

OVERFISHING

Since our last meeting, our group, Catherine, Silvia, Katrine, Jenny and Caroline has been busy preparing a document to be posted onto the TAF website which gives details of how critical the situation has now become. The article gives a summary of Overfishing, Tuna and Fish farming.

The majority of us all love to eat fish – it is a good source of protein and very healthy in many ways. We all know where it comes from – primarily, our oceans. Many decades ago our oceans were full of fish but unfortunately this is not the case today. Our world today faces many complex issues ranging from pollution, climate change, wars, food crises, waste, over population and of course over fishing.

Decades of overfishing led the European Union to set annual catch quotas to ensure fish populations were maintained. However, some countries are allowing their fleets consistently to catch more fish than they should.

Ireland, Spain, and Sweden are the worst offenders.

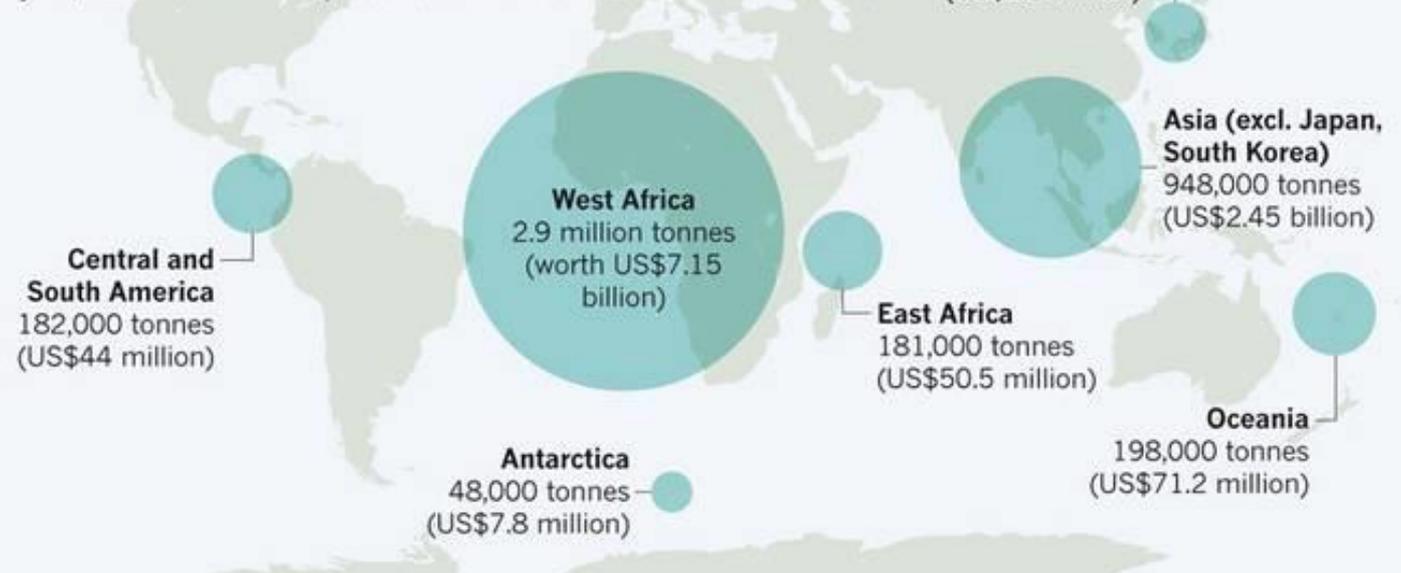
The United Kingdom, Denmark, and Spain topped the list in total tonnage of fish taken above set quotas with the UK coming in at first position taking more than 90,000 more tons than recommended.

Despite all this, governments (particularly in Asia, but also Europe), use heavy subsidies to continue to provide an absurd amount of support to industrial fleets, which often operate without any regulation, far from national waters.

Some of these fishing boats are effectively floating factories. They use sonar, aircraft and satellites to identify fish shoals, before descending on them with drift nets or lines with thousands of hooks, many kilometers long. The caught fish can be frozen and packaged on board. The biggest boats, up to 170 meters long, have a storage capacity equivalent to several Boeing 747s.

A COLOSSAL CATCH

Revised estimates for China's overseas fish catch show that it is taking a total of some 4.6 million tonnes per year, 12 times what is reported to the United Nations.



