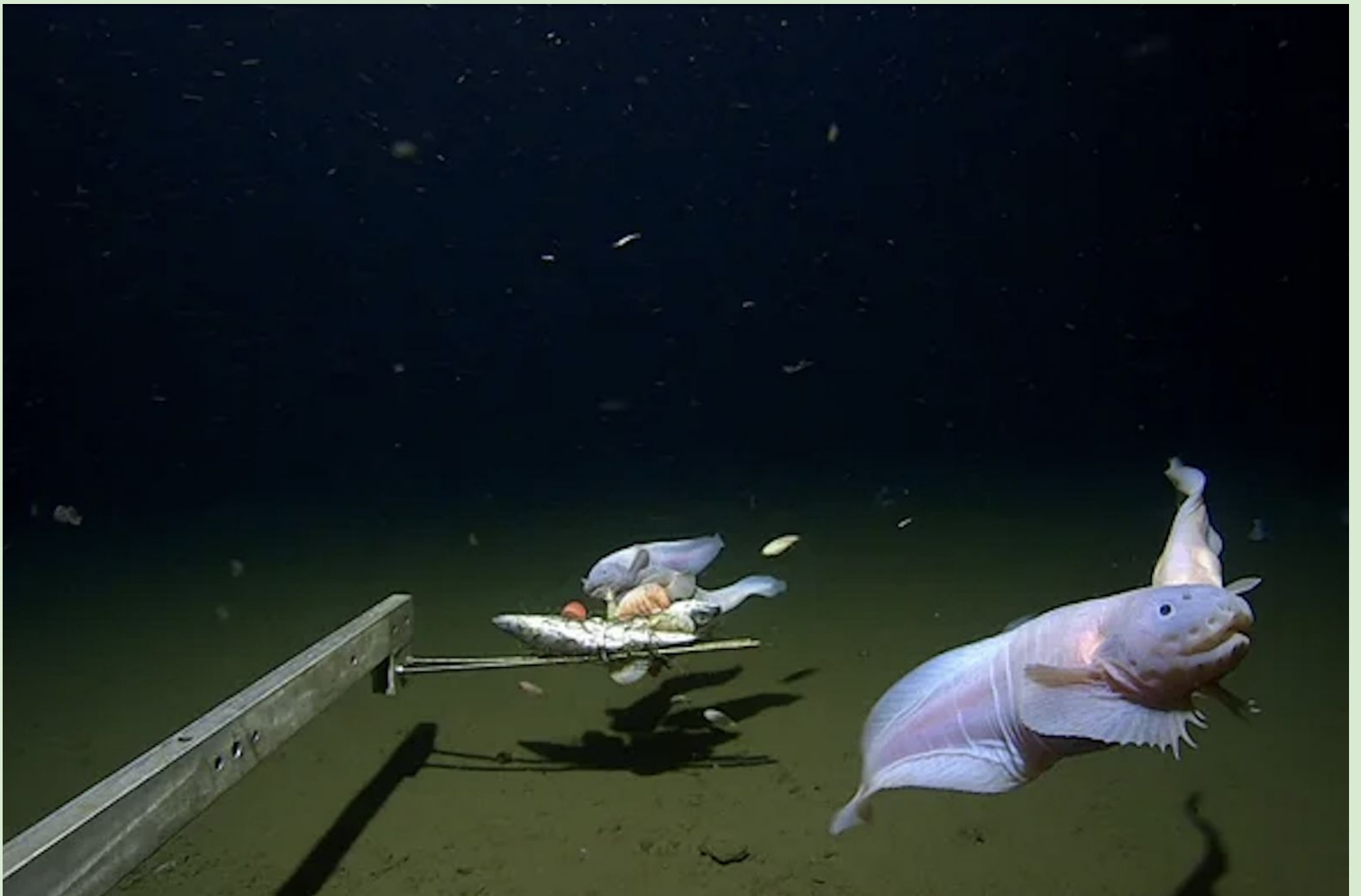


DEEP-SEA MINING BRIEF

“The fate of the deep sea and the fate of our planet are intimately intertwined. 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.” - Sir David Attenborough





Credit: Nautilus Minerals

Overview

Industrial deep-seabed mining in international waters could begin as soon as July 2023. If permitted, deep-sea mining could irreversibly impact the oceans' role in climate stability, biodiversity and economies.

