or labour practices. In the EU, labels and menus include information about a seafood product's origin, including how and where the fish was caught or farmed, what gear was used and whether the product has been previously frozen. Canadian consumers deserve the same level of transparency to make informed decisions.

One fish, one name

Seafood products sold in Canada only require a common name; however a single common name can apply to a variety of different species. For example, "snapper" applies to more than 200 species and "rockfish" applies to more than 100 species, some of which are endangered and others of which are sustainably caught. In addition to having different conservation status, some also have health risks and higher prices; as such, vague naming rules could cheat consumers, harm their health, or make them unwitting accessories to the consumption of unsustainable or illegal fish.

The use of common names becomes increasingly confusing for international trade, as names for species can vary between regions, countries and languages. Required information should therefore also include the species' scientific name. A species' scientific name is universally recognized, regardless of language, and is already used on many regulatory documents around the world. The EU and U.S.'s Food Import Monitoring Program also require this.

Seafood Fraud hurts Canadian fisheries

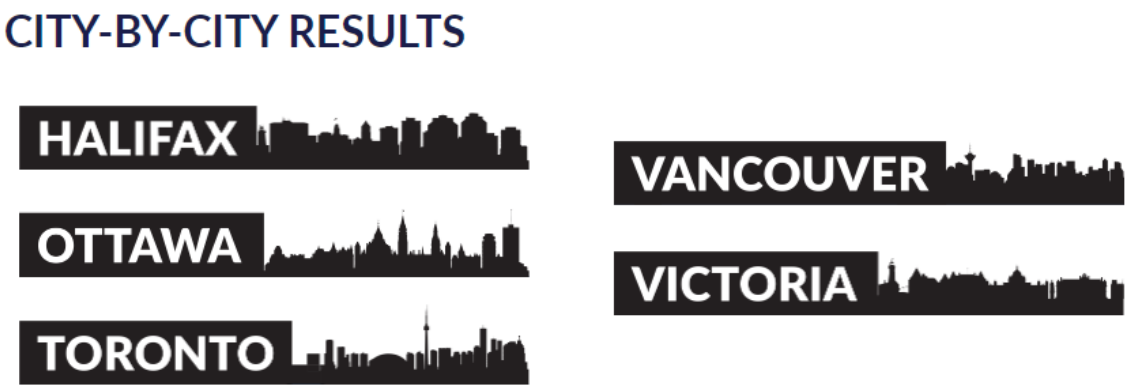
The majority of Canadian producers are already implementing more robust traceability systems than is currently required under Canadian regulations, since approximately 85 per cent of Canada's seafood by value is exported, with approximately 66 per cent going to the U.S. and another 10 per cent going to the EU.[9] As the Canadian-European Union Comprehensive Economic and Trade Agreement opens up the European market to more Canadian seafood, this number is likely to grow.

This means that Canada provides more supply chain information for seafood exported to other countries than we require for seafood sold in Canada. Fisheries and Oceans Canada's Catch Certificate Program, created in response to EU requirements to address Illegal, Unreported and Unregulated fishing, ensures that Canadian seafood exported to the EU, Japan, Chile and Ukraine is accompanied with catch certificates that confirm it has come from legal fisheries. There are no such requirements to collect and share catch certificates for seafood that is imported or sold within Canada.

Oceana Canada requests that the Standing Committee on Fisheries and Oceans include in its recommendations that Canada should implement full-chain traceability and catch documentation regulations, paired with comprehensive labelling, to stop seafood fraud and ensure the seafood that Canadians eat is safe, honestly labelled and legally caught.

[9] Roebuck et al. (2017) Canadian's Eating in the Dark: A report card of international seafood labelling requirements. SeaChoice.

Appendix: Seafood fraud and mislabelling across Canada

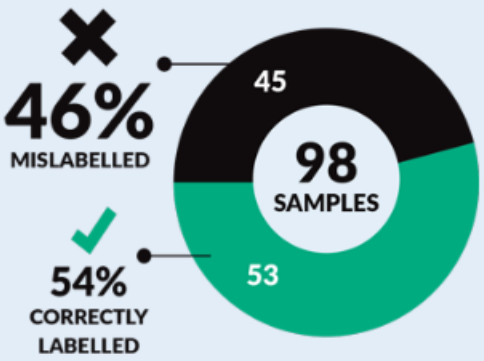


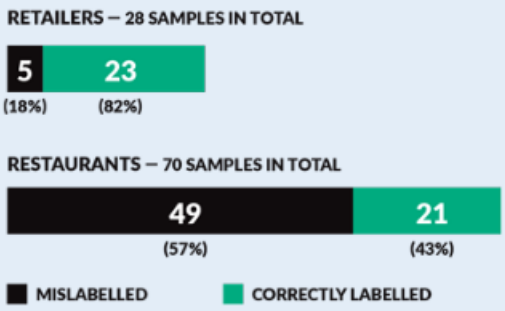
NATIONAL TESTING: HOW WE DID IT

In this national investigation, Oceana Canada purchased seafood samples from grocery stores, market vendors and restaurants in five cities across Canada. The particular venues were chosen based on their location, popularity and menus. In some areas, targeting was based on proximity to government offices and media headquarters. (For the complete analysis, visit Oceana.ca/SeafoodFraudCanada.)

