

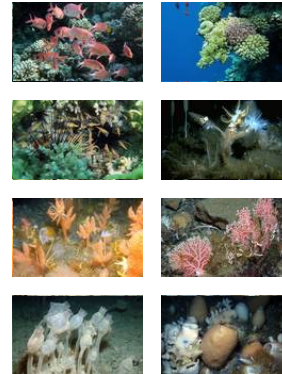
## IPBES-Bericht

# Half of the coral reefs have already been lost

AWI expert on the role of marine biodiversity in the IPBES report

[06. May 2019] The oceans are virtually as important as land-based ecosystems for human beings. Further, since the changes taking place underwater are far less visible than those on land, it was all the more important that the IPBES pay due attention to the oceans in its Global Assessment report. In the following, we present a commentary by Julian Gutt, one of the report's lead authors and a marine biologist at the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI).

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Oceans cover 71 percent of the Earth's surface; their ecosystems are nearly as diverse as those found on land and, for many people, are just as important. Because my job involves imaging methods and underwater photography and video, I'm



Pinecone soldierfish in the Red Sea. (Photo: Thomas Glatzel / Universität Oldenburg)

constantly amazed by the diversity in our oceans. In its first Global Assessment, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) addressed the status quo of biodiversity on our planet, and how we human beings are linked to it. After all, every single one of us is ultimately dependent on the services that plants and animals provide - in terms of food, raw materials, climate protection or medicine - , while we also need microorganisms in connection with nutrient recycling and for our health. In this regard, the oceans play a decisive role. Fish and other types of seafood are the primary food source for roughly one billion human beings, and cover over 20 percent of the world's protein needs. Marine algae produce half of the oxygen we breathe.

As a result, we find ourselves in a dilemma. In order to survive, we have to interfere with natural ecosystems, yet we have to do so in a sustainable manner, so as to ensure that future generations can live in an intact environment. The IPBES report shows that we're currently failing at this task, and that we need to rapidly change course to avoid even worse environmental damage.

Since the state



Corals. (Photo: J. Gutt & W. Dimmler, Alfred-Wegener-Institut/MARUM, Universität Bremen)

of marine ecosystems is not as readily apparent as that of their land-based counterparts, the report especially focuses on informing the public and decision-makers about the oceans. Over the past 150 years, human beings have caused massive changes to many

parts of the oceans. Thanks to human activities, half of all coral reefs have now been lost. Although entire coral reefs are fairly visible in shallow tropical waters, the same can't be said for the cold-water corals and sponge reefs in the ocean depths, which are endangered by fishing and marine litter. Similar to polar bears, whose habitat is disappearing as climate change progresses, the coral reefs are an icon of biodiversity. But, just as polar bears aren't the only Arctic species affected, but are joined by a host of birds, marine mammals and smaller life forms, the loss of species in the oceans is very likely much more widespread than what we're capable of observing.

That being said, based on the amount of coral reefs lost and the expected global losses through the end of the century, we can deduce that the number of irrevocably lost species is high and continues to rise. Unfortunately, in contrast to the situation on land, we don't even have projections for marine species. In many cases, we don't know what functions the extinct and endangered species performed and still perform for other marine fauna and flora in the marine ecosystem, since the long-term observation of marine food webs is an extremely involved and expensive undertaking. But, just as bees are essential to the pollination of many plants, there are also close connections between species in the sea. Further, according to the IPBES report, many species that are not extinct have nonetheless been severely impacted by human activities: one third of the fishing stocks we use are overfished or have already collapsed. And experts predict that climate change will reduce algal growth by 10 percent and the total amount of fish by 25 percent over the next several decades.

According to the IPBES report, released on 6 May, tackling these pressing issues will require comprehensive efforts to achieve the United Nations' Sustainability Goals, which chiefly focus on human beings and our living environment. These include putting an end to hunger, preserving life on land and in the oceans, guaranteeing health, and stopping climate change. According to the IPBES, these problems can only be solved by working together, and by combining scientific findings with societal transformations. To make that happen, we have to start doing a better job of respecting and protecting biodiversity all over the planet - in our own backyards, but also in places where we can't directly see the changes. Not only because of their benefits, but also for the sake of finding a balanced coexistence for all life on Earth, we have to take immediate steps and put a stop to the loss of species.

research in the polar regions and the oceans of mid and high latitudes. As one of the 19 centres of the Helmholtz Association it coordinates polar research in Germany and provides ships like the research icebreaker Polarstern and stations for the international scientific community.

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