The History

Project Azorian was the Central Intelligence Agency's mission to recover a sunken Russian nuclear submarine in the Pacific with the cover story of researching for minerals in the deep sea. The CIA states, "While the public believed the Hughes Glomar Explorer to be a vessel for deep sea mining, CIA was really using the ship to search for a sunken Soviet submarine."¹² This was the very myth that set the world off on a gold rush to the deep sea. Dr. Sylvia Earle herself provides living testimony about the cover up as she went on board the Glomar Explorer funded by US billionaire Howard Hughes.

What is Deep-Sea Mining?

Deep-sea mining is the process of extracting mineral deposits from the deep sea – the area of the ocean below 200m². The deep sea is the biggest biome on the planet, making up 90% of the marine environment³. It is believed to have one of the highest levels of biodiversity on Earth and provides critical environmental services, including long-term carbon sequestration. Over 99% of the seabed is unexplored¹⁹, and experts say more is known about the Moon and Mars than the deep sea¹¹.

The effects from deep-sea mining will likely be irreversible as these ancient ecosystems are extremely fragile and slow forming; a single polymetallic nodule takes an average of 13 million years to form¹⁸.

The ocean is largely the reason we don't have runaway climate change. It sequesters atmospheric carbon and absorbs the majority of the planet's rising heat. As a result, we're already seeing symptoms of the ocean's health decline: increased acidification, ocean deoxygenation and mass biodiversity loss. Despite international scientists, governments and civil society sounding the alarm on this destructive practice, deep seabed mining remains one of the biggest threats to our planet today.

Why Is This Happening?

With mounting interest in the prospect of monetizing our global commons, there is pressure for ISA officials to rush to pass the Mining Code – the exploitation regulations that will allow deep seabed mining to take off on an industrial scale.

The ISA, or United Nations International Seabed Authority, is an autonomous governing body that has jurisdiction over 50% of the Earth's surface found in international waters. The ISA has already awarded 31 exploration licenses in the deep-sea, which, if allowed to begin, will kick off the largest mining operation in history, totaling 1.5 million square km, an area greater than two times the size of France³.

In 2021, the Pacific Island of Nauru, a sponsoring state of the deep-sea mining company, The Metals Company, triggered a rule known as the "two-year rule." This rule is intended to fast-track the adoption of seabed mining regulations. It allows for a mining plan to be approved after two years with or without environmental protections or regulations in place¹⁰.

While Nauru can technically submit for an exploitation license in July, at the ISA's March meetings, Nauru said they would not submit a proposal before the end of the session (whether that means the council session or assembly session is ambiguous). The Metals Company has stated they intend to apply for a license before the end of the year.

What is fundamental and could happen in July is a decision to establish a clear procedure on how to pass licenses through the Council (as of now, there needs to be a supermajority to reject a license in the Council).

One of the primary issues is that the ISA has an inherent conflict of interest as both the profiteer and the steward of the deep sea. They are meant to both oversee and regulate mining practices in this area and also to protect this area from environmental harm.

The ISA's Secretary-General, Michael Lodge, said, "Once you have mining, you have monitoring, then you can develop standards, and you can progressively tighten those standards once you have a feedback loop from monitoring your activity."⁵ Leadership in the ISA is prioritizing the launch of a new global industry and is looking for ways to circumvent rather than prioritize their mandate to create environmental standards.

The Players

The Metals Company (TMC)⁸ is a mining company based in Vancouver. They are presently one of the main adversaries in the fight against deep-sea mining. They market the industry as fuel for the green energy revolution, when in reality, the deep-sea, in and of itself, underpins climate and acts as the planet's largest carbon sink.