Each sample was sent to TRU-ID, a commercial lab in Guelph, Ontario, that uses DNA barcoding to determine the species of fish. Once that identity was determined, it was compared to the acceptable market name(s) specified in CFIA's Fish List. This is the same methodology used by CFIA in their own studies of seafood mislabelling, as well as by previous studies across Canada.[22] Samples were considered mislabelled when the name of the sample was not an acceptable market name for the given species, when an acceptable market name was not used or when the species was not found on the Fish List.

OTTAWA





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In 2017, Oceana Canada investigated seafood fraud in our nation's capital, targeting restaurants and grocery stores near Parliament Hill that are popular among politicians and decision-makers. As previously reported in Seafood Fraud and Mislabelling in Ottawa,[17] nearly half of the samples tested (45 out of 98) were mislabelled.

Sixty-nine per cent of the substituted samples (31 out of 45) were cheaper varieties than the fish named on the label or menu, including farmed Atlantic salmon sold as wild salmon; southern blue whiting sold as cod; and cod sold as the more expensive European bass.

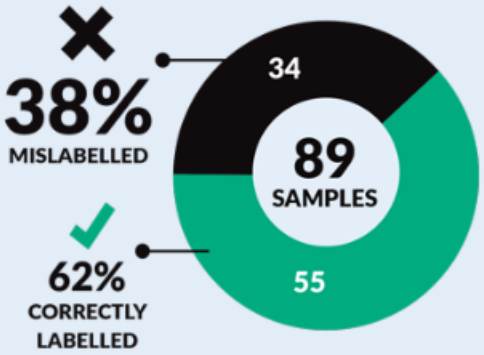
Fifty-three per cent of those substitutions (24 samples) have potential health implications, including Asian catfish sold as sole; escolar sold as white tuna or butterfish; and tilapia sold as white fish or snapper.

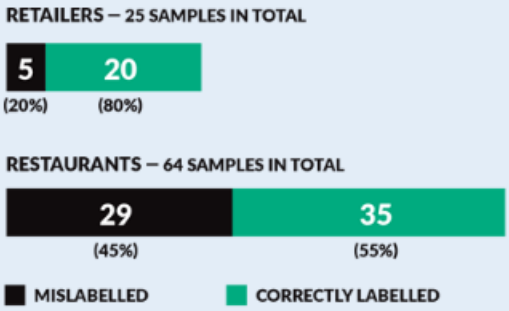
WAS YOUR DINNER ENDANGERED?

Oceana Canada's Ottawa investigation revealed several examples of species at risk. One mislabelled sample turned out to be white hake, an endangered species. Two other samples were near-threatened fish: lane snapper and spinycheek grouper.

MISLABELLING WAS DETECTED AT FOUR OUT OF 10 RETAILERS AND 26 OUT OF 34 RESTAURANTS.

HALIFAX





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Halifax prides itself on the quality of its seafood, but 38 per cent of the seafood samples from this city were mislabelled (34 samples out of 89). Seventy-one per cent of the substituted samples (24 out of 34) were cheaper varieties than the fish named on the label, including catfish sold as seabass; yellowfin tuna sold as bluefin tuna; and crayfish sold as rock lobster.

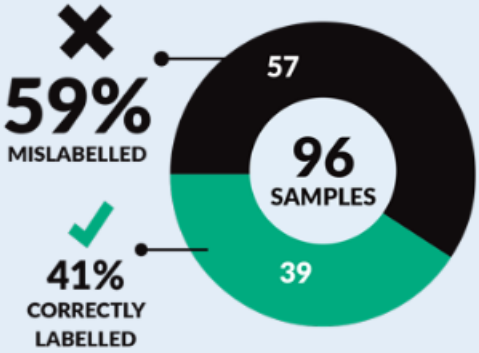
Fifty-nine per cent of these substitutions (20 samples out of 34) have health implications for the consumers, including Japanese amberjack sold as yellowtail; escolar sold as butterfish or white tuna; and tilapia sold as snapper.

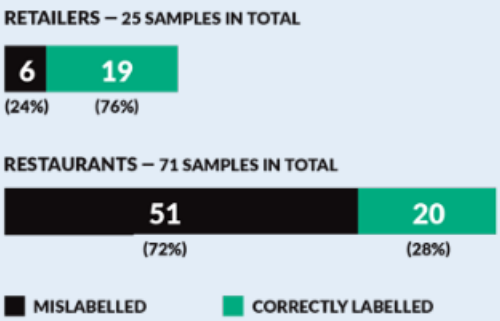
COD CON

Thought you were buying iconic Atlantic cod? In fact, that fish may have been Pacific cod flown in from the West Coast, readily available haddock or cheaper pollock. More than one-third of the Atlantic cod samples tested (5 out of 13) were mislabelled. As a result, consumers may think Atlantic cod populations are more abundant than they actually are.