As you can see on the map above, most of China's overseas catch (around 2.9 million tonnes) comes from the waters around West Africa. This is particularly problematic since so many poor people on that continent depend on the sea, and a collapse in fisheries would hurt them disproportionately.

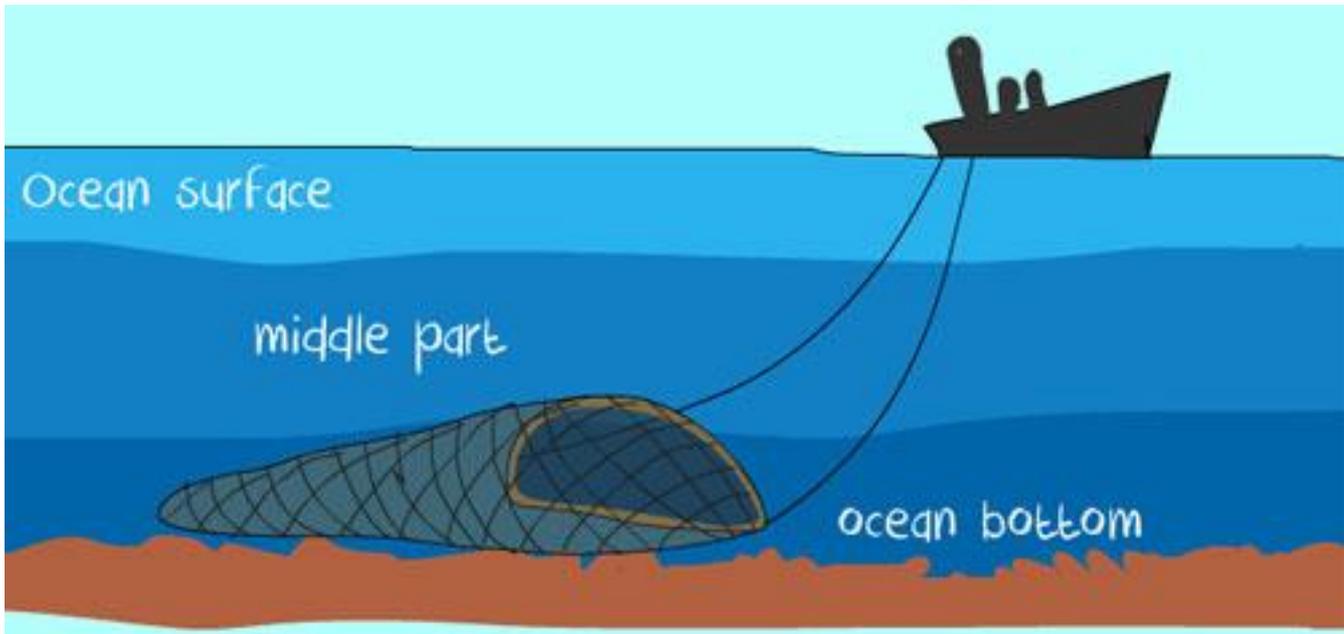
So why is it so hard to know how much fish China's long-distance fishing fleet is catching? Mostly because they keep contracts with other countries - especially African ones - secret, and they often operate with local flags on their ships. They also don't bring it all back to China; a lot is sold locally. Chinese ships have been found operating around countries where they officially report no catch.

The boats most responsible for unsustainable fishing are those from the former Soviet Union, especially the Russian Federation or the Ukraine, which sail under flags of convenience from countries like Belize or Panama, and the unregistered pirate ships, many of which come from the fleets of the Russian Federation, Japan, Belize, Panama and Honduras. The problem of overfishing comes from the fact that beyond the first 200 nautical miles off a country's coast (the country's exclusive economic zone), access to resources is not regulated. So anyone with a boat can fish and exploit marine resources. The United Nations Convention on the Law of the Sea, which came into force in 1994, makes the freedom to fish in international waters conditional on countries' willingness to cooperate amongst themselves to guarantee the conservation and healthy management of fish stocks. Currently these stipulations are little more than empty words.

How does overfishing happen? The causes of overfishing can be placed into these three categories:

Overcapacity: All over the world, many fishing industries have huge vessels, equipment and technology that they can deploy deep into the oceans. They can stay on the oceans for weeks and months and even process the fish before they come back ashore. Experts estimate that the capacity of the world's fishing fleet is four times more than required to fish sustainably in the world's oceans.