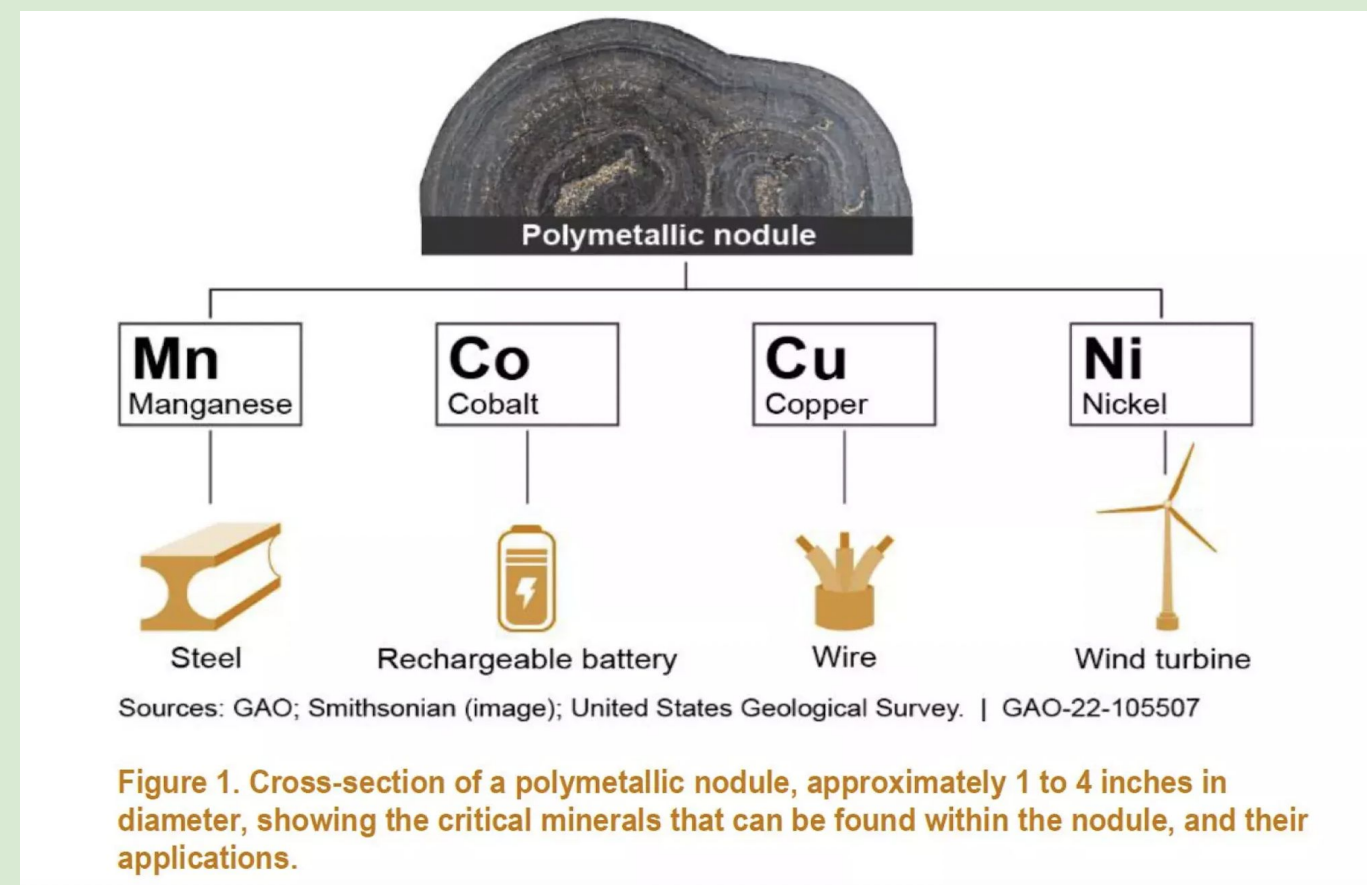
In February, activists and NGOs organized a demonstration outside TMC's headquarters in Vancouver (595 Howe St) for IMPAC⁵. They discovered the business didn't have an office there. In fact, TMC doesn't have an office in Canada at all, even though they're registered in and protected by Canadian law. This is indicative of TMC's shady history as a company.

Prior to 2020, The Metal's Co. operated as Nautilus Minerals. In 2019, Nautilus went bankrupt and left Papua New Guinea with over \$120 million in debt¹⁶ (1/3 of the nation's health budget) while original investors and now CEO Gerard Barron multiplied their investments. In fact, according to Greenpeace's Deep Trouble Report¹⁶, "Barron 'turned a \$226,000 investment into \$31 million, and he successfully exited his position near the height of the market.'

In 2011, former Nautilus CEO David Heydon set up DeepGreen with seed funding from Gerard Barron and was DeepGreen's original CEO, with ISA documents naming him a NORI director. His son Robert was Vice President of NORI and COO of DeepGreen. In September 2021, DeepGreen's SPAC merger with Sustainable Acquisitions Corporation was reported as a disappointment as "investors withheld almost \$500 Million in funding¹." Some of their core investors include All Seas Group, Glencore, Maersk, Fearnley Securities and Macquarie Capital. As of April 20, 2023, TMC received a delisting notice from Nasdaq Capital Market⁷.

