

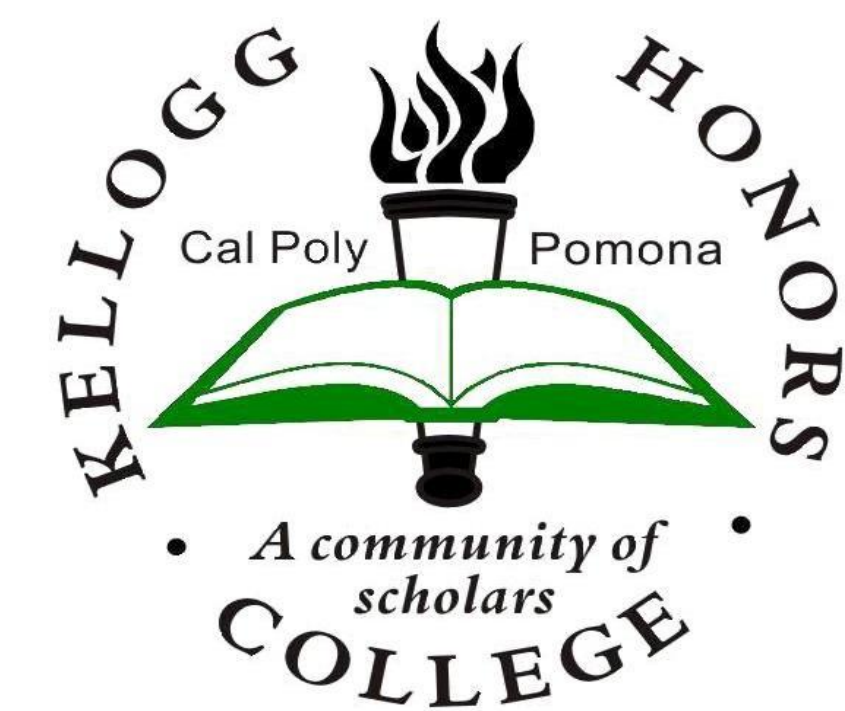
# Sustainable Seafood Sourcing in



## American Restaurants Melissa Huang, Hospitality Management

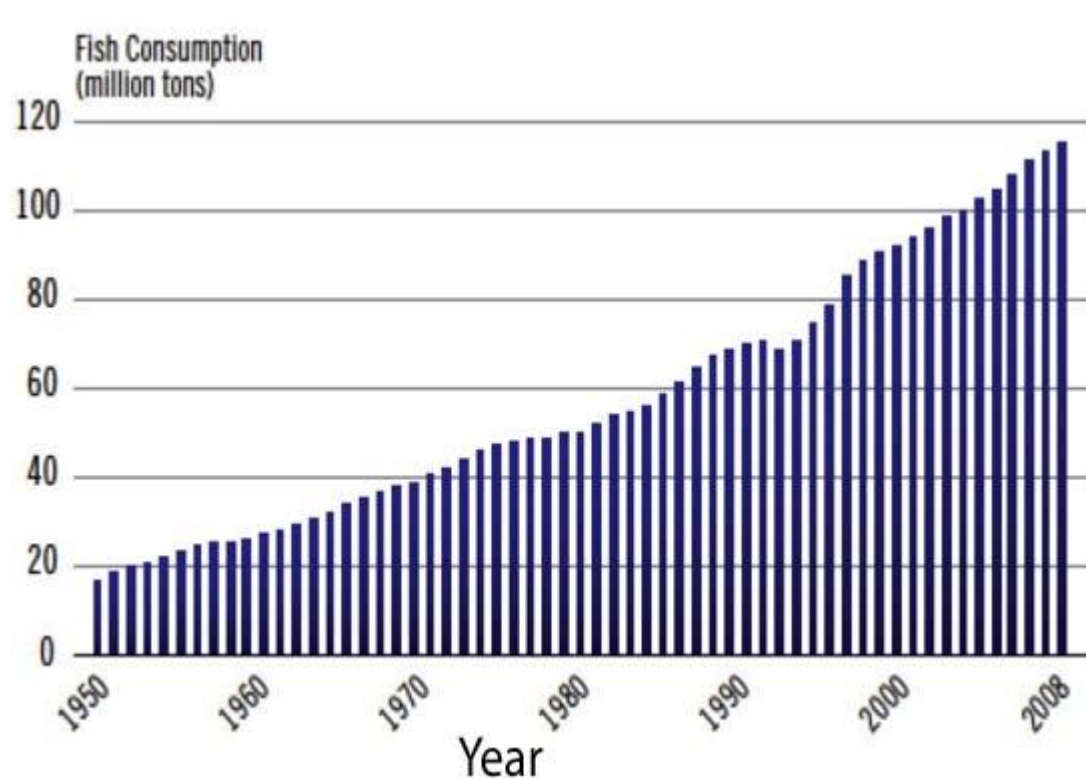
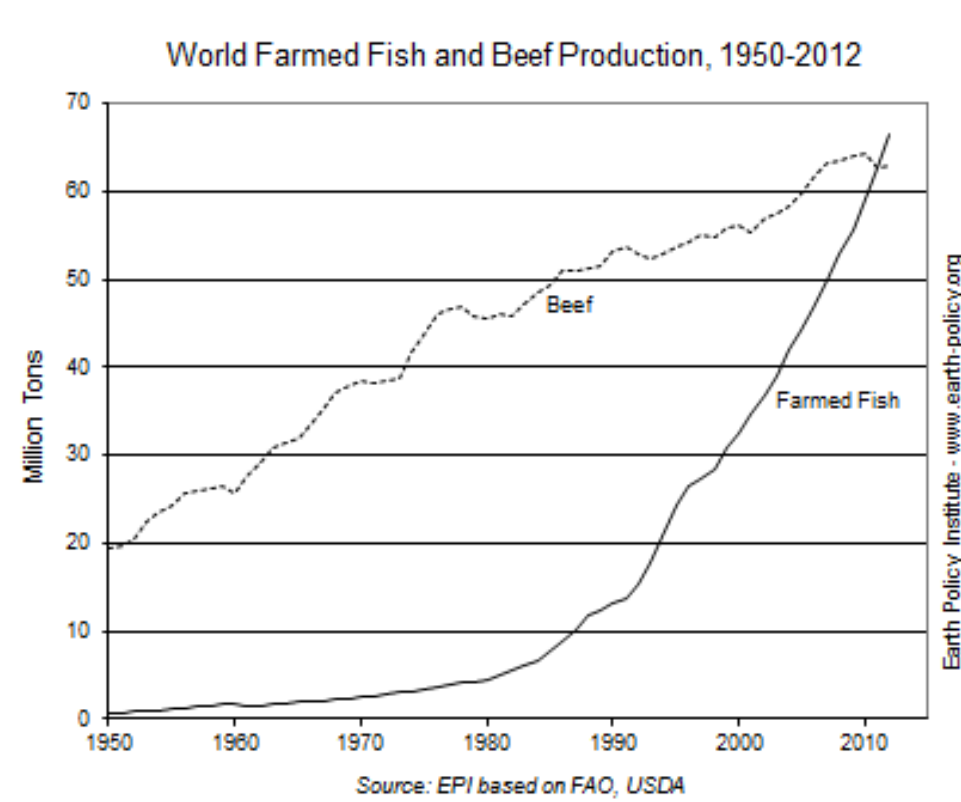
Mentor: Chef Scott Rudolph

Kellogg Honors College Capstone Project



### Abstract

Seafood consumption has increased steadily over the past few decades. More people today are choosing seafood for a protein in alternative to land based animals. With such an increase, it is important to see how seafood makes its way from the ocean to our tables. As most Americans are unfamiliar with cooking seafood, many choose instead to eat at restaurants. This project looks into how seafood travels from the ocean to the restaurant, and their views on how seafood can be sourced sustainably. There are two methods of sourcing seafood: wild caught and farm-raised. I have looked into how our seafood consumption has increased over the years and discovered that following their increase, the amount of fish produced through aquaculture has also steadily increased. After looking into the different methods of acquiring seafood, I have determined that aquaculture is the future of seafood.



### The increase in demand for seafood is due to:

- An increase in the price of grain and soybean prices, which led to an increase in prices of grain-eating livestock, such as cattle. As prices continue to climb for land animals, people have shifted towards other means of protein- notably seafood.
- Religious reasons, such as Lent where most people abstain from eating red meat.
- A more diverse cuisine is available across the United States.
- Current USDA guidelines under a suggested calorie intake of 2000 calories per day recommends 8 oz of serving of seafood a week (2x per week)
- Health benefits:
  - ❖ Seafood has been found to be healthier than red meat.
  - ❖ Salmon, tuna, anchovy, sardine, mussels, and fatty fish all provide higher amounts of Omega-3.
  - ❖ 250 mg of Omega-3 is needed daily and this is easily provided from seafood.
  - ❖ It provides the missing essential fatty acids that helps improve brain development and protection against heart disease and stroke.
  - ❖ Easily digestible and contains a high-quality protein which provides a mix of essential amino acids that our bodies cannot make on their own.
  - ❖ It's good for every part of your body- tissue, skin, brains, etc

