

The ocean is a key ally in our fight against climate change



Anne Seidler is Junior Marine Policy Officer at Seas At Risk, an association of environmental organisations from across Europe, with a mission to promote ambitious policies for marine protection at European and international level. She is passionate about making the ocean a better place. In the interview, we are talking about the role of the ocean in the fight against climate change.

Due to climate change the ocean is warming up faster than ever. How do higher temperatures impact our ocean?

The rising temperatures as an effect of increasing human greenhouse gas emissions have devastating effects on our ocean. Probably the most prominent one is sea level rise, which has more than doubled over the last three decades. The mean global sea level rose by 20 centimetres in the last century. Unfortunately, sea level rise does not come alone but has exacerbated extreme events such as deadly storms and coastal hazards, such as flooding, erosion and landslides.

In addition, the impacts of climate change on the ocean can for example be seen in increasing marine heatwaves, dead zones in the ocean, ocean acidification, and the loss of marine biodiversity, like the loss of coral reefs. We can see that all these impacts become more frequent, have become longer lasting and more intense and human influence can be identified as the main driver.

What role does the ocean play in the fight against climate change?

The ocean plays a crucial role as it is a key ally in our fight against climate change. The ocean is the largest carbon sink on earth. It contains about 40,000 billion tonnes of carbon. With this reservoir, the ocean exceeds the carbon content of the atmosphere by more than 50 times. In recent decades, the global ocean has absorbed around a quarter of man-made carbon dioxide emissions and has absorbed around 90% of the heat generated by rising emissions, thus significantly slowing down climate change.

In your presentation you mention three marine heroes. Can you tell us who they are and why?

While the ocean has a lot of heroes when it comes to fighting climate change, I exemplary choose three, which are seagrass, whales, and fish as I

believe many people don't know about their superpowers. Seagrass, for example, covers less than 0.2% of the seafloor but absorbs 10% of the yearly estimated carbon burial of the ocean. Compared to tropical rainforests they can store 5 to 30 times the amount of carbon while meanwhile also producing crucial oxygen.

They also slow down ocean currents, waves and storm surges, and thus protect the coasts from erosion and rising sea levels. Another ocean hero are whales, who over a lifespan of around 60 years, accumulate an average of 33 tonnes of CO₂. When they die, they sink to the bottom of the ocean, locking that carbon away for hundreds of years. Part of the carbon capture potential for whales comes down to their role in increasing phytoplankton productivity wherever they go - a phenomenon called the "whale pump". A similar effect happens with fish who are true carbon engineers in the biological pump of the ocean. The latter is the engine of the ocean, fuelled by billions of fish and marine animals. Scientists estimate that fish contribute to 16% of total ocean carbon flux.

We urgently need to reduce greenhouse gas emissions if we are to avoid the worst effects of climate change, how are you addressing this in your work?

This is where it comes to the counterplayers to our ocean heroes, which drastically impact the ability of the ocean to act in its vital climate stabilising function. At Seas At Risk, we are, for example, addressing large-scale, industrial fishing which plays a key role where around 80 million tonnes of fish are killed - our important carbon engineers - annually, which in turn removes significant amounts of "blue carbon" from the ocean, releasing it into the atmosphere. This has almost halved the fish's impact on the ocean in the last century, significantly weakening its capacity for climate mitigation.

In addition, overfishing has led to fishers needing to fish longer, further, and with more fuel intensive & destructive gears – all leading to more greenhouse gas emissions & fuelling the climate crisis. One of the most destructive fishing methods is bottom trawling where the seafloor is basically ploughed up. It not only kills a considerable number of bycatch every year, accounting for more

than 90% of EU discards, but it also destroys carbon storage systems like seagrass meadows and releases already captured carbon back into the water column and eventually in the atmosphere. Bottom-trawling vessels emit three times more CO₂ than non-trawlers – directly worsening climate change.

This is one of the elements we tie in our work where we are fighting to rethink fisheries towards a just system of small-scale low-impact fisheries that is in line with the needs of fishers and our environment. Using the existing and highly efficient capacities of nature to mitigate climate change is much more reasonable and effective than false techno-solutions such as carbon capture and storage or geo-engineering, which are dangerous and unnecessary.

We often hear about the problem of overfishing, but little is said about the problem of fish overconsumption. This is also one of the topics that you are addressing, can you please explain more?

Exactly, it is by now widely known that our world's fish populations are tremendously overfished, but we often don't make the connection to our own consumption habits. Global fish consumption is increasing at a rate significantly outpacing that of the world's population growth, as well as that of all other animal proteins. In other words, the increasing fish consumption is not so much a matter of population growth but an increasing per capita consumption. The global per capita annual fish consumption rose from 9 kg to 20.5 kg in the last 60 years - mainly driven by the Global North.

Europeans play an important role here. We have a growing appetite for aquatic food leading to an annual per capita consumption of around 24kg in the EU - far above the WHO's recommendations on a healthy diet. As we are not able to meet this demand by fishing in our own depleted seas we have become one of the biggest global importer of seafood products and licence agreements with third countries, like Africa to fish in their waters.

One of the problems is that fish has become accessible even in the most remote areas. Even when you go skiing far away from any coast you can get salmon in any mountain hut.

There is no human right to salmon sushi or shrimp poke bowls! We are literally feeding into a system that destroys the ocean and therefore not only the best ally in our fight against climate change, but also destroys the livelihoods of many people who truly depend on fish for food and income.