Greenpeace's [Deep Trouble Report](#) covers other companies' influence. Belgian corporate Dredging, Environmental and Marine Engineering NV (DEME), US arms manufacturer Lockheed Martin, and Ocean Mineral Singapore (and its owner Keppel have linked other contractors to both DEME and Lockheed Martin), work through networks of sub-contractors, partnerships and shell companies so their involvement in mining-related activities is not immediately obvious.

Despite calls for disclosure, details of the arrangements between the companies and the governments remain secret, making it difficult to ascertain what benefit, if any, the States will derive from the partnership in return for the risks taken.



What Are The Costs?

Deep sea mining will cause serious, irreparable harm to the communities directly mined and those over substantially larger areas. The plume’s far-reaching effects could cause substantial extinctions throughout the water column and threaten vital ecosystem services. Just one of the many concerning impacts laid out in Fauna & Flora International’s report, *A Risk and Impact Assessment of Seabed Mining to Marine Ecosystems*⁶, categorizes “climate change implications as the oceans ability to cycle carbon is reduced” as a High Risk. The destructive, extractive industry may lead to the potential loss of new medicines (a crucial COVID-19 test was developed from an enzyme isolated from a microbe that lives in deep-sea hydrothermal vents) and drive species to extinction before they have even been discovered. Scientists are also warning of the potential negative impacts deep-sea mining may have on fisheries, including tuna fisheries, as well as whales and other deep-diving oceanic species.

What Are The Alternatives?

Mining companies market the industry as fuel for the green energy revolution, when in reality, the deep-sea, in and of itself, underpins climate and acts as the planet’s largest carbon sink. The good news is we don’t need it.

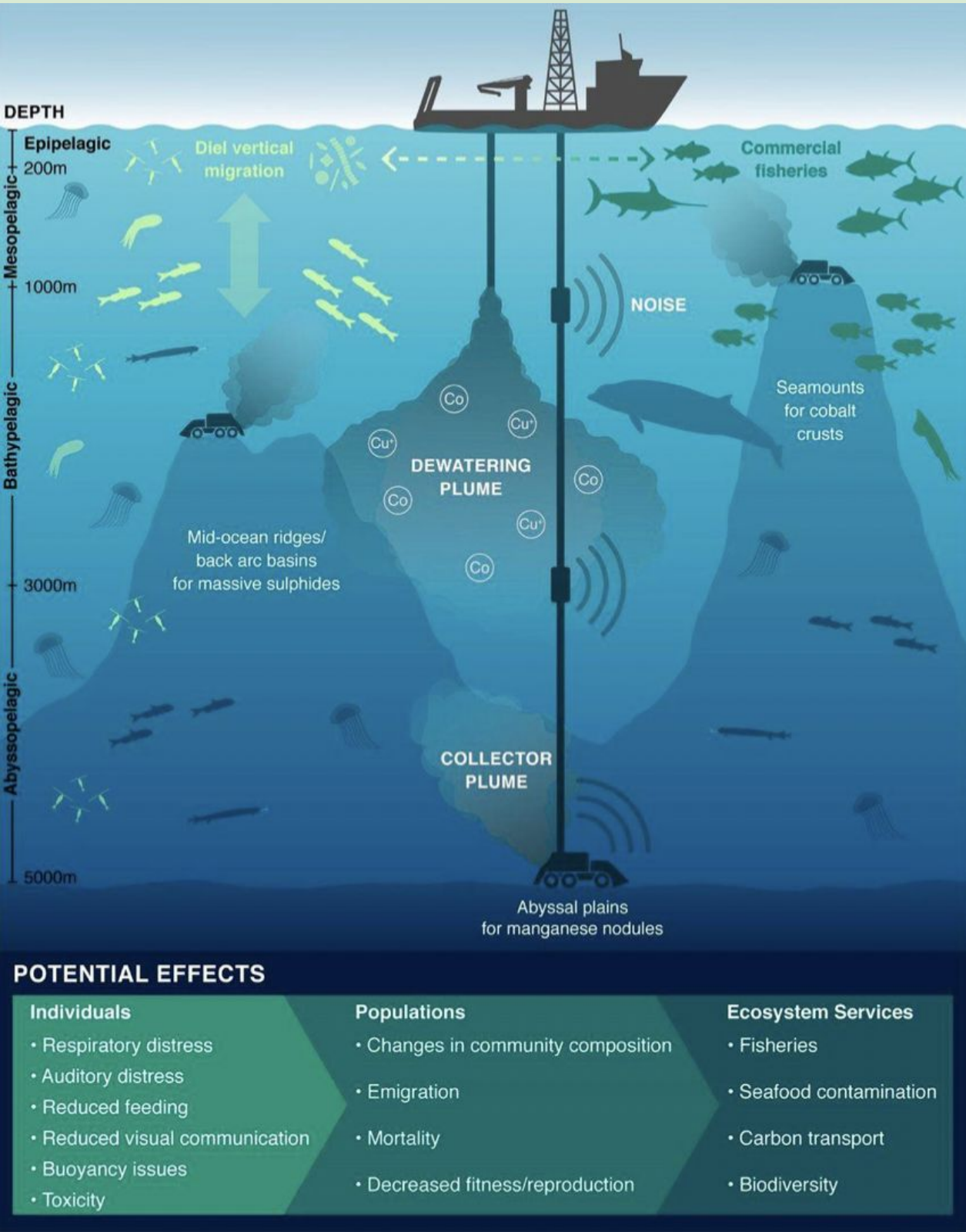
According to WWF's report, *The Future is Circular*¹³, “the demand for critical minerals can be reduced by 58% from now to 2050 with new technology, circular economy models and recycling.” New technology is reducing and replacing minerals and can reduce demand by 30%. Circular economy models and using minerals we already have can reduce demand by 18% and recycling can reduce demand by another 10% (currently, 80% of our electronic waste is being thrown away). Examples of these alternatives include:

- Lithium Iron Phosphate Batteries - no cobalt, nickel & manganese (already in production with companies like Tesla and other EV producers, like BYD, Ford and Volkswagen, have committed to incorporating this technology)
- Redwood Materials, a metals recycling company, founded by JB Straubel co-founder of Tesla
- Hydrogen fuel cell advancement
- Enercap and MaterialsX - battery companies replacing minerals

Lithium, one of the most needed minerals for electric vehicle batteries, is not viable for

deep-sea mining and alternatives for lithium mining are also being developed ie. a method to filter lithium from the watercolumn.

Momentum is building to leave the industry behind. Major players are pulling funds. Most recently Lockheed Martin, the industry's biggest corporate backer, backed out¹⁵. Financial institutions like the World Bank, European Investment Bank and UNEP-FI¹⁴ are warning that deep-sea mining is not financially viable. International companies are pledging they won’t use minerals from the deep sea⁹, including BMW Group, Samsung, Google and more. Countries are calling for a halt to deep-sea mining, from France’s stance for a full ban to countries calling for a moratorium to stop deep sea mining.



What Can You Do?

1. Call on countries to say no to deep-sea mining.
2. Use your realm of influence to do what you can and spread the word.
3. Join the movement at [The Oxygen Project](#) to take collective action, sign the open letter to the UN, ISA representatives and world leaders calling for a moratorium on deep seabed mining, and learn more.

Companies: Join companies⁹ like Google, BMW, Samsung, Volvo, Phillips, Rivian and more in the call for a moratorium

Scientists: Join the science statement¹⁷ signed by 704 marine science & policy experts from over 44 countries

Countries: Join The Alliance of Countries for a Deep-Sea Mining Moratorium, a Global Alliance of States calling for a moratorium on deep-sea mining. Contact: sian@savethehighseas.org. Website: www.savethehighseas.org