Unsustainable Fishing: This involves using nets, fishing methods and other equipment that catch too much fish to a degree that they are endangered. It also involves catching other sea animals other than fish in the process. These are called By-catch. In many cases by-catch is destroyed and thrown back into the sea. This is called **Discards**, and may include cetaceans, turtles, sharks, seabirds, youngfish, corals and invertebrates like starfish, crabs, sea urchins, brittle stars, mollusks, sponges and worms. They also catch very little fish and prevent them from growing to reproduce.



Some fishing methods like Bottom Trawling are known to catch all kinds of fish and animals, with the bulk of it discarded.

On June 30th2016, after 4 years of legislative procedures, Bloom Association reported that an agreement had finally been found between the three European Institutions: Parliament, Council and Commission, sealing the reform of the deep sea fishing regulations ban on deep sea bottom trawling. It prohibits deep sea bottom trawling in all European waters below 7800 meters and a legally binding mechanism for the closure of areas where vulnerable marine ecosystems such as corals or sponges are known or likely to occur.

Economic and Food Needs: The amount of fish that fishing industries bring ashore depends on the market and needs of consumers. In the past century, humans have multiplied in many folds and the need for food and fish has also multiplied. This, together with economic ambitions of fisheries have forced them to catch more fish that the oceans can replace.

The Impact of overfishing It is very easy to predict the most obvious impact of overfishing — no more fish for humans! And this is only a few decades from now, if we do not act quickly and decisively.

What is being done about overfishing?



For many years, there have been all sorts of measures aimed at controlling overfishing, but many of them have not worked well.

- Fisheries are encouraged to stick to their Quota to limit the number of fish that can be caught at any time.
- There are only a set number of days that fishing is allowed. This way, there is some fallow days for fish to breed and reproduce.
- No-fishing zones have been marked in many areas to allow fish to recover. In addition to that, fishing areas are rotated among fisheries so each fishery has a fair share of the days to fish.
- Fishing gear that catch tiny or baby fish are discouraged to help the little fish grow. Only large net-mesh are allowed in some areas.
- These days, there are many monitoring equipment and installations set up to regulate the activities and movement of fishing trawlers. In spite of all this, the problem of overfishing is increasing and we are all heading for a massive disaster if we do not do more.

A major breakthrough happened last Thursday, September 15th 2016 when the Washington Post issued an article advising the world of the launch of a new satellite-based surveillance system powered by Google. Global Fishing Watch, as it is called, is designed to act as an eye in the sky, constantly scouring the globe in search of those illegally plundering the oceans. The organizations that partnered to develop it, which include the marine-advocacy group Oceana and West Virginia-based nonprofit Sky Truth say the free platform will help governments, journalists and everyday citizens monitor roughly 35,000 commercial fishing vessels nearly in real time.

<http://globalfishingwatch.org/>

<https://www.youtube.com/watch?v=46TdXxOgKq0>

<https://uk.video.search.yahoo.com/search/video?fr=mcafee&p=utube+global+fishing+watch#id=10&vid=530bffae0febb0f16dda81d3b10cba1&action=view>

TUNA

Silvia is our Tuna specialist and has visited both Casino and Carrefour supermarkets in Monaco and taken photos of what tuna is sold and what is written on their labels. Unfortunately, when asked, the staff was not quite "au fait" with "dolphin friendly"!!!

On speaking to Jean Pierre, Le Chef of the Fish counter and responsible for all fish purchases he made it known that he is very conscious of the current situation and makes a concerted effort to NOT over order. He advised that any unsold fresh fish was thrown away for obvious reasons but the prepacked fish which passes their sell by date is sent to the Oceanographique museum where it is used as fish food. He advised us that should we have further questions to address Mme. Liesse who would be very willing to answer our questions.

Caroline visited Intermarche in Menton and asked the fishmongeress what happens to their unsold fish. She told me that is 'thrown away' as, unlike meat they are not allowed to give it to any associations. The owner of Intermarche is very aware of the problems facing the fishing industry. They have a FAO map on the wall showing customers where their fish comes from. The boss is very meticulous in the size of fish he buys and no longer buys anything under a certain size in view of the fact there is a growing world problem. The fishmongeress was very aware of the problem and willing to talk. I have since learnt, that the owners of Intermarche used to have bio shops in Nice.

