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Seafood Sticker Shock

Why you may be paying too much for your fish

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Overview

The complex and almost invisible path traveled by seafood on the way to our plates creates a regular opportunity for consumers to be overcharged for their fish. For example, when red snapper is replaced with tilapia in a restaurant, diners may pay seven dollars more to eat tilapia than they otherwise would. With so many possible seafood choices, consumers rely on product information they receive from the retailer, which may be misleading, inconsistent or inaccurate, especially when what's on the menu is not what's on the plate.

While there is no single formula for seafood pricing, there are broad drivers which savvy shoppers look for to avoid seafood fraud. Knowing your way around the seafood counter and demanding greater traceability for your fish will help consumers take home the freshest, healthiest, most environmentally friendly seafood for the right price. When you know wild salmon costs more than farmed, and you see wild salmon that seems too inexpensive, it might be a warning sign of a bait and switch.

Unfortunately, the only way for consumers to be truly confident in their seafood purchases is to require traceability of the supply chain, tracking every fish from boat to plate. With more information about seafood making it to consumers, they can make more informed purchases. The difficulties of finding transparent price information for this report highlight a glaring need for more information being available to retailers and the public from every step of the seafood supply chain.

Americans are Eating More Seafood

From fish sandwiches and shrimp cocktail, to sushi in the grocery store, Americans now eat 50 percent more seafood than they did 50 years ago.[1] The three most popular types of seafood in the U.S. are also some of the most valuable fish in the world: shrimp, tuna and salmon.[2] Shrimp alone accounts for nearly one-third of grocery and other retail sales.[3] The seafood bestseller list also includes more affordable "white fish" such as tilapia, U.S. catfish, the Asian relative of catfish known as pangasius, and pollock, often used in fish sticks.[4]

Some of today's most popular seafood was not even sold in the U.S. until relatively recently. Tilapia, which is farmed in freshwater and was previously unknown in the U.S., made the top 10 list in 2002 and has since risen to fifth place in the last decade. Americans are also eating a wider

variety of fish, including salmon and previously unknown species, including eel. Many of these species are found in sushi restaurants, which first became popular in California during the 1970s before opening across the country in the 1990s and 2000s.[5] In 10 years, from 1988 to 1998, the number of sushi bars in the U.S. grew fivefold.[6] Today, sushi is offered in more than 5,000 supermarkets across the country.[7]

Seafood consumption in the U.S. has grown into an $80 billion-a-year industry.[8] This growth has occurred despite the fact that fish often costs more than other kinds of meat, even at the lowest price point. American consumers can buy a value-menu sandwich with chicken or beef at McDonald's, Wendy's or Burger King for about a dollar, while fish is more typically available only at full price, averaging between $3.00 and $4.00.[i]

Most Popular Seafood in the United States[ii,9]

1. Shrimp
2. Canned tuna[iii]
3. Salmon
4. Pollock
5. Tilapia
6. Pangasius (Asian catfish)
7. Catfish
8. Crab
9. Cod
10. Clams

Seafood Prices are Complicated

In a perfect market, consumers would compare prices directly and make their decisions based on information about price, quality and origin, among other factors.[10] However, seafood shoppers face a level of complexity equaled by few other foods.

Many of the 1,700 different species of fish and shellfish sold in the U.S. are sourced through a variety of supply chains with wide-ranging prices.[11] In just one grocery store,[iv] 60 different kinds of canned seafood were available, compared to only 13 kinds of canned pork, chicken and beef combined. Even for virtually identical seafood products, prices vary widely from day-to-day and city-to-city.[v]

Seafood Labels are Lacking

Although consumers strongly prefer to receive information about their seafood through labels at the point of purchase, very little information is typically provided.[12] Worse yet, what is available is often inaccurate, as many products advertised as a certain species may have been "swapped" for a different one that is less costly.[13] Mislabeling of seafood occurs as often as 25 to 70 percent of the time for commonly swapped species such as Atlantic cod, red snapper and wild salmon.[14] For

example, products advertised as healthier or more environmentally friendly command a premium price and in the worst cases, are substituted with less healthy, less sustainable products.[15] The result is that consumers can end up paying more for less.

For example, Oceana found shocking substitutions in a nationwide seafood fraud study released in February 2013[16]. Among other problems, the study found a king mackerel sold as grouper, as well as tilefish labeled as red snapper and Alaskan halibut. Tilefish and king mackerel are two of the four fish that the U.S. Food and Drug Administration (FDA) recommends not be consumed in large amounts because of their high mercury levels, especially for mothers and young children.

What Drives Seafood Prices?

Seafood products that look the same often differ in important ways that affect their price. For example, similarly prepared fish may be different species. Other product differences which affect price include whether the fish is fresh or frozen, domestic or imported, or wild-caught or farm-raised. Price also goes up if the fish is filleted or pre-cooked. Each of these choices affects the price, and potentially the quality, of the fish you receive. By the time you reach for your wallet at the register, the final price may seem less than straightforward.

