SYNCHRONICITY EARTH
INSIGHT

Photo: Glen Edney

High and Deep Seas

Why the High and Deep Seas?

"The sea brims with creatures that over billions of years have transformed rocks, water and toxic gases into a planet just right for life as we know it. The living ocean touches you with every breath you take, every drop of water that falls from the sky. Ancient, fine-tuned systems of life in the sea shape planetary chemistry, hold the planet steady and, with care, provide hope for an enduring future for humankind." – Dr Sylvia A. Earle

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Since humans first walked the Earth, the ocean has been a source of wonder and inspiration, of awe and sometimes fear. It is home to untold diversity of species, from coral reefs teeming with colourful life, to colossal deep-sea mountains that act as magnets for an astonishing array of marine animals, to steaming deep-sea vents which house utterly unique, other-worldly creatures. Most of us only ever see a small fraction of our 'blue planet', yet the entire ocean system sustains our lives and wellbeing. The rich ecosystems of the open ocean nurture the coastal habitats and fisheries relied upon by billions worldwide for food and income. The multitude of diverse organisms within the oceans are responsible for supporting and regulating critical planet-wide systems – they absorb a quarter of the carbon dioxide and over 90% of the heat we emit[1], produce about half of the oxygen on the planet, and their currents regulate all of our weather.[2] **Home to an enormous proportion of life on Earth, and providing crucial support for the rest of the planet, the furthest reaches of our oceans beyond the horizon and below the surface must be brought into sight of conservation action.**

'High and deep seas' describes the vast majority of our oceans that lie either beyond the Exclusive Economic Zones (EEZs) of coastal nations (the 'high seas') or below 200 meters in depth (the 'deep sea'). The high seas cover 64% of the ocean's surface, while the deep sea makes up 90% of our planet's marine environment. These two areas overlap heavily, but not entirely, as some areas of the deep sea lie within EEZs. The deep sea alone was recently assessed as being home to the largest source of species and ecosystem diversity on earth.[3] It is believed to host as many as 10 million different species and some of the oldest marine life recorded, while the high seas serve as migration corridors where many marine mammals and pelagic species spend most of their lives.

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These awe-inspiring, critically important ocean systems are being pushed to the point of collapse, due to a combination of climate change, pollution, and massive global fishing effort. According to the UN Food and Agriculture Organisation (FAO), about two thirds of fish stocks are either fully or over exploited,[4] with actual levels believed to be much higher due to underreporting, especially in the high seas.[5] **Because the high seas lie beyond national boundaries, they are treated as a global commons, which means that they are open to plunder and exploitation, essentially free from any regulation or oversight.**[6] Technological

advances in fishing fleets mean that boats from the biggest fishing nations can scour the furthest reaches of the oceans, with larger nets going deeper than ever before and sophisticated equipment allowing them to locate shoals of fish with incredible accuracy. This scale of fishing is causing wide-scale regional losses of populations and species, which have serious knock-on effects for marine ecosystems. The loss of predators, for example, affects the whole food chain as control of other populations is removed. Research has shown that the collapsing of fished populations is closely linked to overall stability of the ecosystem, and the ability of other populations to recover from the multitude of stresses they are facing.[7]

From rocketing fishing effort, to habitat destruction, to horrific human rights abuses, human activity on the high and deep seas is contributing to the failure of ecosystems across our oceans, which will ultimately impact our whole planet and all its inhabitants.

Challenges – poor governance and lack of support

Underlying the pervasive destructive activity taking place in the high and deep seas is the complete lack of effective governance or regulatory systems in place to protect biodiversity in these key ecosystems.

All of the high seas, rather than being controlled by one nation, are instead governed by regulations laid out in the United Nations Convention on the Law of the Sea (UNCLOS), which is only a broad framework and contains practically no mechanisms for protecting biodiversity. This means that measures which are taken as standard in terrestrial ecosystems, such as establishing protected areas and carrying out environmental impact assessments, are entirely missing in the high seas - currently, less than 1 percent of the high seas are fully protected.[8]

Similar issues threaten deep-sea ecosystems, most of which also lie in areas beyond national boundaries. Even those that are governed under national jurisdiction receive nowhere near the level of protection they need considering they are highly vulnerable ecosystems being exploited by some of the most destructive fishing methods in use. Bottom trawling, for example, which is used in the majority of deep-sea fishing, uses nets armed with heavy rolling balls and steel plates capable of turning pristine coral habitats into rubble in a matter of minutes. Due to the slow growth and reproduction rates of deep-sea species, these fisheries more closely resemble mining operations than sustainably managed fishing operations, as there is a very low likelihood of populations recovering.[9]

A further threat to the deep sea is the growing international appetite for deep-seabed mining, which although it is still at its early stages, could quickly become one of our planets most widespread and

destructive practices if it is allowed to go ahead. In search of minerals such as copper, cobalt, nickel and lithium, a new industry is on the verge of being born which will target highly vulnerable deep-sea habitats, where biodiversity loss could be irreversible.[10] The regulation of this industry lies largely in the hands of an international body (the International Seabed Authority), which has extremely limited provisions for including the science of NGO communities in its decision-making process.[11]

Our analysis has found that the high and deep seas receive only a tiny fraction of marine conservation funding.

