



Research Articles and Glossaries:  
“Threat 1: Overfishing”

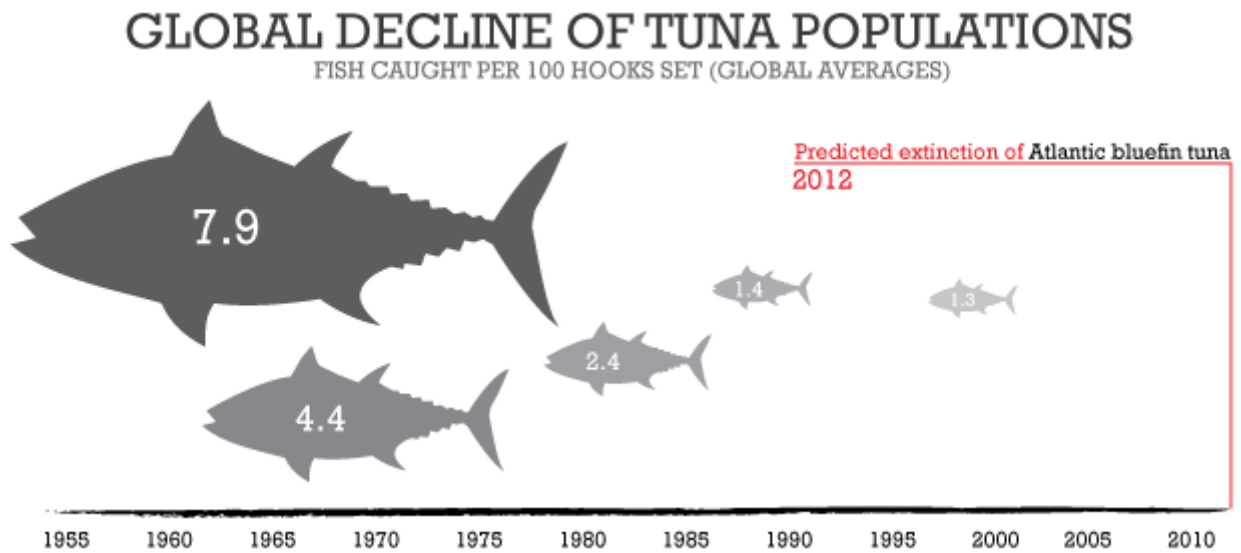
**Overview**

Overfishing occurs when fish and other marine species are caught faster than they can reproduce. It is the result of growing demand for seafood around the world, combined with poor management of fisheries and the development of new, more effective fishing techniques. If left unchecked, it will destroy the marine ecosystem and jeopardise the food security of more than a billion people for whom fish are a primary source of protein.

**Sustainable fishing**

The statistics are grim: 3/4 of the world's fish stocks are being harvested faster than they can reproduce. Eighty percent are already fully exploited or in decline. Ninety percent of all large predatory fish – including tuna, sharks, swordfish, cod and halibut – are gone. Scientists predict that if current trends continue, world food fisheries could collapse entirely by 2050.<sup>1</sup>

The most prized species are already disappearing. The 1990s saw the widely-publicised collapse of several major cod fisheries, which have failed to recover even after fishing was stopped. WWF predicts that the breeding population of Atlantic bluefin tuna – one of the ocean's largest and fastest predators, and sought-after as a delicacy used for sushi – will disappear within three years unless catches are drastically reduced.





Research Articles and Glossaries:  
“Threat 1: Overfishing”

As fish populations closer to shore dwindle, commercial fishing operations have shifted their focus to largely unregulated deep-sea fisheries – as much as 40 percent of the world's trawling grounds are now in waters deeper than 200 meters. In doing so, they target species which are particularly vulnerable to overexploitation, like the orange roughy. Like many other deep-sea fish, this species matures late and lives very long – over 150 years. Its low fecundity means populations become depleted more quickly than inshore species when they are overfished, and take much longer to recover. Indeed, many orange roughy stocks have already collapsed, and recently discovered substitute stocks are also rapidly dwindling.