Price Differences for Commonly Swapped Seafood

To learn more about what drives seafood prices, Oceana interviewed experts that work as wholesalers in the seafood industry and in food service purchasing. We reviewed prices on more than 300 menus in seafood restaurants from 12 cities as well as from the most popular restaurants rated by Zagat or Yelp.com. To estimate typical retail prices for seafood in grocery stores, we also surveyed online prices from Costco, Sam's Club, FreshDirect and Peapod. We combined this research with published government estimates from the National Marine Fisheries Service (NMFS) and industry estimates reported by Urner Barry.[17] The prices described in this report are intended to illustrate general patterns and examples. Real-time prices at a specific retailer are seasonal and volatile, so they may differ from this general summary.

What Kind of Fish?

When you order beef, there is no question of whether your meat comes from a chicken or a cow, yet even this basic question of identity is less straightforward for seafood. Within a category such as white fish, many species with similar taste, texture and color may be sold for a wide range of prices. Sometimes the price difference appropriately reflects the quality of the fish, its seasonal availability, the distance traveled and the cost of catching it—but sometimes it is disguising a cheaper alternative.

White fish that are typically inexpensive and may be used as substitutes include tilapia, catfish and pollock. This mislabeling is further complicated by the FDA's non-specific guidelines covering the proper naming and marketing of fish species. For example, a fish labeled as "snapper" can be any of 47 different species of fish including many not in the snapper family. All species of tuna

can simply be sold as "tuna," however different species vary greatly in their mercury content and population health. Grouper is another example, where any one of 58 different species can be sold simply labeled as "grouper,"[18] even if they are not grouper at all.

Mislabeling one fish as another has also become commonplace between different species with superficially similar looks.[19] In most cases, the substituted fish is less expensive or more readily available. Unfortunately, this substitution may also undermine consumers who choose to eat specific fish for health, environmental or religious concerns, as consumers are unaware of the identity or the environmental and labor conditions associated with the swapped fish.

Commonly Swapped Seafood

You Purchase	You May Receive
Atlantic Cod	Haddock, Oilfish, Olive Rockfish, Pacific Cod, Pollock, Saithe, Striped Pangasius, White Hake
Grouper	Alaska Pollock, Catfish, Hake, King Mackerel, Lake Victoria Perch, Pangasius, Speckled Hind, Tilapia, Whitefin Weakfish
Red Snapper	Gilt Headed Bream, Mahi Mahi, Ocean Perch, Tilapia, Yellowtail Rockfish, Widow Rockfish, White Bass
Wild Salmon	Farmed Salmon
Sole, Lemon Sole, Dover Sole	Flounder, Pangasius, Turbot, Yellowtail Flounder
White Tuna	Escolar, Tilapia

Sources: Abelson, J. and B. Daley. 2011b, Consumer Reports 2011, Miller and Mariani 2010, NOAA 2010, Buck 2010, Wong and Hanner 2008, Jacquet and Pauly 2008, Warner et al. 2012, Oceana 2013 Seafood Fraud Study.

What Kind of Fish: Red Snapper vs. Tilapia

Red snapper are just one of a large family of related snappers that live in tropical waters around the world.[20] This specific snapper is commonly caught in reefs throughout the Gulf of Mexico and

southeast U.S.[21] Gulf of Mexico red snapper can live to be more than 50 years old, but today it is difficult to find one more than 10 years old.[22] Red snapper have been overexploited since the 1950s, and their population has fallen by 90 percent since the pre-war era.[23] Despite this decline in population, red snapper are still commercially fished under strict restrictions to allow for rebuilding and are widely sold at restaurants and grocery stores around the country.

Ongoing demand for red snapper combined with short supply has led to high prices and widespread fraud. Independent DNA testing has shown that red snapper are commonly substituted for less desirable, inexpensive species.[24] One scientific survey found up to 77 percent of fish sold as red snapper are actually different snappers or completely unrelated fish.[25] Oceana's own testing revealed 93 percent of the samples labeled red snapper were not red snappers.[26] This illegal practice of swapping species has been repeatedly confirmed by DNA testing in California, Washington, New York, Massachusetts and many other states across the country.[27]

Unfortunately, this type of fraud is persistent because there is an immediate economic incentive, coupled with little enforcement, encouraging the practice. Tilapia is often found to be mislabeled as red snapper, taking advantage of the large price difference between the two species.[28] Red snapper costs roughly $7 more per plate than tilapia in restaurants. For example, while a diner should expect to pay about $22 for red snapper, the tilapia they may be served only costs about $15, leaving the consumer paying 50 percent more than they should be for the dinner they did not actually order. If the fish is substituted earlier in the supply chain, before reaching the restaurant, the potential financial gain from mislabeling remains substantial. A wholesale tilapia is about one-third of the cost of a wholesale red snapper. Figure 1 shows the prices of red snapper and tilapia at various steps in the supply chain, with the possible economic losses due to fraud shown by the difference in the two prices.

