

Improving protection of the oceans

2017 was a year of significant progress on measures to protect the world's oceans. Stuart Parkinson and Louisa Reynolds explain.

After more than ten years of discussions, countries voted at the United Nations on Christmas Eve to begin formal negotiations on the first-ever international treaty to protect life in the 'high seas'.¹ The process is planned to take two years. The treaty would have the authority to create large marine protected areas in the high seas as many ocean scientists have been calling for.

This work builds on the progress made at the UN Ocean Conference, which took place in New York in June, and has led to over 1,400 commitments by governments, businesses, environmental organisations and scientists.²

The importance of ocean health

The importance of the world's oceans is hard to overstate. They govern in large part the Earth's hydrological and energy cycles, the global nutrient cycle and the biological food chain, as well as climate patterns on global and regional scales.³ In addition, the ocean supports human industries and activities such as shipping and other transport, food, recreation and tourism, and the exploitation of offshore minerals, such as oil and gas.⁴

The marine environment was once considered too vast for its welfare to be damaged by human activity,⁴ but now societies are grappling with a range of urgent oceanic problems. These include: depleted fish stocks; pollution from plastics;⁵ climate change effects such as temperature rise, sea level rise, acidification and the consequent coral bleaching;^{6,7} destruction and major damage to wetlands and other shore habitats;^{4,6} untreated sewage and runoff from industry and agriculture leading to aquacultural effects; jelly fish swarms due to diminished predator populations; the exacerbation of disease and mortality in large oceanic mammals; and increased exposure to ultra-violet radiation due to stratospheric ozone depletion.

Of particular concern has been a lack of jurisdiction and protection of the high seas, leaving nearly 60% of the world's oceans unprotected.⁸ The high seas are those parts of the oceans outside of the 200-mile exclusive economic zone (EEZ) of countries with coastlines. These areas tend to be only fished by large vessels, often huge bottom trawlers that can damage the sea floor.

It is intended that the proposed treaty would have the power to the ban fishing in some areas, enact

protections from key industrial impacts, and develop rules around marine genetic resources in order to facilitate fairer sharing of 'marine services'.

The negotiations over the next two years will build upon the growing international and multidisciplinary collaboration in a range of areas related to the oceans, as demonstrated at the UN Ocean Conference.⁹ Commitments made at this event included a large expansion in the size of marine protected areas (MPAs) – keeping the world on track to meet the target of 10% of the ocean covered by MPAs by 2020. Other commitments covered reducing the use of single-use plastics, reducing the amount of sewage and other pollutants entering the ocean, protecting fisheries, and expanding oceanographic research.

UK actions

At the Ocean Conference, the UK government made pledges in three areas:

- delivering a network of MPAs (which currently cover 23% of UK waters) in order to conserve the marine environment of the UK and its overseas territories, including protecting global significant biodiversity;¹⁰
- combating marine litter, including reducing the volume of single use plastic bags and the introduction of national litter strategies;¹¹ and
- strengthening its work on marine science, including improving ocean observations and data sharing, and using new technologies such as robotic systems.¹²

Since then the government has published its 25 year environment plan,¹³ including commitments on protecting fish stocks and other marine wildlife as well as reducing marine plastic pollution. However, the commitments have been widely criticised as being vague or unambitious. For example, the target year for eliminating 'avoidable' plastic waste is only 2042. Separately, the government has also enacted a ban on the manufacture of 'microbeads'.¹⁴ While the UK is one of the first countries to enact such a ban, it nevertheless only applies to certain 'rinse-off' bathing products.

Concerning the UK's research commitments on the marine environment, much of the work is being led by the National Oceanographic Centre (NOC), based in Southampton, together with a range of other collaborating organisations. News on their latest research can be found on their website.¹⁵

Progress but...

The recent progress on protection of the oceans at both the UN level and the national level in the UK is

important and encouraging. However, the scale of the problems facing the marine environment remains huge and much more action is needed. But particularly disturbing are Donald Trump's new proposals to open up virtually all the USA's coastal waters to oil and gas drilling, in stark contrast to previous presidents.¹⁶ However, even here there is hope as most governors of coastal states are opposed, many of them from Trump's own party.

Dr Stuart Parkinson is Executive Director of Scientists for Global Responsibility and holds a PhD in environmental science. Dr Louisa Reynolds holds a PhD in environmental science.

References

1. Leahy S (2017). The UN Starts a Conservation Treaty for the High Seas. National Geographic, 24 December. <https://news.nationalgeographic.com/2017/12/un-high-seas-conservation-treaty-ocean-protection-spd/>
2. UN (2017a). The Ocean Conference. <https://oceanconference.un.org/>
3. Adeel Z, Miyazaki N (2005). Overview of the global marine and coastal challenges. In: Miyazaki N, Adeel Z, Ohwada K (eds.) (2005). Mankind and the Oceans. United Nations University Press.
4. Doumenge F (2005). Mankind belongs to the sea. In: Miyazaki et al (2005) – see note 3.
5. Trujillo A, Thurman H (2011). Essentials of oceanography (10th edition). Prentice Hall.
6. Hinrichsen D (2011). The atlas of coasts and oceans: mapping ecosystems, threatened resources and marine conservation.
7. Okaichi T, Yamada M (2005). Environmental management of enclosed coastal seas. In: Miyazaki et al (2005) – see note 3.
8. Harrabin R (2017). Make new rules to save the oceans. BBC News online. <http://www.bbc.co.uk/news/science-environment-40572676>
9. UN (2017b). Countries agree on decisive and urgent actions to restore marine world to health as Ocean Conference concludes. UN Dept. for Economic and Social Affairs. July. <https://www.un.org/development/desa/undesa/voice/in-case-you-missed-it/2017/07/07#34406>
10. UN (2017c). Marine Protected Areas in the UK and our Overseas Territories. <https://oceanconference.un.org/commitments/?id=19624>
11. UN (2017d). UK Commitments on Marine Litter. <https://oceanconference.un.org/commitments/?id=19719>
12. UN (2017e). UK commitments on marine science. <https://oceanconference.un.org/commitments/?id=20480>
13. HM Government (2018). A Green Future: Our 25 Year Plan to Improve the Environment. <https://www.gov.uk/government/publications/25-year-environment-plan>
14. Defra (2018). World-leading microbeads ban takes effect. 9 January. <https://www.gov.uk/government/news/world-leading-microbeads-ban-takes-effect>
15. NOC. <http://noc.ac.uk/news>
16. Tabuchi H, Wallace T (2018). Trump Would Open Nearly All US Waters to Drilling. But Will They Drill? The New York Times. 23 January. <https://www.nytimes.com/interactive/2018/01/23/climate/trump-offshore-oil-drilling.html>