



## Long line vs. Purse seine methods: A comparison in conservation

Hello once again fellow industry members. We hope that everyone had a great lunar new year. In this edition of our newsletter we are going to continue to focus on the conservation of wild tuna stock, particularly the differences between two types of commercial fishing methods – purse seine fishing and long line fishing.

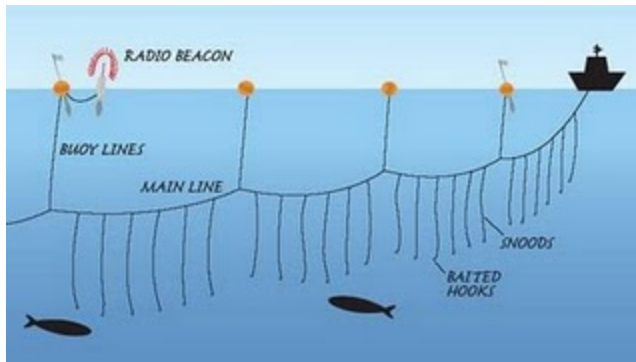


Figure 1: A simple long line fishing system.

Long line fishing involves the use of thousands of baited hooks originating from a single main line. This main line may run as long as 100km or more and is kept afloat using a system of buoys. This method is passive in that bait is set and the boats wait for them to be taken. Although this method of fishing is not free from by-catch, many improvements to this method have significantly lowered the

mortality rates of non-targeted species. The use of bird scare lines aid in preventing birds from diving after bait that is meant for tuna. Also, the use of circle hooks has lowered mortality rates of sea turtles that may be accidentally caught by the bait. **This method accounts for about 13% of tuna caught for global commercial use.**

Purse seine fishing is a type of fishing method that uses a large net that is dropped into the fishing grounds in a circle formation. When the circle is complete the bottom is drawn closed, much like old-fashioned drawstring purses – hence the name purse seine. This type of fishing method is an active method of fishing in that boats pursue what they believe to be schools of tuna before dropping their nets. It is also prone to high levels of by-catch - most notably dolphins, juvenile target species of tuna, sea turtles, and various other non-target species of fish. **This type of fishing is the most common practice used for tuna and accounts for about 61% of tuna caught that is used for global commercial purposes.**

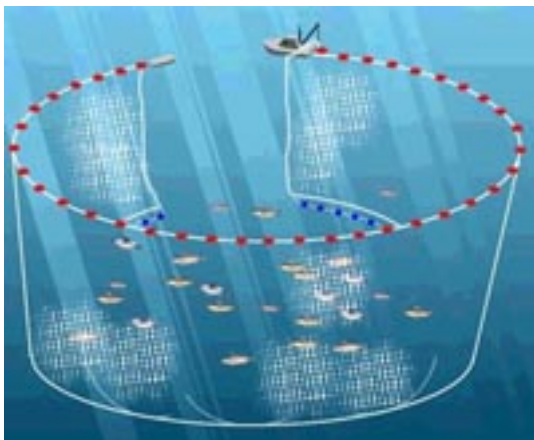


Figure 2: Purse seine fish net harvesting a school of fish.

When confronted with the problem of overfishing and the exploitation of fishing grounds, it becomes obvious which method is more harmful to sustainability. At more than four and a half times the harvest rate, the purse seine method falls alarmingly short of its ability to allow the tuna stock to replenish. Since the net catches *everything* inside it, juvenile fish are also captured and are not given the opportunity to reach adulthood to reproduce offspring. Although the long line



fishing method attempts to catch tuna in large quantities, they target a specific size of tuna according to the size and kind of bait that is used. In addition, tuna have demonstrated the ability to learn to avoid baits that hook members within their own schools. Once they have adapted to avoid particular types of bait, the longliner fleets avoid these fishing grounds for a few years since it would not be productive to continue fishing in the area. During this time the tuna are allowed to reproduce and recover from the previous harvest. This means that the impact on the wild tuna stock within fishing grounds that use long lines is not as severe as a purse seine operation might be.

Although purse seiners are highly effective at catching large amounts of tuna, at the same time they are extremely damaging to sustainability operations. Despite efforts to limit purse seiner operations, the number of vessels and fleets are increasing at an alarming rate. Because most purse seiners use Fish Aggregating Devices or FADs to locate tuna, they oftentimes produce a high by-catch rate. Fish cannot keep up with the speed of improvement of our modern technology.

It is important to us as a company to continue to focus on tuna conservation as an issue within the fishing industry. Some Scientists predict that at the current rate of harvest from the oceans, within 50 years there will be no more tuna left in the sea. **Although long lining is not perfect, since it accounts for a far less amount of tuna harvested from the oceans globally (13% VS 61%), it is a better alternative to purse seiners.** Therefore we must act now to promote tuna conservation the way we can – and that means choosing the best options available to us and improving those methods to further reduce the impacts of overfishing.





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