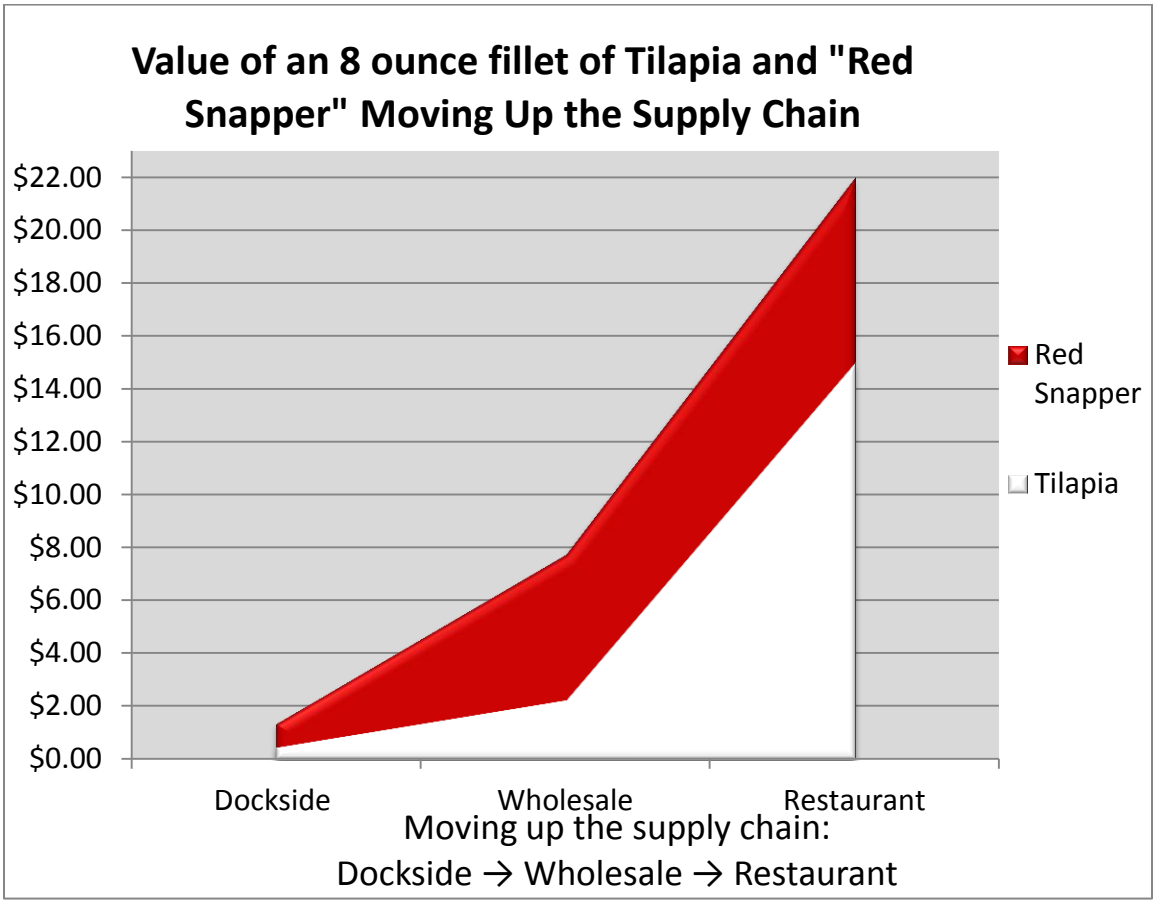


Figure 1. *Comparison of the price difference between 8 ounces of Red Snapper and 8 ounces of Tilapia, showing economic incentive for fraud at various stages in the supply chain.*
Sources: Restaurant menus, Peapod, Costco, FreshDirect, Sam's club, NOAA Fisheries, Urner Barry, Expert interviews.

Source	Tilapia	Red Snapper	% Increase
Dockside (NMFS) ($/8oz.)	0.46	1.34	**191%**
Wholesale ($/8oz.)	2.25	7.74	**244%**
Restaurant – 8oz. fillet ($/serving)	15.00	22.00	**47%**

What Kind of Fish: Grouper vs. Tilapia

Grouper are commercially important reef fish found throughout tropical and warm temperate marine ecosystems around the world. As an apex predator, they often act as a keystone species, increasing the complexity and diversity of life in the ocean regions they inhabit.[29] Previously an everyday sighting on coral reefs from the Caribbean to the Pacific, grouper have become overfished due to their high value in both local and international markets.[30] Although some grouper species are relatively stable, a large percentage of them are threatened and, in some cases, at risk of extinction.[31] Nassau grouper populations in the Atlantic have declined by 60 percent during the past 30 years, yet fishing for this vulnerable species continues across the Gulf of Mexico and Caribbean.[32] Many groupers are slow-growing, long-lived fish that are especially vulnerable to overfishing unless strict controls are in place.[33]