A recent report from Oceana, states that one in five of over 25,000 samples of seafood tested globally was mislabeled. This means that we are sometimes purchasing and consuming seafood that is NOT actually what we think.

Some types of seafood are supposed to be screened for potential toxins or allergens and if they are mislabeled that process may not happen.

The person going through the effort to catch fish legally and label correctly is undercut by the fraudulent practices.

A recent study of Brussels restaurants found that 98% of 69 bluefin tuna dishes tested were a different kind of fish. In a Santa Monica, California restaurant, two sushi chefs were found to be selling whale meat as tuna.

Oceana is pushing for more regulation from the U.S. government on the issue. President Obama has made a commitment to addressing the problem and has proposed a rule that would require more traceability—the ability to figure out where the fish is actually coming from. Steps taken by the European Union to combat seafood fraud appear to be working. The E.U. has pushed for transparency in the seafood industry, and has experienced a drop in overall fraud from 23% in 2011 to 8% in 2015.

To ensure people buy the fish they want, we are now encouraged to ask our fishmongers and waiters more questions about where their fish originates.

WHAT IS THE MSC LABEL?



The MSC label is a sustainability label that indicates that seafood has been sourced using methods that minimise impacts upon the marine environment and fish stocks. The MSC's standards comply with UN guidelines on eco-labelling

Marine Stewardship Council (MSC) is a non-profit organization set up to find a solution to the problem of overfishing. It has set an environmental standard to identify sustainable fisheries and you can spot seafood that meets this standard by looking for the distinctive blue MSC label. This gives consumers a simple way to identify - and purchase - fish from well-managed sources.

More than 280 fisheries in over 35 countries are certified to the MSC's Standard. These fisheries have a combined annual seafood production of almost nine million metric tons, representing close to 10 percent of annual global yields.

Over 20,000 seafood products worldwide carry the blue MSC label.

MSC SUSTAINABLE SEAFOOD PRODUCT FINDER

<https://www.msc.org/where-to-buy/product-finder>

CAN YOU TRUST THE LABEL?

In 2015, the MSC commissioned the Wildlife DNA Forensics unit at Science and Advice for Scottish Agriculture (SASA) to conduct DNA tests on a random sample of 257 MSC ecolabeled seafood products from 16 countries. The test verifies that the species described on the packaging is the same as that in the product.

More than 99 percent of Marine Stewardship Council (MSC) ecolabeled products are correctly labeled, according to DNA test results released by the MSC in March 2016.

Commenting on the results, Brian Perkins, MSC Regional Director - Americas, said, "The MSC's DNA results prove you can trust that seafood sold with the blue MSC ecolabel really is what the package says it is and can be traced from ocean to plate."

Sources

http://www.eurekalert.org/pub_releases/2016-03/msc-ndr031416.php

http://wwf.panda.org/how_you_can_help/live_green/out_shopping/seafood/

<https://www.msc.org/>

WHAT TO CONSIDER WHEN BUYING A CAN OF TUNA

Tuna are among the most commercially valuable fish on the planet. Not all canned tuna is created equal, and these days pulling back the lid can be a bit like opening a can of worms. Some may contain unpleasant secrets - illegal catches, destructive fishing techniques and even forced labour.

Greenpeace are focused on completing tuna rankings and evaluate manufacturers on whether the fishing methods used to catch their tuna harms other marine life, whether they avoid shark finning, and whether they can trace their products back to the sea. In addition, Greenpeace examines how equitable and socially responsible the brands are. Poor working conditions are systemic in the tuna industry, and in the worst cases, human rights violations and slave labor take place.

FAILED

THAI UNION GROUP

The world's biggest tuna manufacturer is notorious for ocean destruction and has also been connected to horrendous abuse of seafood workers worldwide.

According to Greenpeace The Thai Union Group continues to allow wasteful and destructive fishing practices that attract, capture and kill other marine life including turtles and sharks – while driving some species of tuna towards extinction.

International brands owned by Thai Union Group:



JOHN WEST

John West is a UK based Seafood Company owned by Thai Union Group. **The brand is recognized to be the no.1 canned seafood brand in France.** A new study by Greenpeace claims 98% of John West's tuna is caught using unsustainable methods!

