# A Conversation with Callum Roberts (Part 1)

**A Conversation with Callum Roberts on the Disastrous Turning Point for the Ocean**

**May 2023 (*Part 1)***

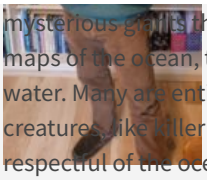
*A contemporary of our 2023 Laureates, Rashid Sumaila and Daniel Pauly, Prof. Callum Roberts agreed to speak to The Tyler Prize about the impact of the laureates' work on the marine science world. Prof. Roberts is a well-known figure in ocean conservation – he is featured in films 'End of the Line' and 'Seaspiracy', amongst others.*

*A professor of Marine Conservation in the Centre for Ecology and Conservation at the University of Exeter's Cornwall campus, Prof. Roberts is a tireless advocate of stronger protection for marine life. In addition to his research, he is Chief Scientific Advisor for the BBC television's flagship series Blue Planet, and works extensively with ocean conservation charities including as Chief Scientific Advisor to BLUE Marine Foundation, as WWF UK Ambassador, and as Advisor to the Pew Bertarelli Global Ocean Legacy Program.*

*The Tyler Prize team were lucky enough to receive a copy of Prof. Roberts' most recent book, Reef Life, which we thoroughly recommend!*

**So much of planet earth is covered by oceans and yet so little is comparatively known about them compared to other ecosystems, even today. What sort of relationship did human beings have with oceans in the past, before overfishing became the issue it is today?**

People were scared of oceans in the past because they were so vast and so difficult and dangerous to access. There were thought to be



mysterious giants that lurked in the water at the bottom of the sea. If you look at the early maps of the ocean, they show great monsters which are just breaking the surface of the water. Many are entirely mythical but others are really based very accurately on real creatures, like killer whales, giant skates and so on. People were fearful and they were respectful of the oceans. And the oceans provided for us: they were an extremely bountiful place with huge quantities of fish just for the taking. People could catch fish just by wading into the water and grabbing them or using pitchforks to just fork fish out of the ocean. Scenes from old photographs show people catching fish this way. There was such a great abundance of marine life.

**What was the turning point for the oceans? When did things start to go wrong?**

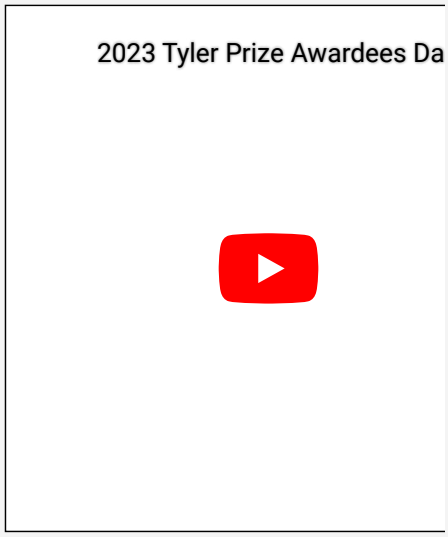
When we started to fish industrially, that was a key turning point. In the late 19th century, engine power was added to boats for the first time, and by the turn of the 20th century, virtually the entire fishing fleet of Europe was powered by steam engines. After World War II, there was another step change in fishing power which swept across the entire planet. As a legacy of the war, we had diesel engines and technological innovations like radar and sonar. For the first time, you could generate an image of the bottom of the ocean and find fish and navigate in places that were too dangerous to go before. The number of hiding places for fish diminished greatly at that point. The world's fishing fleets were powered by a huge government investment. By the 1970s, we were catching an enormous quantity of fish, more than we had ever caught before. But laterally we realized through the work of marine biologists like Daniel Pauly that this was entirely unsustainable and that what we were doing could not be maintained over the long term.

**One of our Tyler Prize Laureates this year is your colleague, marine biologist Daniel Pauly. Amongst his incredible number of achievements, he is well known for founding FishBase. What is it and how is it used?**

FishBase is really a great encyclopedia of the world's fishes and everything that is known about fish species, condensed into vital statistics. It's like Wikipedia for fish, with all the data painstakingly compiled from thousands and thousands of sources from studies in all parts of the world. It's easy to access: all the information you could want is available at the touch of a button. It's seen as an amazing advance by the world's science community, as shown by the site being accessed around 80 million times a month. I use it all the time, and so do my students!

**What were the challenges that fishery scientists were facing before FishBase?**

I think the biggest challenge that scientists faced was access to information. If you worked in a place that had a great library, then you would have better access than if you worked in a place with hardly any books at all, which is the situation for the vast majority of people in the world. Daniel studied at the institute for marine science in Germany which had a great library. He realized how much of an investment in time and effort was required just to create some very basic information about how fish live, behave, grow etc. I think that planted the seed for making that information accessible far more widely across the world. When he moved to the Philippines, he founded FishBase and made it into a much easier means of accessing all of that information stored in obscure library books and reports and journals. It could be easily accessed by scientists from any computer, wherever you were in the world.




Click below to read the Time Magazine conversation between Dr. Ayana Elizabeth Johnson and our 2023 Laureates!