As the demand for grouper outpaces the supply, the economic incentive to swap species of lesser value becomes even stronger. Even when grouper is properly labeled, the FDA lists 58 species that can be legally sold under the name of grouper in the U.S.[34] However, grouper is often replaced by other reef fish as well as completely unrelated fish such as tilapia, pollock, catfish or pangasius.[35] An investigation by Consumer Reports magazine found tilefish labeled as grouper, and Oceana found king mackerel sold as grouper in Florida. The FDA advises that sensitive groups such as children, nursing mothers and women of childbearing age completely avoid tilefish and king mackerel due to their high mercury levels.[36] Avoiding these species is impossible to do, however, if the tilefish or mackerel is sold as another fish.

Federal government and state investigations have also found fake “grouper” for sale to consumers,[37] and in Florida, an Oceana found that grouper was mislabeled 20 percent of the time.[38] Since groupers have a white, flakey flesh similar to other kinds of fish, like tilapia, mislabeling for a lower cost species can be easy to get away with. Grouper, whether real or fake, commands nearly double the price of these substitutes at each step in the supply chain. When substitution occurs, consumers pay grouper prices for tilapia or other much less expensive fish.

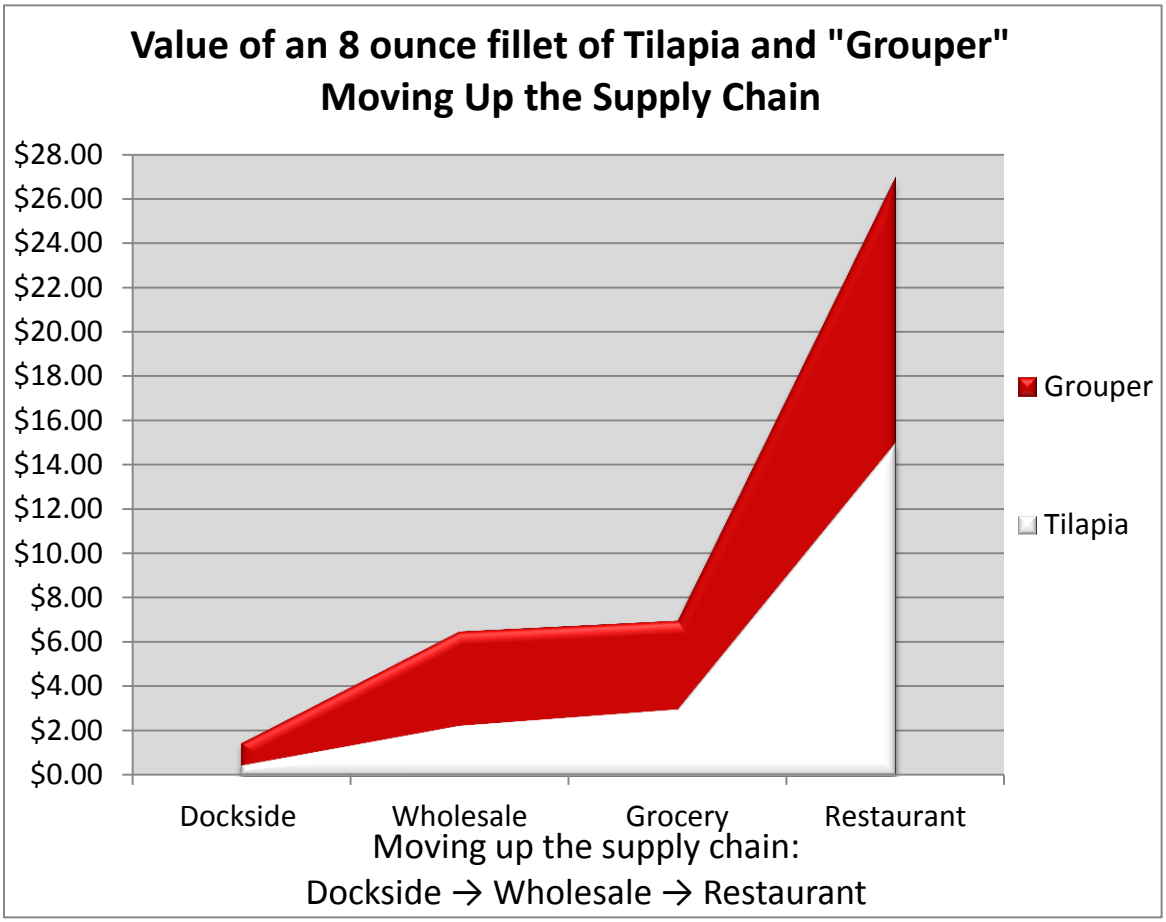


Figure 2. *Comparison of the price difference between 8 ounces Grouper and 8 ounces of Tilapia, showing economic incentive for fraud at various stages in the supply chain. Sources: Restaurant menus, Peapod, Costco, FreshDirect, Sam's club, NOAA Fisheries, Urner Barry, Expert interviews.*