The good news is that areas with competent fisheries management and coast guard policing, mainly in the developed world, have experienced some dramatic recoveries of fish populations. The bad news is that most overfishing takes place in the waters of poor countries where there is no adequate regulation or policing; areas where rogue fleets – some of which hail from developed countries – equipped with high-tech ships can poach without consequences. Using methods like bottom trawling and long-lining, these fleets are capable of wiping out entire fisheries in a single season. And they don't just catch the fish they target.

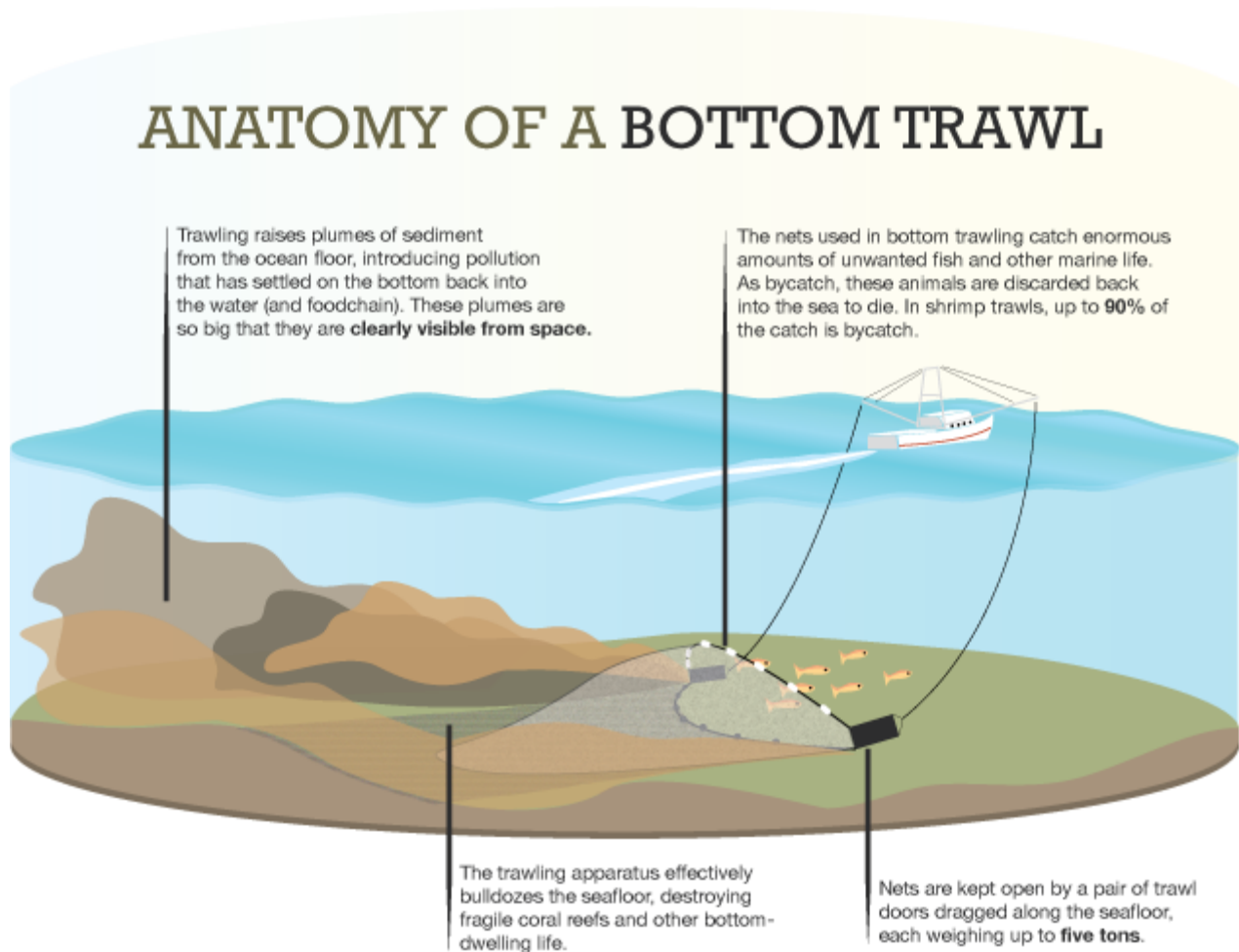
### **Bycatch**

Modern fishing vessels catch staggering amounts of unwanted fish and other marine life. It's estimated that anywhere from 8 to 25 percent of the total global catch is discarded, cast overboard either dead or dying.<sup>2</sup> That's up to 27 million tonnes of fish thrown out each year -- the equivalent of 600 fully-laden Titanics. And the victims aren't just fish. Every year, an estimated 300,000 whales, dolphins and porpoises die entangled in fishing nets, along with thousands of critically-endangered sea turtles. Long-line fisheries also kill huge numbers of seabirds. Over 100,000 Albatrosses die this way every year, and many species are endangered as a result of bycatch.



Research Articles and Glossaries:  
“Threat 1: Overfishing”

All modern forms of commercial fishing produce bycatch, but shrimp trawling is by far the most destructive: it is responsible for a third of the world's bycatch, while producing only 2% of all seafood.



Research Articles and Glossaries:  
“Threat 1: Overfishing”

Shrimp (and many deep-sea fish) are caught using a fishing method called bottom trawling, which usually involves dragging a net between two trawl doors weighing several tons each across the ocean bed. This has a destructive impact on seabed communities, particularly on fragile deep water coral – a vital part of the marine ecosystem that scientists are just beginning to understand.<sup>3</sup> The effect of bottom trawling on the seafloor has been compared to forest clear-cutting, and the damage it causes can be seen from space. The UN Secretary General reported in 2006 that 95 percent of damage to seamount ecosystems worldwide is caused by deep sea bottom trawling.