Of nearly 1,500 grants between 2004 and 2012 from leading ocean funders, less than 2% went towards the high and deep seas.[12] The high and deep seas are areas of the planet which exist far from the experiences of most people and they feature complex ecosystems which are yet to be fully understood. Unlike some more tangible marine projects, progress in this field is slow, and often hard to communicate as it is reliant on an understanding of (and interest in) policy and regulations. This has meant that work which is critically important for the protection of vast swathes of our oceans has gone largely unfunded and forgotten for decades.

A further example of the lack of attention paid to the high and deep seas is the drastic paucity of research that has been done on these ecosystems. For example, a recent study from Oxford University found that in the past 33 years, only 77 papers were published on population genetics of deep-sea invertebrates.[13] Considering the deep-seabed is the largest habitat on the planet, these numbers are astounding. Without basic knowledge about how these ecosystems work and react to stressors, it is near-impossible to assess how global industries are affecting them and how that will impact the rest of the planet.

Taken together, all of these factors mean there is an urgent need to bring in global attention and new regulatory systems that have the power to effectively limit the most destructive activities and conserve diversity and abundance in the high and deep seas.

Knowledge into Action

Through over four years of research and working with our partners and experts in the area, Synchronicity Earth has developed a High and Deep Seas Programme which supports work that, if successful, has the potential to influence the complex political and economic systems behind the unchecked abuse of marine environments, and could bring about far-reaching change to how they are managed. We are supporting effective action centred around research, advocacy and campaigning, to influence governance systems in three key areas:

1. Governance of the high seas: Our support is centred around the negotiation of a UN high seas treaty which would provide a framework for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction.

- The High Seas Alliance provides well researched ways forward for decision makers, as well as letting them know that the public is watching through civil society campaigns.

2. Deep-sea fishing regulations: We support work which addresses both international and national governance of destructive deep-sea fishing practices.

- The Deep Sea Conservation Coalition (DSCC) works towards the successful implementation of UN deep-sea fishing resolutions, by holding governments and organisations accountable through the production of thoroughly researched reviews of policy implementation and strategic advocacy work.
- Bloom Association and the DSCC carry out advocacy and campaigning work around the reform of the European Union's deep-sea fishing regulations, thus reducing the impact of one of the largest deep-sea fishing fleets in the world.

3. Deep-seabed Mining: We support advocacy against the development of deep-seabed mining, which could cause unprecedented damage to one of the world's most vulnerable ecosystems.

- The DSCC produces key research and carries out local legal interventions against the progression of this industry as well as advocacy at international level promoting strong environmental protections and the integration of science and the precautionary principle.
- Act Now! and the Bismark Ramu Group carry out highly effective campaigning against deep-sea mining in Papua New Guinea.

Vision

A world where the high and deep seas are recognized both for their inherent ecological value and for their critical role in sustaining human life, and are protected accordingly.

Positive Change

The high and deep seas are slowly coming into focus within the ocean community and more broadly. In recent years, some remarkable progress has been made towards protecting these environments.

- The UNDP's sustainable development goals, which came into effect in January 2016, signified a shift of focus towards the oceans, in particular with Sustainable Development Goal 14 - Life below water.[14] Within this they called for the protection of 10% of the oceans before 2020, as well as effective regulation of harvesting of marine species. This goal has given extra backing to groups working to protect the high and deep seas as greatly improved high seas governance will be vital in achieving either of these.
- In June 2016, after eight years of campaigning by our partners, Bloom Association and the DSCC, the European Union adopted a ban of deep-sea fishing below 800m in the northeast Atlantic – and a ban below 400m in vulnerable marine

areas. This hard-won victory is being used to build momentum for a similar ban by the UN.

- In December 2016, thanks in part to strong pressure from the DSCC and their production of comprehensive reviews, the UNGA issued an updated resolution on deep-sea fishing which imposes vital stronger regulations and urges high seas fishing nations and organisations to do more to protect the deep-seas.[15]

- In July 2017, a two-year negotiation process at the UN came to a conclusion with an official recommendation the UN proceeds in the development of high seas biodiversity treaty.[16] This is the first in several key steps on the path to a legally binding treaty, and means that enough governments are in agreement about what should be included in the treaty for it to go forward.

- Our partners took successful legal action to prevent the issuing of a permit to mine for phosphate in New Zealand's waters, which was not only a victory for an important and biodiverse area of New Zealand, but it also set a benchmark for seabed mining permits in the region and globally.

Bubblegum coral (Paragorgia arborea) NOAA/MBARI 2002

These steps towards stronger systems of governance for the high and deep seas demonstrate the massive impact possible from the targeted work of our partners. If progress continues in this direction, entire governing systems could change, which would mean effective protection for the first time for some of our planet's most vulnerable ecosystems.

Insight Series: Bringing Conservation to Life

This series describes in simple terms the species, ecosystems and regions that we believe to be the most urgent conservation priorities, globally. We look at key challenges and potential solutions and describe how Synchronicity Earth, along with our partners, is helping to transform robust science into effective conservation action.

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