Source	Tilapia	Grouper	% Increase
Dockside (NMFS) ($/8oz.)	0.46	1.46	**217%**
Wholesale ($/8oz.)	2.25	6.50	**189%**
Grocery ($/8oz. fillet)	2.99	7.00	**134%**
Restaurant – 8oz. fillet ($/serving)	15.00	27.00	**80%**

Fresh vs. Frozen Seafood

Another driver in the price of seafood is whether the product is fresh, frozen, canned or dried. Americans are eating more seafood than they did in the 1950s, and now less of it comes from a can.[39] Both fresh and frozen seafood are more widely available than in the past, though they may not be as different as they seem. About half of the seafood eaten in the U.S. is purchased in grocery stores across the country.[40] Grocery store seafood is often labeled "fresh," though it is generally previously frozen and may be nearly identical to products sold in the freezer section.

Fresh fish is typically more expensive than frozen, yet experts from the seafood industry suggest it is not always in better condition. At sea, "fresh" fish are typically stored on ice until they reach the dock, where they are transported by refrigerated trucks to warehouses and retail stores. Depending on how long this process takes, these "fresh" fish may be in transit on ice for up to a week and end up in poorer condition than high-quality frozen fish.

Alternatively, "fresh" fish may be essentially the same frozen fish that has been thawed for display, in which case it should be labeled as "previously frozen." Industry sources report that some frozen fish may be thawed and re-frozen several times during transport, processing, pre-cooking and display preparation, with each cycle of freezing and re-thawing creating damaging ice crystals that degrade the quality of the fish.[41]

Another option for higher-quality fish is buying seafood that has been "flash frozen" or "frozen at sea," fish that are exposed to subzero temperatures within a few hours of being caught. This extreme cold is intended to reduce the formation of ice crystals and allow the fish to be transported longer distances. Although this process labels the fish as frozen, it immediately preserves the taste and quality by slowing cell degradation, whereas "fresh" fish on ice continue to degrade in quality until they reach your plate.

Whether at the grocery store or a restaurant, it can be very difficult for the consumer to assess how fresh the premium-priced meal they are purchasing really is. Restaurants and cafeterias serve half of all U.S. seafood meals, and Americans spend significantly more of their seafood dollars eating out than they do in the grocery store.[42] Both grocery stores and restaurants often advertise a "fresh catch of the day," though suppliers report that many of the fish served at restaurants are also previously frozen.

Location Matters

Since more than 90 percent of the seafood eaten in the U.S. is imported, prices are also influenced by where the seafood is coming from.[43] In an effort to inform consumers of where their food originated, the federal government requires Country-of-Origin-Labeling (COOL) on all beef, poultry, lamb, goat and ginseng products as well as some fresh and frozen fruits and vegetables. However, these requirements do not apply to restaurants or specialty markets, such as fish markets, and COOL labeling is only sometimes required for U.S. seafood.

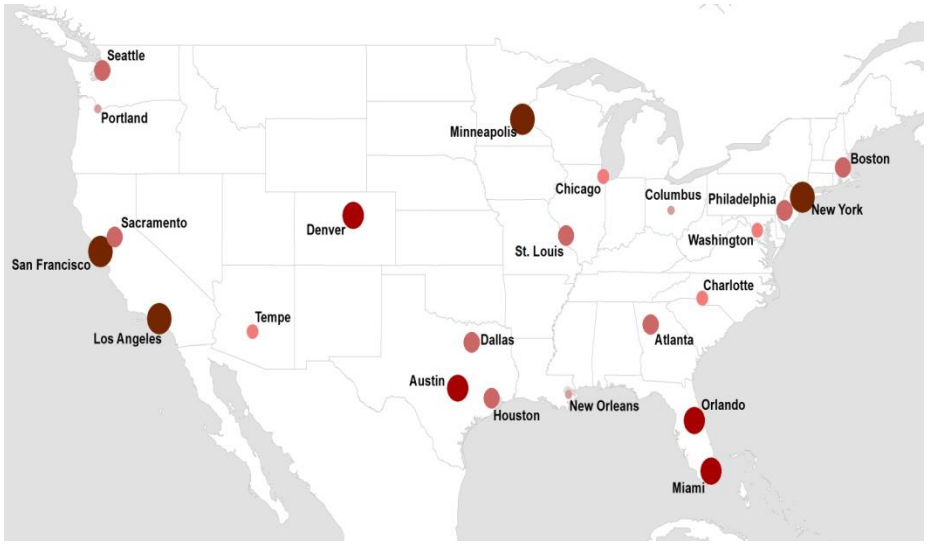
Unfortunately, the vast majority of "processed" seafood is exempt from these requirements.[44] For example, if you add tomato sauce to a fish that has been imported from a foreign country, it no longer needs labeling. Fish sticks, commonly purchased at the grocery store, also fall under this definition because they are cooked and breaded. Restaurants and small retailers are also exempt from COOL requirements.