### Remedies

What can be done? The next few years will be pivotal for the oceans. If strong measures are implemented now, much of the damage can still be reversed. In terms of what needs to happen, preventing overfishing is fairly straightforward: first and foremost, scientifically-determined limits on the number of fish caught must be established for individual fisheries, and these limits must be enforced. Second, fishing methods responsible for most bycatch must either be modified to make them less harmful, or made illegal. And third, key parts of the ecosystem, such as vulnerable spawning grounds and coral reefs, must be fully protected.

In practical terms, this means:

- Putting pressure on governments to limit fishing subsidies, estimated at tens of billions of dollars per year. Eliminating subsidies of this scale lowers the financial incentives to continuously expand fishing fleets far beyond sustainability.
- Establishing and expanding Marine Protected Areas (MPAs), areas of the ocean where natural resources are protected and fishing is either restricted or banned altogether (no-take areas). Presently, 1% of the oceans are MPAs. This number needs to be bigger if they are to help reverse the damage done by overfishing. The Save Our Seas Foundation has been actively involved in supporting MPAs through our projects in the Cocos (Keeling) Islands and the Maldives.
- Better monitoring and policing of the fish trade. Pirate fishing continues to grow in scope, and though illegal, fish caught in such operations often end up on our plates.
- Consumers choosing to buy sustainably-sourced seafood and avoiding threatened species. Overfishing is driven by global demand — lowering the demand will lower the damage.

“Threat 1: Overfishing.” Overfishing. Save Our Seas, Web. 19 Feb. 2014. <http://saveourseas.com/threats/overfishing>



Research Articles and Glossaries:  
“Threat 1: Overfishing”

“Threat 1: Overfishing” Glossary

Threat 1: Overfishing	
reproduce	have babies
ecosystem	the relationships between living things in an area
jeopardize	put at risk of losing
exploited	made full use of
dwindle	shrink down
fecundity	ability to reproduce
competent	having the skills to do something successfully
discarded	thrown away