Following vast attention from worldwide environmental activities in 2011 John West guaranteed consumers its tuna would be 100% sustainable by 2016 – yet today only a pathetic 2% of its tuna is caught in a way which minimizes harm to other marine life. Greenpeace says "It is clear John West has no intention of keeping its sustainability promise!".

OTHER MANUFACTURERS FOLLOWING CLOSE TO JOHN WEST

PRINCES



John West tops the list but Princes is a close follower, also based in the UK. John West and Princes are the two largest suppliers to the UK market.

Greenpeace claims that Princes promised 100% sustainability by the end of 2014 but have only managed 25% to date.

VIDEO

GREENPEACE SHOCKING UNDERCOVER VIDEO: DIRTY TUNA FISHING

What is the true cost of **Princes** and **John West** tinned tuna?

<https://www.youtube.com/watch?v=JgwL0ohvXA>

CHICKEN OF THE SEAS (THAI UNION GROUP)

STARKIST

BUMBLE BEE



Greenpeace claims that Chicken of the Sea (owned by Thai Union Group), StarKist and Bumble Bee are some of the least environmentally friendly canned tuna brands in the U.S. and these brands alone account for a whopping 80% of all the tuna sold on the U.S. market.

Sources

<http://www.liverpoolecho.co.uk/news/liverpool-news/john-west-princes-slammed-over-10204690>

<http://www.greenpeace.org/usa/news/greenpeace-canned-tuna-ranking-finds-most-brands-fail-consumers-on-ocean-safe-tuna/>

<http://ecowatch.com/2015/02/10/what-to-consider-when-buying-tuna/>

<http://www.greenpeace.org.uk/blog/oceans/win-bin-our-2014-tuna-league-table-20140228>

<http://www.khaosodenglish.com/detail.php?newsid=1444024788>

Greenpeace has produced a tuna ranking to help consumers pick correctly:

<http://tuna.greenpeace.org/en/info/greenpeace-tuna-guides/#>

Below the most recent ranking for France

	Marque	Critère technique de pêche	Critère espèce	Qualité de la politique d'approvisionnement	Progrès réalisés depuis 2014
1		●	●	●	●
2		●	●	●	–
3		●	●	●	●
4		●	●	●	●
5		●	●	●	–
6		●	●	●	–
7		●	●	●	●
8		●	●	●	–
9		●	●	●	–
10		×	×	×	×

The International Marine Mammal Project based in California have for more than 30 years, led the fight to protect dolphins, whales and the ocean environment. They work to make the oceans safe for whales, dolphins and marine life.

They have also produced the following list as of September 2016 stating the following are the APPROVED DOLPHIN-SAFE TUNA

THE PROCESSING COMPANIES & FISHING COMPANIES in France. The one we probably all know is Saupiquet.

- SOVETCO/CFTO
- SAPMER SA
- COBRECO CONSERVERIE EN BRETAGNE
- SAUPIQUET
- CONSERVERIES DES CINQ OCÉANS (FORMELY PÊCHE ET FROID SA)
- SCODI INTERNATIONAL
- PÊCHE ET FROID INTERNATIONAL
- ETS. PAUL PAULET



THE DOLPHIN SAFE LABEL



The Dolphin safe label is another well-known label indicating that your tuna has not been sourced in a way that is harmful to dolphins.

Dolphins are a common bycatch in tuna fisheries, especially in the Eastern Tropical Pacific Ocean, as they commonly swim with schools of yellowfin tuna. The dolphins, which swim closer to the surface than tuna, may be used as an indicator of tuna presence. In the late 1950's tuna fishery in the Eastern Tropical Pacific deliberately targeted, chased and netted dolphins to catch tuna, **resulting in estimates of 6-7 million dolphins dying in tuna nets over the past four decades - the largest marine mammal kill in history!**

In 1986, the International Marine Mammal Project, one of the original projects sponsored by the American Earth Island Institute, organised a campaign, including a consumer boycott of tuna, in order to urge U.S. tuna companies to end the practice of intentionally chasing and netting dolphins with purse seine nets, and to adopt "Dolphin Safe" fishing practices to prevent the drowning of dolphins in tuna nets.

The dolphin Safe tuna program was established in 1990, setting the worldwide standards to stop the setting of nets on dolphins. Today, more than 90 percent of the world's tuna companies are now presumably committed to dolphin safe fishing practices and the Dolphin Safe label is now on canned tuna in markets throughout the world.

