

A compilation of 50-years worth of data on human activity in the ocean reveals that the race for the seas is well and truly on

You often hear that the ocean is the next frontier for humanity to expand into. But what's quite striking when you look at our research is that it actually started 20 years ago,' says Jean Baptiste Jouffray from the Stockholm Resilience Centre, lead author of a new study titled the 'Blue Acceleration'.

By synthesizing 50 years of data from shipping, drilling, deep-sea mining, aquaculture, bioprospecting, protected areas and several other industries, Jouffray and his team have compiled a comprehensive overview of human interference in the ocean to date. 'The results were a bit of a surprise,' adds Jouffray, 'because I myself was perpetrating this narrative of the ocean as the next frontier. Of course, there is some truth in that. But it's also important to recognise that we're moving already.'

Some of the industries analysed are

already well-established. The largest ocean industry is the oil and gas sector, responsible for about one-third of the value of the ocean economy (nearly 70 per cent of the major discoveries of hydrocarbon deposits between 2000 and 2010 happened offshore). Sand and gravel are the ocean's most mined minerals to meet demand from the construction industry, and, as freshwater becomes an increasingly scarce commodity, around 16,000 desalination plants have sprung up around the world in the past 50 years.

Others are only just coming to the fore. The study reports that exploratory licenses for deep-sea mining (*see opposite*) have been granted for more than 1.3 million sq km of the seabed in areas beyond national jurisdiction – exploitation regulations are expected to be approved within the next two years. And, the extraction of genetic material from deep-sea organisms is also gathering pace. Many ocean creatures are of particular interest to industries such as pharmaceuticals, because they

have evolved to thrive under extreme conditions of pressure, temperature, salinity, or darkness. Enabled by advances in sampling technologies and remotely operated vehicles, over 34,000 natural products have so far been described from species found in the ocean.

On the other hand, 'interference' also includes conservation measures. The area protected from exploitation has increased exponentially with a surge since 2000 that shows no signs of slowing. **7**

All of this action, says Jouffray, raises important questions, in particular, who benefits from human activity in the ocean? 'Because of the barriers to entry – so how expensive it still is to actually go out there in the ocean – you do see a lot of highly consolidated industries,' he says. 'If we see the ocean as this common, shared inheritance of humanity, then how do we actually ensure that it's the case – who's benefiting, or rather who is not benefiting?'

'I think that is an increasingly important question as we try to steer this race in the right direction. I think it's not only from a sustainable, environmental perspective that we need to be really aware of it, but also from a social aspect, to make sure that it is not only the few that reap the benefits.' ●



been
ior?

What has happened to areas that have been conserved since 2000?

lore
e

of the

Subscribe what this article is about.

Why do industries want deep-sea mining licenses? What are they extracting and why?

Handwritten notes in a box at the bottom left.

Handwritten notes in a box at the bottom right.