Based on a recent survey, 92 percent of consumers feel country of origin should be explicitly labeled on all imported foods.[45] Yet 62 percent of fish and 75 percent of shellfish sold in the U.S. are exempt from the labeling requirement.[46] The end result is that the consumer buying seafood at the grocery store or restaurant frequently cannot be certain where it was caught.

Location also matters to consumers, who often seek out and pay more for seafood from a specific place. Oysters are one of the most striking examples of pricing by place of origin. Oysters from different bays in the same region (such as Oregon or Prince Edward Island) command a retail price difference of 30-60 percent on the same menus in New York City.[vi]

Major events affecting seafood supply or demand can also affect U.S. prices. For example, Chile exported 46 percent less farmed salmon in 2009 after a virus outbreak decimated aquaculture operations, causing salmon prices to spike.[47] After the 2010 Deepwater Horizon drilling disaster in the Gulf of Mexico, about half of U.S. consumers reported that they would only eat seafood if they were confident it did not come from the Gulf of Mexico.[48] At the same time, fears of a shortage in oysters due to the spill drove up oyster prices by a third across the U.S.[49]

In addition to the location where seafood is caught or farmed, where it is sold also affects its price. Just as coffee or gasoline is cheaper in rural areas than in cities, the local cost of living affects the price of seafood. For spicy tuna sushi and California rolls, for example, Bloomberg analysts found that Los Angeles was the most expensive, and New Orleans the most affordable, among selected U.S. cities.[50]



Sushi Cost-of-Living Index *(Source: Oceana. Based on Townsend 2011)*
Comparison of the cost of sushi relative to the total average between all cities surveyed. Larger red dots equal higher prices.

Location Matters: U.S. Catfish vs. Pangasius

Catfish are one of the original "white fish," competing in the U.S. with cod, tilapia, pollock, hoki and haddock. All of these fish have a mild taste and white, firm flesh. During the 1990s, aquaculture operations in Vietnam and Thailand began exporting a new white fish. Commonly referred to as pangasius, this whitefish actually includes many different species from the family *Pangasiidae*.[51] The Southeast Asian fish is related to U.S. catfish and was sold as "catfish" from Vietnam at a much lower retail price. By 2002, pangasius accounted for 20 percent of all catfish sales and the average price had fallen 25 percent from the previous five years.[52]

Domestic catfish farmers filed formal complaints to the U.S. government that importers had used predatory pricing and subsidies to compete unfairly. In response, the Department of Commerce and International Trade Association passed anti-dumping measures in the form of trade duties, which increased the price of pangasius by 37-64 percent starting in 2003.[53] Catfish farming associations also successfully lobbied Congress to pass laws declaring that only species found in the U.S. may be sold as "catfish," forcing Vietnamese producers to sell their product by the less familiar names "pangasius," "basa" or "swai."[54] With these duties, pangasius fillets now retail at about $2 per pound, while U.S. catfish is closer to mid-$3 per pound.

Though imports from Vietnam initially declined, demand has since recovered, and pangasius is now the sixth most popular seafood in the U.S., ahead of catfish, which is in seventh place.[55]

However, some pangasius fillets are also imported under false names to evade import duties,[56] and are often mislabeled as grouper, sole, snakehead or eel. In 2008, a Virginia man was convicted of selling 10 million pounds of pangasius as sole, grouper and other kinds of fish for $5 to $10 million in illegal profits.[57]

Wild vs. Farmed Fish

Fuel costs can be one of the largest limiting factors controlling the price of many wild-caught fish, representing between 10-60 percent of total operating costs for some fishing businesses.[58] This cost is often passed onto taxpayers in many nations, as government subsidies pay for about $6.4 billion of fuel for fishing vessels.[59] The price of wild fish is also increasingly affected by rising energy costs and increased competition from the aquaculture industry.[60]

"steak would be more expensive if you had to dangle a hay bale from a helicopter and wait for one to bite." – Matt R., yelp.com

Wild populations of popular fish like Atlantic cod, wild salmon and grouper have been severely overexploited in recent decades,[61] driving up the overall cost of fishing as fishermen need more time and spend more effort to catch the same amount of fish.

