The Problem With Shrimp Trawling

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Abstract
Despite the many well known negative environmental impacts of trawling, it is still a very widely used fishing method. This is a study on not only the environmental impact of trawls, but also the motivations to continue using them for commercial fishing, as well as various improvements being made and possible solutions and compromises between fisheries and environmentalists that will eliminate the need for trawls entirely.

Why is shrimp trawling so important?
Trawling is the most effective way to catch shrimp, so most shrimp fisheries use it as a fishing method. However, trawling is also the cause of many problems with the environment, and the death of many different types of organisms. This is especially true for shrimp trawling. Shrimp trawls have specialized frames that draw the shrimp into the nets, but also cause abundant damage to the sea floor. They also have specially designed net, which make it difficult for other organisms to escape if caught. Lastly, there is a very high demand for shrimp in the seafood market, so fisheries will fish as much as they can to try and meet that high demand. After numerous waves of shrimp trawlers coming through, entire ecosystems can be destroyed.

What is trawling?
Trawling is a method of fishing that involves dragging a specialized net, the “trawl”, behind a trawling vessel, the “trawler”, to catch numerous species of marine organisms. There are two main types of trawling: pelagic (or midwater) trawling, dragging the trawl through open water, and bottom trawling, dragging the trawl across the sea floor. Trawling can be done with two trawlers, in which the spread of the net is provided by the distance between them, or one trawler, in which the spread of the net if provided by it's specialized structure. Trawling is mainly used for commercial fishing and scientific sampling.

Why is trawling a problem?
There are two big problems with trawling: environmental damage and bycatch.

Environmental Damage
Damage caused by trawling is usually due to bottom trawling. A bottom trawl is made using metal supports as the frame of the net. These supports are bulky and heavy. When these trawls are dragged across the sea floor, the leave a trail of destruction in their wake. Any coral or animal dens are usually destroyed, and after several waves of trawlers, there are no signs of life left. Also, nets can easily get snagged on random rocks or mounds, and sometimes a large section of the net will break off. The net portions are not retrieved, and will sometimes drifts for several miles and “ghost fish”. Any animals unlucky enough to come across these ghost nets will usually become trapped, and eventually die.

Environmental Damage
A filled trawl (http://en.wikipedia.org/wiki/Trawling)

Bottom Trawling (http://en.wikipedia.org/wiki/Trawling)

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Bycatch
Bycatch refers to organisms caught unintentionally while fishing for another species. Non-target species brought on board will usually die before they can be thrown back, and they are not used as an additional catch, so any bycatch is usually completely wasted and results in many pointless species deaths. This is heavily relevant to trawling, because due to trawling’s unselective and indiscriminate nature, it is the number one cause of bycatch across the world (http://en.wikipedia.org/wiki/Trawling).

Is something being done?
Trawling is well known for its detrimental qualities, so innovations that lessen the environmental impact are always being created. One such innovation is the addition of escape windows onto the nets. This allows non-target species to escape the net while target species remain trapped. There have been over 50 patents for trawl improvements in the last decade (http://www.seafoinventions.se). Among these innovations are modified net designs, more specialized net structure, and lighter frames that are less damaging on the sea floor.

Is it enough?
Sadly, despite these innovations and modifications, trawling remains one of the most detrimental methods of fishing on the environment. The only long term solution to this issue in this time period is to find an trawling alternative that will be less damaging for the environment. While alternate methods (such as shrimp farming) exist for catching organisms that would normally be trawled, these methods are much less effective, so companies are in no hurry to abandon their tried-and-true method for maximum profit.

Bibliography

Environmental Damage
A filled trawl, one of the possible alternatives to shrimp trawling. (http://blog.lyonmath.com)