Daniel Pauly and Rashid Sumaila (Photo Credit: Kim Bellavance)

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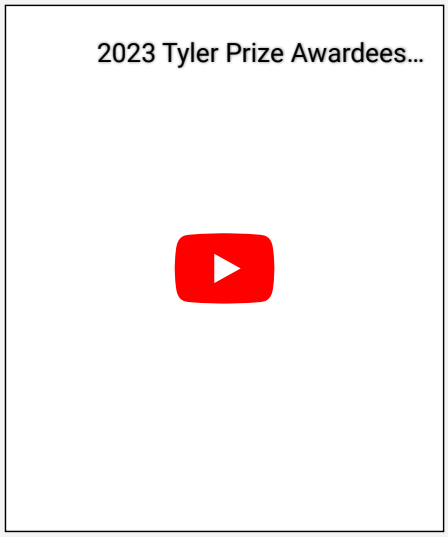
**You're a strong advocate of marine protected areas. What's your view on the potential ban on fishing on the high seas that's currently under discussion with the new treaty?**

The high seas are the wild west of the world's oceans and one of the few frontier areas left on the planet. When people colonize new continents and lands, they encountered naive wildlife and swiftly managed to decimate the populations of the biggest animals. It's called the global mass extinction of the mega. It's been harder to reach the mega in the ocean, but they are also now at risk of being wiped out. But fortunately, we're realizing this just in time to do something about it. There are still giant marlin, whales, dolphins and tuna in the world's oceans. We have the opportunity to do things differently in the sea; we don't have to lose these species to extinction forever. But that possibility depends on what controls we are willing to accept. If fisheries are uncontrolled, they will destroy the wildlife that they depend on and that's what we're seeing across the world's high seas where there is very little control over fishing efforts. There is a lot of activity going on under the radar, away from watchful eyes. If we don't bring that under control quickly, we will lose huge wildlife in addition to turtles, seabirds etc. And the world can't afford to do that. Not just for the loss of iconic species, but also because of the loss of the economic value and the ecological roles that these species play in the ocean.

So we've got to do better. We could start tweaking the dials that govern fisheries, but we know these controls are not very effective on the high seas and much less effective than in national waters. Therefore perhaps the best thing to do is suspend fishing on the high seas altogether until we put in place institutions that do work and we can govern these fisheries properly. So I am very much in favor of a total outright ban on fishing in the high seas until such time as those fisheries can be managed properly and safely and sustainably in the long term.




A few years ago, I was lucky enough to take part in an exercise to create the world's first network of high seas, a marine protected area in the North Atlantic. We established over half a million square kilometers of protected sea, mostly going down the mid-Atlantic ridge between Iceland and the resort. But that is a tiny, tiny fraction of the high seas and the international waters of the sea. We have protected almost none of it. The world is now embarked on a journey to protect 30% of the ocean by 2030. That was agreed in Montreal in 2022 at the convention of biological diversity meeting. If we don't include international waters of the high seas, we'll never even get close to 30% of the sea being protected. If we were to protect all of the high seas, which is definitely justified by the extent of over exploitation which we're seeing there, then at one swoop we would protect 61% of the ocean. Of course, that doesn't mean we don't have to protect any national waters, we will still need to go for 30% there, but think of a planet in which the majority of the ocean is protected and in which we're exploiting sustainably only a small fraction of it – that is a planet worth living on.

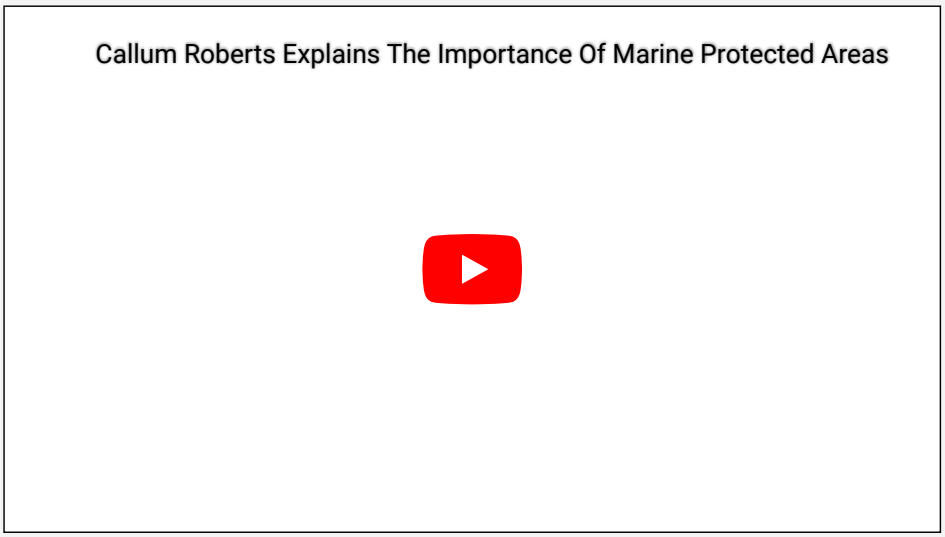
**What do you fear will be the result of continued overfishing if we fail to act?**

Unless we make solving overfishing a priority, we will lose far more than just fish and the industries which depend on them. We'll lose the functioning of the ocean that will impact upon every person on the planet. We'll lose the ability of the ocean to help us in the fight against greenhouse gasses. The ocean will change from being an ally in the fight against climate change to being an adversary. And we really need the ocean to be working for us rather than against it.

*May 2023*

**To read more on Dr. Neira's incredible work:**

**Youtube:** Future Ocean with Callum Roberts




**Faculty Website:** Dr. Callum Roberts, University of Exeter

**Wikipedia:** http://Professor Callum Roberts

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