Though it dates to ancient times, aquaculture has become more industrialized and expanded into a modern industry that is steadily growing to meet increased demand for seafood. Within the industry, feed is usually the primary economic consideration, representing 50-70 percent of production costs.[62] Feed ingredient prices are volatile and have increased dramatically during the past decade.[63] For example, rising costs for fuel, soy and wild fish contributed to an increase in the price of imported farmed shrimp in 2010.[64]

Aquaculture is also tied directly to wild fisheries. Large farmed carnivores like bluefin tuna and salmon depend directly on wild fisheries for feed,[65] meaning aquaculture is also constrained by rising fuel prices and overfishing. Additional costs for fish farming often include antibiotics and chemical dyes, which can be added to the feed and may leave harmful residues in the final product.[66]

Aquaculture tends to produce larger volumes of fish that are available year-round, allowing retail prices for farmed fish to be lower than for wild-caught seafood. Worldwide, aquaculture has grown by an average of 8 percent annually since 1970.[67] Farmed fish have dropped in price over time, as operations increased productivity and reduced costs through economies of scale.[68] Currently, about half of the world's seafood supply comes from aquaculture.[69] Experts predict that aquaculture will continue to expand in coming decades, boosted by the scarcity of wild fish as nearly 84 percent of the world's marine stocks are fully-to-over exploited.[70]

Wild vs. Farmed Fish: Salmon

Farmed salmon are primarily Atlantic salmon, which have been selectively bred for aquaculture. They are typically grown in densely-packed floating pens and fed protein-rich feeds to make them grow faster. Diseases can spread quickly in these crowded conditions, leading to the use of heavy doses of chemicals and antibiotics to control parasites and fungal infections.[71] By using antibiotics indiscriminately, unregulated aquaculture can encourage the growth of drug-resistant bacteria which can make people sick. Farmed salmon fillets may contain residues of these fungicides and toxic chemicals such as PCBs. [72] Artificial dyes are also fed to farmed salmon to mimic the pink coloring of wild salmon, which gain color from eating shrimp-like krill.[73]

In contrast, wild salmon spend their lives free in the ocean until they are caught by fishermen. Most wild salmon come from Alaska, where salmon stocks are generally healthy and abundant.[74] Wild salmon stocks from Washington, Oregon, California and British Columbia, however, are just a fraction of their former abundance due to habitat loss from dams, deforestation and water diversion.[75] Still, salmon catches in this region are closely monitored to prevent further declines.

Pacific wild salmon are well-studied and are caught by intensely managed fisheries. The five Pacific salmon species: Chinook, coho, chum, pink and sockeye (red), all have distinct flavors, textures and appearances, owing to their different life histories. The flavor of salmon from individual river systems can be particularly renowned, such as the highly sought-after Copper River salmon. In the Atlantic, wild salmon are endangered and the U.S. fishery is closed.[76] Since the collapse, the vast majority of Atlantic salmon for sale in the U.S. is farmed salmon as described above.

Wild salmon costs roughly twice the price of farmed salmon in grocery stores and almost $6 more on average in restaurants. Figure 3 shows the wholesale, retail and restaurant prices for farmed and wild salmon and the potential losses due to fraud. In one university study, restaurants in Washington State were caught serving farmed salmon as wild salmon and confusing other fish species up to 38 percent of the time.[77]