### What does sustainability mean?

Sustainability, in terms of seafood, refers to practices that allow for the population of a species of fish to be managed in a way that provides for today's needs without damaging the ability for fish to reproduce so that the fish may maintain their population levels. In terms of aquaculture practices, it must be done in a manner that doesn't damage the surrounding ecology and ensure that the farmed resource is not being generated at the expense of the environment.

### What are the current roadblocks?

- Figuring out where the current regulations lie between local, state, and federal jurisdiction over the waters.
- Aquaculture isn't popular in the United States, as a result, many of our engineers go overseas to fulfill jobs of aquaculture in other countries.
- Public opinion of aquaculture is stuck in the 60s/70s, when it wasn't very well developed.
- Fish that most Americans are familiar with eating- salmon and halibut- are higher on the food chain, meaning that it takes more fish meal and fish oil to raise them, which makes it difficult because the fattier fish used to make fish meal and fish oil (anchovies, herrings, sardines) are dangerously overharvested.
- Nutrition is confusing to most Americans- if they didn't grow up eating seafood, it's less likely that they'll start to incorporate it into their diet when they're not used to eating it.
- Geographic location plays a key factor in how accessible seafood is to people- those living in coastal regions and major cities have more access to seafood whereas those living in mountainous regions or rural areas will have less access to seafood.

Farmed Animal	Amount of Feed Needed to Produce an Additional Pound of Meat
Beef	7+
Pork	5
Chicken	2.5
Fish	<2

The higher we eat on the food chain, the harder it is to be efficient. To farm one pound of beef, you would need to provide the cow with at least seven pounds of feed, and that number can go up to fifteen pounds of feed for one pound of beef. America's other favorite protein is chicken, which is more manageable as it only needs 2.5 pounds of feed for every pound of chicken. Fish is currently at the highest efficiency for farming because it requires less than two pounds of feed to produce one pound of fish. As our population increases, the only way to provide enough protein is to look towards aquaculture.

	Number of Restaurants in the Chain	Locations	Number of Seafood Vendors Used	Emphasis on Local?	Fishery Inspections?	Importance of Sustainability?	Aquafarms?
King's Seafood Company	20, under 5-6 different brand names	Southern California	One internal distribution company	Yes. 30% of the menu to help promote local fisherman	Yes, Regular visits to ensure the fish are being handled properly	Yes, marine resources must be respected if we want it to last	The industry of the future- high quality fish at a lower price
Red Lobster	700+	Worldwide	Worldwide network of trusted suppliers	Yes, Today's Catch features seasonal items from locally sourced waters	Yes, internal and 3 <sup>rd</sup> party audits	Yes, promote sustainable seafood.	Yes, the supply of seafood in the ocean is not endless



