

Keswick Reminder 18.07.25: NfWW No.91 Why deep sea mining is a really bad idea

The ocean floor holds immense reserves of critical minerals that have sparked intense debate about deep sea mining. As terrestrial resources become scarcer and demand for electronic metals soars, companies and governments are eyeing the ocean depths as never before.

The primary driver behind this interest is the need for rare earth elements and precious metals essential to modern technology. Scattered across the ocean floor are extensive fields of polymetallic nodules containing manganese, nickel, copper, and cobalt – materials crucial for electric vehicle batteries, renewable energy infrastructure, and electronics. As the world transitions away from fossil fuels, these minerals become increasingly valuable.

Proponents argue that deep sea mining could be more environmentally responsible than land-based extraction, avoiding deforestation, air pollution, and the displacement of local populations. The International Seabed Authority, established under the 1982 UN Convention of the Law of the Sea, suggests that harvesting these resources from international waters could provide revenue for developing nations through shared royalties.

However, deep sea mining represents what many scientists consider an ecological disaster in waiting. The deep ocean, once thought to be a barren wasteland, is now recognised as one of the most biodiverse, least understood and most fragile of the planet's ecosystems.

Mining the sea bed involves scraping or vacuuming the seafloor, destroying habitats that took millions of years to evolve. Unlike terrestrial ecosystems that can recover relatively quickly, deep sea environments regenerate extremely slowly due to cold temperatures, high pressure, and limited food sources. Some organisms in these regions live for centuries, making ecosystem recovery impossible within human timescales.

Furthermore the sediment plumes created by mining equipment would spread across vast areas, smothering filter-feeding organisms and disrupting food webs hundreds of kilometres from mining sites.

The carbon storage implications are equally alarming. Deep ocean sediments represent one of Earth's largest carbon sinks, storing vast amounts of carbon that has been locked away for millennia. Disturbing these sediments would release significant quantities of stored carbon into sea water and potentially into the atmosphere, accelerating climate change at precisely the moment we need to be reducing emissions.

Some argue that deep sea mining is largely unnecessary anyway. The metals being targeted – copper, nickel, cobalt, and rare earths – can increasingly be obtained through recycling electronic waste and developing alternative technologies that don't require these materials.

Perhaps most concerning of all is our profound ignorance about deep sea ecosystems. Scientists estimate that up to two-thirds of deep sea species remain undiscovered whose survival would be endangered by what is proposed.

In effect, the deep sea mining industry is asking us to gamble with ecosystems we barely comprehend: sacrificing the ocean's – and therefore the planet's – long-term health for short-term technological gain – and profit. In the end it comes down to two value systems pitted against each other: one destructive and predatory, the other precautionary and protective. Which will we choose?

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