Works Cited

1.	Bryant, Chris. “TMC \$500 Million Cash Shortfall Is Tale of SPAC Disappointment, Greenwashing.” <i>Bloomberg.com</i> , 13 September 2021, https://www.bloomberg.com/opinion/articles/2021-09-13/tmc-500-million-cash-shortfall-is-tale-of-spac-disappointm-ent-greenwashing . Accessed 9 May 2023.				
2.	“Deep-sea mining.” <i>IUCN</i> , May 2022, https://www.iucn.org/resources/issues-brief/deep-sea-mining#:~:text=Deep%2Dsea%20mining%20is%20the,habitat%20and%20wipe%20out%20species .				
3.	“Deep-sea mining: is the International Seabed Authority fit for purpose?” <i>Deep Sea Conservation Coalition</i> , FEBRUARY 2022, https://www.savethehighseas.org/wp-content/uploads/2022/03/DSCC_FactSheet7_DSM_ISA_4pp_28Feb22.pdf . Accessed 9 May 2023.				
4.	“Discover the Deep Sea.” <i>Deep Sea Conservation Coalition</i> , https://savethehighseas.org/discover-the-deep-sea/ . Accessed 9 May 2023.				
5.	Heffernan, Olive. “Seabed mining is coming — bringing mineral riches and fears of epic extinctions.” <i>Nature</i> , 29 July 2022, https://www.nature.com/articles/d41586-019-02242-y . Accessed 9 May 2023.				
6.	Howard, Pippa, et al. “An assessment of the risks and impacts of seabed mining on marine ecosystems.” <i>Fauna & Flora International</i> , https://www.fauna-flora.org/app/uploads/2020/03/FFI_2020_The-risks-impacts-deep-seabed-mining_Report.pdf . Accessed 9 May 2023.				
7.	Mendonça, Elaine. “TMC The Metals Company Receives Delisting Notice from Nasdaq Capital Market.” <i>Best Stocks</i> , 20 April 2023, https://beststocks.com/tmc-the-metals-company-receives-delisting-not/ . Accessed 9 May 2023.				
		“The Metals Company.” <i>LinkedIn</i> , 26 September 2022, https://www.linkedin.com/company/the-metals-company/ . Accessed 9 May 2023.			<i>Deep-Sea Mining Science Statement</i> . (n.d.). Retrieved May 9, 2023, from https://www.seabedminingsciencestatement.org
		1. “NO DEEP SEABED MINING CALL FOR A MORATORIUM.” https://www.noseabedmining.org . Accessed 9 May 2023.		1.	Hein et al. 2015 Critical metals in manganese nodules from the Cook Islands EEZ, abundances and distributions.
		2. “OPPOSITION TO DEEP-SEA MINING GROWS, BUT GOVERNMENTS FAIL TO BLOCK DESTRUCTIVE INDUSTRY.” <i>Deep Sea Conservation Coalition</i> , 31 March 2023, https://savethehighseas.org/2023/03/31/opposition-to-dep-sea-mining-grows-but-governments-fail-to-block-destructive-industry/#more-9255 . Accessed 9 May 2023.		2.	Spiess, F. (n.d.). <i>OCEAN EXPLORATION</i> . The National Academies Press. Retrieved May 9, 2023, from https://nap.nationalacademies.org/resource/10844/exploration_final.pdf
		3. Pierson, Phebe. “You Asked: Why Do We Know More About the Moon Than Our Own Oceans? - You Asked.” <i>State of the Planet</i> , 19 April 2019, https://news.climate.columbia.edu/2019/04/19/you-asked-moon-oceans/ . Accessed 9 May 2023.			
		4. “Project AZORIAN.” <i>CIA</i> , https://www.cia.gov/legacy/museum/exhibit/project-azorian/ . Accessed 9 May 2023.			
		5. Simas, Moana, et al. “The Future is Circular Circular Economy and Critical Minerals for the Green Transition.” <i>WWF</i> , 15 November 2022, https://wwfint.awsassets.panda.org/downloads/the_future_is_circular___sindefmineralsfinalreport_nov_2022__1__1.pdf . Accessed 9 May 2023.			
		6. United Nations Environment Programme Finance Initiative. “Harmful Marine Extractives: Deep-Sea Mining.” <i>UNEP FI</i> , 2022, https://www.unepfi.org/wordpress/wp-content/uploads/2022/05/Harmful-Marine-Extractives-Deep-Sea-Mining.pdf . Accessed 9 May 2023.			
		7. Woody, Todd. “Deep Sea Mining Just Lost Its Biggest Corporate Backer.” <i>Bloomberg.com</i> , 22 March 2023, https://www.bloomberg.com/news/articles/2023-03-22/deep-sea-mining-just-lost-its-biggest-corporate-backer . Accessed 9 May 2023.			
		8. Greenpeace. “DEEP TROUBLE The murky world of the deep sea mining industry.” <i>Greenpeace</i> , 1 December 2020, https://www.greenpeace.org/static/planet4-international-sateless/c86ff110-pto-deep-trouble-report-final-1.pdf . Accessed 9 May 2023.			