Whether companies can market their tuna as dolphin-safe has proven to have a huge impact on consumer and retailer behaviour. Currently around 98% of canned tuna sold in groceries stores carries the label. Meaning by most measures, the dolphin-safe label should be deemed a success — consumers responded to information and the market responded to consumer.

CAN THE DOLPHIN SAFE LABEL BE TRUSTED?

Most people think that the existence of a Dolphin Safe label means that no dolphins were harmed when the tuna were caught. **In truth, the label only means that one particular fishing method was not used in one particular part of the ocean!**

Since the beginning, the Dolphin Safe policy certifies that no dolphins were killed or seriously injured in the Eastern Tropical Pacific Ocean (ETP) tuna fisheries. For all tuna caught in the ETP, an independent scientific observer on board must certify that purse seine nets were not set on dolphins and that no dolphins were killed or seriously injured. The observer prepares and submits detailed radio and written reports that include all activities on board that vessel, including information on any encircled dolphins, if the Captain performed all possible measures to release any captured dolphins without harm, and any issues or gear malfunctions. Government officials monitor the tuna while it's unloaded and it must be stored and processed separately from non-ETP tuna. **The problem is that none of those regulations existed outside the ETP. For most other tuna fisheries, only the ship's Captain has to certify that no dolphins were killed or harmed, meaning there is simply no guarantee about what actually happens.**

In May 2012, the World Trade Organization (WTO) ruled that the dolphin safe label, as used in the U.S., focused too narrowly on fishing methods, and too narrowly on the Eastern Tropical Pacific. The U.S. label did not address dolphin mortalities in other parts of the world or by other fishing methods. In 2016 the U.S. created stricter rules for using the label and made the current requirements worldwide.

Yet polls have indicated that most consumers believe the "dolphin safe" label certifies that no dolphins were harmed when the tuna were caught. However as highlighted above this is not true, **the federal requirements for dolphin-safe labelling do not exclude tuna that were caught while killing dolphins as long as it was not done using one particular method.**

Forbes magazine wrote in 2015 - after multiple condemnations from the World Trade Organization, it's time for consumers to realize that U.S. "dolphin safe" labels are a fraud cooked up by special interests. They claim that the law has covered for a handful of American major brands and the law actually makes it harder to purchase responsibly caught tuna.

They also say - it is no accident then that the major U.S. tuna producers who support and benefit from the dolphin-safe label are counted by activists as among the worst offenders on sustainable fishing practices. Greenpeace released a Canned Tuna Shopping Guide earlier this year. They take into account multiple factors like the health of tuna stocks, traceability, and even "ethical labour practices." The guide ranks major U.S. brands at the bottom for failing on almost all measures.

On every can of Starkist, Bumble Bee, or Chicken of the Sea tuna (these brands alone account for 80% of all the tuna sold on the U.S. market), there's the silhouette of a dolphin within a tiny circle, an assurance that no dolphins were killed as tuna bycatch and that you can enjoy your tuna – proving the dolphin safe label is clearly misleading.

IT'S NOT ONLY DOLPHINS THAT GET CAUGHT UP IN THE CANNED TUNA INDUSTRY

Also important to remember - while the label might lead us to think that dolphins are the only animals that die in the tuna quest, that's not the case. Large-scale commercial tuna fisheries widely use fish aggregation devices, or FADs, which are logs or rafts tethered to the ocean to attract fish. But the device unintentionally kills all sorts of marine life—sharks, rays, marlins, sea turtles—that get scooped up along with the tuna.

Greenpeace says "Dolphin safe does not mean ocean safe. It means that one fishing method that targets tuna that swim with dolphins is not used to catch the tuna. What about the rays and turtles?!"

Fish Farming

Catherine, our Fish Farming expert lists some of the alarming facts about fish farming:

Fish Farms

Fish farms or fish farming is a form of aquaculture. The act of fish farming is about raising fish commercially in tanks or enclosures for human consumption. There are different types of fish farms that utilize different aquaculture methods.

The first method is the **cage system** which uses cages that are placed in lakes, ponds and oceans that contain the fish. This method is also widely referred to as off-shore cultivation. Fish are kept in the cage like structures and are “artificially fed” and harvested. The fish farming cage method has made numerous technological advances over the years, especially with reducing diseases and environmental concerns. However, the number one concern of the cage method is fish escaping and being loose among the wild fish population.