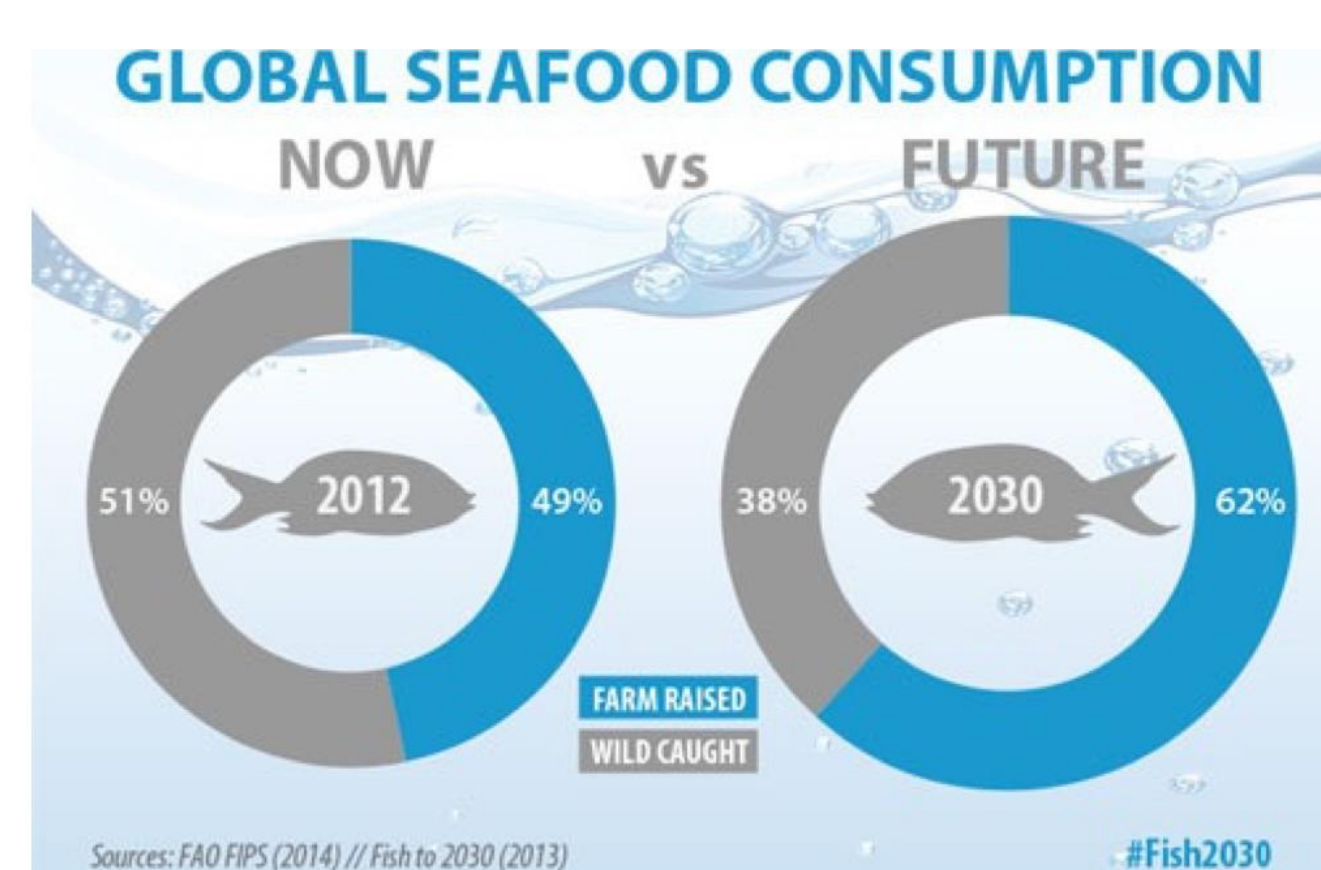
Red Lobster is a chain that started in 1968. They rapidly expanded in 1980 and have ventured into global markets. As a well-known seafood restaurant, Red Lobster is committed to ensuring that their seafood comes from high-quality, sustainable standards. They are a founder of the Global Aquaculture Alliance, a program that has one of the most influential forces in sustainably farmed seafood. In addition to this program, they have also adopted Best Aquaculture Practices for most of their seafood.



King's Seafood Company was originally founded in 1945 under the name of University Restaurant Group. In 1998, they later changed their name to King's Seafood Company to better portray their message of "Delivering Great Seafood to America". King's Seafood Company switched from using several different vendors to one internalized distribution center to better streamline the process of getting seafood from the ocean to the restaurant. Although their offered seafood selection isn't all local, they go through great lengths to ensure that the fish that they serve is obtained from sustainable sources and that the fish is treated well from its entry to a fishery to its arrival at a restaurant.

### What can you do to promote sustainable seafood?

- Incorporate seafood into your diet at home. If you don't think you can cook before your fish spoils, look into individually quick frozen fish or canned fish to control portion sizes.
- When eating out, ask your servers where the fish is from- was it wild or farmed? Where was it from? Do they know if it was sustainably caught?
- Eat lower on the food chain- eating higher on the food chain is less efficient energy wise. Instead of eating pike or trout, go a little lower and have catfish instead.
- Eat different varieties of fish- there are more varieties of fish that people are unaware about, and each comes with its own set of proteins
- Go local. Eat locally, if possible. Support the local fisherman and help reduce the carbon footprint that fish cause when they travel across the globe.



The Global Aquaculture Alliance (GAA) is an organization that promotes responsible aquaculture practices through education, advocacy, and demonstration. They are committed to feeding the world through responsible and sustainable aquaculture by providing resources to individuals and businesses worldwide. They are focused on changing aquaculture for the better as poorly executed aquafarms can have negative consequences on the environment. The GAA is also responsible for giving out third party certifications in Best Aquaculture Practices to restaurants who serve seafood that are from facilities that are environmentally, socially, and economically managed.



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