MISLABELLED SEAFOOD WAS SOLD AT FOUR OF THE 10 RETAILERS AND 19 OF THE 34 RESTAURANTS.

TORONTO





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Nearly 60 per cent of the samples collected in Toronto — 57 out of 96 — were mislabelled. Seventy-three per cent of the substituted samples (41 samples out of 57) were cheaper varieties than the fish named on the label or menu. This includes Atlantic salmon sold as B.C. salmon and Chinook salmon; haddock labelled as Pacific cod; and halibut labelled as sablefish.

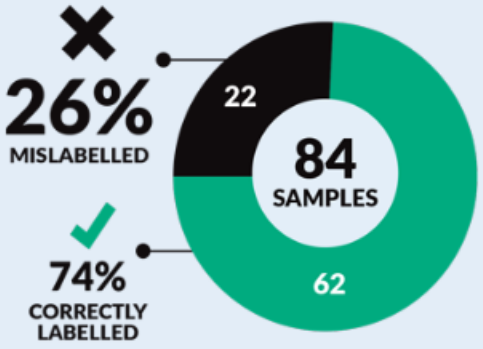
Fifty-eight per cent of the substitutions (33 out of 57) have potential health implications, including Asian catfish sold as grouper or sole; tilapia sold as red snapper; and escolar sold as butterfish or white tuna.

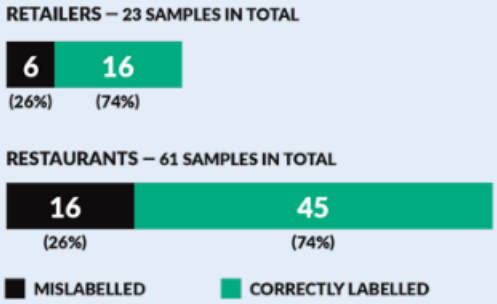
POISONOUS POTENTIAL

All of the 14 snapper samples Oceana Canada collected in Toronto were mislabelled. One of the samples labelled "red snapper" was actually twinspot snapper: a species that has been restricted or banned from sale in certain parts of the world due to its reputation for causing ciguatera poisoning.[18]

MISLABELLING WAS DETECTED AT 30 OF THE 32 RESTAURANTS AND AT SIX OF THE 11 RETAILERS.

VANCOUVER





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In Vancouver, 22 of the 84 samples tested (26 per cent) were mislabelled — that's one in every four instances.

In most cases (82 per cent, 18 of 22 samples), the substituted samples were cheaper varieties than the fish named on the label or menu. For example, Chilean rock crab sold as Dungeness crab, Asian catfish was sold as cod; chum salmon and rainbow trout were sold as Sockeye salmon; and haddock was sold as halibut. Fifty-nine per cent of those substitutions (13 of 22 samples) have potential health implications for consumers, such as tilapia and Japanese amberjack.

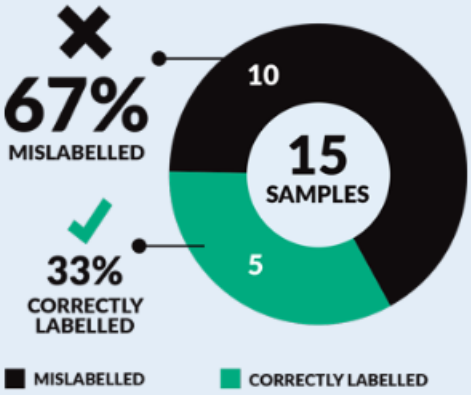
OPAQUE ORIGINS

The rate of mislabelled salmon in Vancouver was relatively low (9.5 per cent). However, the type of genetic analysis used in this investigation doesn't reveal which country the salmon came from. Nor will you find that information on fish labels. Unlike the European Union and the United States, Canada doesn't require labels to include where a fish was caught or harvested. The only required geographic information is where the seafood was last processed.

That means consumers may believe they are purchasing a local species when it actually comes from Russia, where illegal practices in salmon fisheries are an ongoing concern.[19] A 2017 news story revealed that Russian sockeye has been making its way to Canadian markets for years.[20] Meanwhile, a 2014 study estimated that up to 70 per cent of the wild salmon exported to the United States via China is illegally caught Russian salmon.[21]

MISLABELLING WAS DETECTED AT FIVE OF THE 10 STORES AND AT 12 OF THE 28 RESTAURANTS ASSESSED.

VICTORIA



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Oceana Canada collected 15 samples from restaurants in Victoria, all in the vicinity of the Parliament buildings where decision-makers are likely to eat. Mislabelling was uncovered at all eight locations tested.

Ten of the 15 samples tested (67 per cent) were mislabelled. In all cases, the substituted species were cheaper varieties than the fish named on the menu, including yellowfin tuna sold as bluefin tuna; Atlantic rock crab sold as Dungeness crab; and rainbow trout and steelhead salmon sold as sockeye salmon. Seven of the substituted species have health implications for consumers, including Asian catfish sold as cod.

MISLABELLING WAS UNCOVERED AT ALL EIGHT LOCATIONS TESTED.