The second method is **irrigation ditch or pond systems** for raising fish. This basic requirement for this method is to have a ditch or a pond that holds water. This is a unique system because at a small level, fish are artificially fed and the waste produced from the fish is then used to fertilize farmers' fields. On a larger scale, mostly in ponds, the pond is self-sustaining as it grows plants and algae for fish food.

The third method of fish farming is called **composite fish culture** which is a type of fish farming that allows both local fish species and imported fish species to coexist in the same pond. The number of species depends, but it is sometimes upwards of six fish species in a single pond. The fish species are always carefully chosen to ensure that species can coexist and reduce competition for food.

The fourth method of fish farming is called **integrated recycling systems** which is considered the largest scale method of “pure” fish farming. This approach uses large plastic tanks that are placed inside a greenhouse. There are hydroponic beds that are placed near the plastic tanks. The water in the plastic tanks is circulated to the hydroponic beds, where the fish feed waste goes to provide nutrients to the plant crops that are grown in the hydroponic beds. The majority of types of plants that are grown in the hydroponic beds are herbs such as parsley and basil.

The last type of fish farming method is called **classic fry farming** this method is also known as “flow through system”. This is when sport fish species are raised from eggs and are put in streams and released.

Fish farming is rapidly growing, making fish farming a profitable business.

As we are aware over 70% of the world's wild fish stock has been exploited or depleted due to over fishing, and therefore, fish farming or aquaculture fish has become a necessity and is a booming trade and as of 2012, the world has produced more farmed fish than beef worldwide, some 66 million tons. While fish farming in sustainable methods are perfectly eco-friendly and equally profitable, there are many fish farms that are utilizing methods which are harmful and hazardous for the environment, and there ought to be more regulations in this sector.

Some of the large scale commercial fish farms force the fish to live in smaller areas than what they would naturally be in. These conditions may be unhealthy for normal fish growth, and the waste as well as the food which is not consumed by the fish makes the water extremely polluted, giving rise to illnesses, diseases, infections and so on. Use of unregulated antibiotics can further deplete the environment that fish live in.

Many of the chemicals banned from the United States are used in other countries as pesticides, food, or disease control methods. Due to lack of monitoring and regulations in some other countries, these chemicals can get introduced in the food chain, and may make their way into our dinner table. Some fish farmers raise fish in net pens, which are highly at risk and susceptible to predators. When the net is ripped and fish escape, it causes the eco-system to become highly imbalanced.

Tilapia is one of the most useful fish for sustainable fish farming. Because they are herbivorous, there is no need to feed them large amount of fish byproducts, and they can be raised in large fish tanks, rather than in a pond.

One of the most destructive types of fish farming is shrimp farming. Mangrove forests, which provide food and other resources for the coastal areas and protect the coastline is often occupied by large areas of shrimp farming, often destroying the mangrove forests in the coastal regions. Shrimp fish farmers raise the salinity of surrounding water and soil, making it unsuitable for regular agriculture.

Raising carnivorous fish such as salmon can be high maintenance for the fish farmers. For every pound of salmon, they need to feed it 2-5 pounds of other fish.

Sea food such as clams, scallops, mussels, and so on is actually highly eco-friendly and act as filters for water because they are fiber eaters. They make the eco-system cleaner, and they are also easier to contain because of their lack of mobility.

Recirculating Aquaculture is actually the eco-friendliest system of agriculture because it reuses all resources, minimizes waste of water and other resources and has least negative impact on the environment.

Top 15 Countries For Aquaculture Production

Rank	Country	Annual Aquaculture Harvest
1	China	58.8 million metric tons
2	Indonesia	14.4 million metric tons
3	India	4.9 million metric tons
4	Vietnam	3.4 million metric tons
5	Philippines	2.3 million metric tons
6	Bangladesh	2.0 million metric tons
7	South Korea	1.6 million metric tons
8	Norway	1.3 million metric tons
9	Chile	1.2 million metric tons
10	Egypt	1.1 million metric tons
11	Japan	1.0 million metric tons
12	Myanmar	0.96 million metric tons
13	Thailand	0.93 million metric tons
14	Brazil	0.56 million metric tons
15	Malaysia	0.52 million metric tons



So, unless we don't do something drastic and spread the word about our willful exploitation of the world's oceans, the phrase 'plenty more fish in the sea, may come to haunt us.