

Media release – 12.03.2020

Sir David Attenborough urges halt to deep sea mining plans in wake of alarming new scientific report

Sir David Attenborough has urged countries to halt plans to mine the deep sea following the publication of a new report from Fauna & Flora International (FFI) that warns deep sea mining could cause significant loss of biodiversity, disruption of the ocean's life-support systems and its carbon storage function.

"Mining the deep sea could create a devastating series of impacts that threaten the processes that are critical to the health and function of our oceans," says Sir David Attenborough, a vice-president of FFI. "Fauna & Flora International is calling on global governments to put in place a moratorium on all deep sea mining – a call I wholeheartedly support."

The report – *The Risks and Impacts of Deep Seabed Mining to Marine Ecosystems* – has been drafted by scientists at Fauna & Flora International and is the first to comprehensively assess the risks and potential impacts of mining the deep seabed for minerals. Its publication comes ahead of a July meeting of key countries hoping to finalise the rules that will govern deep sea mining. Minerals that can be found on the seabed are in increasingly high demand for use in technological appliances and equipment such as mobile phones and batteries. FFI is calling on global governments to agree a moratorium on deep sea mining.

The report presents a number of concerning findings about the potential impacts of mining the deep seabed including:

- The disruption of entire ecosystems that are home to largely unstudied marine life and biodiversity. Diverse microscopic life flourishes in these ecosystems and this nearly invisible microbial life is responsible for the majority of the chemical cycling that occurs in these habitats, maintaining and balancing deep-sea environments
- The creation of large sediment plumes that travel long distances, smothering ecosystems distant from mining sites and killing marine life
- The loss from sediments and hydrothermal vents of microbes that capture methane and carbon and contribute to regulating the global climate
- Disruption of the ocean's "Biological Pump" which draws carbon from the atmosphere and transports energy and nutrients between different parts of the ocean, balancing ocean chemistry. This system plays a key role in ocean health and productivity, in maintaining the stability of the climate and thus supporting life on earth
- The exposure of seabed life to toxic metals, the release of heavy metals and the spread of toxins to areas of the ocean that host the majority of the world's fisheries

- The risk of runaway acidification associated with the harvesting of seafloor sulphide deposits which have formed over millions of years

In his foreword to the report, Sir David says: “[The idea] that we should be considering the destruction of these places and the multitude of species they support – before we have even understood them and the role they play in the health of our planet – is beyond reason. The rush to mine this pristine and unexplored environment risks creating terrible impacts that cannot be reversed. We need to be guided by science when faced with decisions of such great environmental consequence.”

“Minerals on the seabed are centre-pieces of deep sea ecosystems. Plans to mine the deep sea must be put on hold,” says **Pippa Howard, Director at Fauna & Flora International and lead author of the report.** “The conclusions we have come to after extensive study could hardly be more troubling. From methane release to disruption of the ocean’s life-support systems and the destruction of unstudied ecosystems, the risks of deep sea mining are numerous and potentially disastrous.”

An ocean under stress

Human activity is already placing the ocean under severe strain. The ocean has absorbed one-third of all human carbon emissions and 93% of all the extra heat trapped by those emissions. The carbon dioxide dissolved in the ocean is making it more acidic, with consequences for marine ecosystems around the world, including coral reefs. In addition up to 13% of global fisheries have collapsed as a result of overexploitation and there are close to 500 ocean dead zones covering an area as large as the United Kingdom. By 2100 more than half of the world’s marine species may be close to extinction.

“The ocean is under immense stress from human activity and its function as a carbon sink keeps our planet habitable,” adds Pippa. “To place the ocean under the additional stresses that would be created by deep sea mining would be rolling the dice with the functioning of key planet-wide processes. We take this step at our peril. The evidence we have gathered suggests it’s time to pause deep sea mining plans and reconsider our use of the ocean before it’s too late.”

2020: a critical year

Exploratory deep sea mining is currently underway, but mining on a large scale is unable to commence until nations have agreed on the rules that will oversee the mining. These rules are under development via the governing authority, the United Nations International Seabed Authority (ISA), with influential parties and nations pushing for these rules to be finalised in 2020. The next meeting of the ISA is in Jamaica in July 2020. This report therefore comes at a critical time as world leaders decide on the future of the deep sea. Given the review of evidence presented in this report, FFI is calling for a moratorium on deep sea mining. A motion calling on nation states to support a moratorium will be debated at the IUCN World Conservation Congress to be held in Marseille, in June.

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Notes to editors:

1. Citation: Fauna & Flora International (FFI). 2020. An Assessment of the Risks and Impacts of Seabed Mining on Marine Ecosystems. FFI: Cambridge U.K. Available from: www.fauna-flora.org
2. Minerals that can be found on the seabed are in increasingly high demand for use in technological appliances and equipment such as mobile phones and batteries. These minerals are also centre-pieces of deep-sea ecosystems, functioning as refugia and stepping stones for animal biodiversity. For example, polymetallic crusts in the deepsea serve as hard substrate for the attachment of sessile animal communities such as sponges, or for egg-laying for mobile species like octopus which do not anchor in the soft sediment surrounding the deposits. As another example, unique animal communities have evolved to survive under the high temperature and extreme chemical conditions found at hydrothermal vents.
3. Fauna & Flora International has sponsored the drafting of a motion to be debated at the IUCN World Conservation Congress in June calling for nation states to support a moratorium on deep sea mining. The motion can be read [here](#)
4. In July the UN International Seabed Authority will meet to continue the process of finalising the rules that will govern seabed mining
5. The launch of the report was funded by People's Postcode Lottery, one of the biggest sources of funding for environmental charities in Britain. Players have raised more than £130 million for groups working to tackle climate change, prevent biodiversity loss and protect the environment.

About Fauna & Flora International (FFI) (www.fauna-flora.org)

FFI protects threatened species and ecosystems worldwide, choosing solutions that are sustainable, based on sound science and that enhance human well-being. Operating in more than 40 countries worldwide, FFI saves species from extinction and habitats from destruction, while improving the livelihoods of local people. Founded in 1903, FFI is the world's longest established international wildlife conservation organisation and a registered charity.