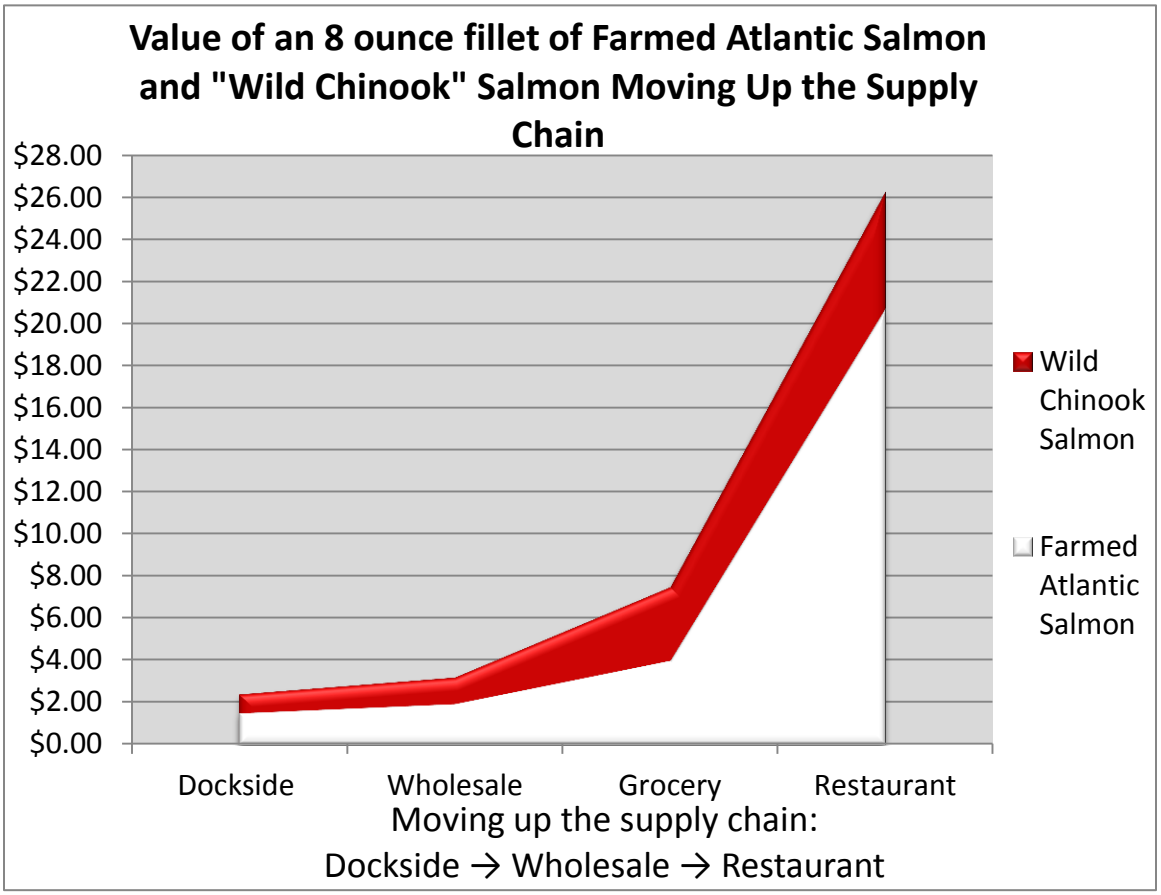


Figure 3. *Comparison of the price difference between 8 ounces of Wild Chinook and 8 ounces of Farmed Atlantic Salmon, showing economic incentive for fraud at various stages in the supply chain. Sources: Restaurant menus, Peapod, Costco, FreshDirect, Sam's club, NOAA Fisheries, Urner Barry, Expert interviews.*

Source	Atlantic Salmon	Wild Chinook	% Increase
Dockside (NMFS) ($/8oz.)	1.49	2.39	**61%**
Wholesale ($/8oz.)	1.93	3.20	**66%**
Grocery ($/8oz. fillet)	3.99	7.50	**88%**
Restaurant – 8oz. fillet ($/serving)	20.70	26.30	**27%**

Why Seafood Prices Matter

Dramatic price differences among substitutes create a cash incentive to commit seafood fraud. In the survey mentioned above of restaurant prices, the retail price difference between farmed and wild salmon was more than $6 on average per serving, while the price difference between red snapper and tilapia was roughly $7 per serving.

These prices add up to significant amounts of money to be made by illegally swapping one species for another. In a single crime, Douglas Jay, of D Jay Enterprises, Inc. was prosecuted in 2011 for mislabeling 160,000 pounds of Coho salmon as more expensive Chinook salmon, a value of $1.3 million.[78] In addition to the obvious monetary incentives, mislabeling is often used to disguise illegally caught fish from operations which break a variety of laws designed to safeguard human health, safety and the environment.[79]

Significant financial incentives for fraud exist at every step of the supply chain, which includes fishermen, dealers, wholesale and retail sales. No clear pattern has emerged implicating one sector over another in reports from DNA testing and inspections, however, it is clear that the current system for identifying, tracking and enforcing the U.S. seafood supply falls short. Traceability would help ensure that all seafood sold in the U.S. is safe, legally caught and honestly labeled while providing consumers with more information about their seafood purchases.

We Need Traceability for Fair Seafood Prices

By requiring traceability, the U.S. can more effectively safeguard the seafood supply chain and ensure the legality of seafood in the U.S. market. Tracking seafood from boat to plate will allow verification of products that will help reduce seafood fraud and keep illegally caught fish out of the supply chain. In addition, traceability can allow consumers to have access to basic information about their seafood purchase, such as the name of the fish, where, when and how it was caught, and whether it stayed frozen the entire time up to delivery.

Setting prices without clear information about what is being sold exposes consumers and retailers to fraud and generates unfair competition for honest fishermen and seafood businesses. This problem currently affects more than 90 percent of the U.S. seafood supply, which is imported from around the world with no transparency about its handling along the way.[80] The government should require traceability throughout the whole supply chain while providing transparency on seafood origins to ensure fair prices and that the seafood we eat is safe, legally caught and honestly labeled.

Oceana is the largest international advocacy group working solely to protect the world's oceans. Oceana wins policy victories for the oceans using science-based campaigns. Since 2001, we have protected over 1.2 million square miles of ocean and innumerable sea turtles, sharks, dolphins and other sea creatures. More than 550,000 supporters have already joined Oceana. Global in scope, Oceana has offices in North, South and Central America and Europe. To learn more, please visit www.oceana.org.

Notes

i. Average prices surveyed in person at fast food restaurants in Washington D.C.
ii. Includes wild and/or farmed as well as marine and/or freshwater.
iii. Canned tuna can include several species, including but not limited to, albacore, skipjack or yellowfin tuna.
iv. Product availability through Royal Ahold's peapod grocery delivery service as of March 2012.
v. Price variation was reported by seafood wholesalers during interviews.
vi. Average prices were surveyed by reviewing more than 300 menus in 12 cities from seafood restaurants.

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