Deep sea mining threatens sea life, environmentalists say: California law has a solution

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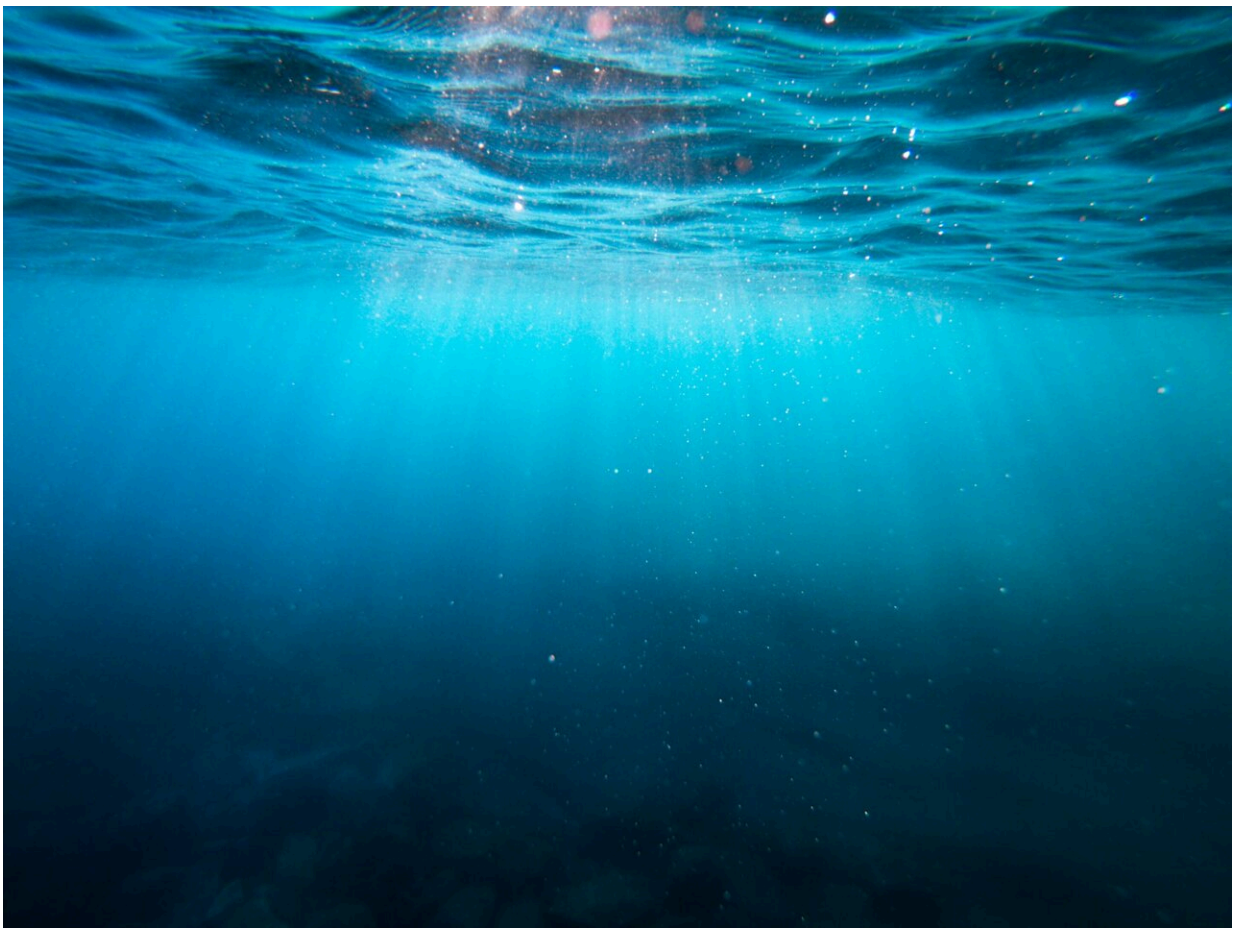

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As diplomats from around the world convene in Jamaica next month to discuss international guidelines on deep sea mining, environmental activists are urging nations to consider a California law they say could mitigate the need to destroy fragile ocean ecosystems.

"Mining the deep sea will destroy one of the most mysterious and remote wildernesses on the planet, all to extract the very same metals we throw in the trash every day," said Laura Deehan, state director of Environment California Research & Policy Center. "While we work to protect California's coastal ocean life, we should join in calls to protect the deep ocean before it's too late."

The report was by experts with the environmental groups Environment America and U.S. PIRG, as well as the Frontier Group, an environmental, nonprofit think tank and research firm.

As the world transitions from fossil fuels, many replacement technologies—electric vehicles and wind turbines, for instance—rely on metals such as lithium, cobalt, nickel, copper and rare earth elements. And as production ramps up, international mining conglomerates are increasingly eye-balling the deep ocean where vast numbers of polymetallic nodules—naturally occurring concentrations of many of these metals—have been located.

These nodules, formed over millions of years, range from one to four inches in diameter and lie within the top three inches of the ocean floor.

Now, mining companies such as Canada's the Metals Co., want to bring their deep sea harvesters or subsea collectors to the ocean floor and bulldoze across the sea bottom to grab these "rocks" as they traverse the cold, dark waters of the deep ocean.

Their first target: The Pacific Ocean's Clarion Clipperton Zone, which

extends west of the Central American coast some 4,500 miles, and spans approximately 1,700,000 square miles.

In 2016, an international team of scientists investigated the seafloor there and found it contained an abundance of diverse sea life. Not only were more than half of the species collected new to science, but they also found a positive association between the amount of marine life and the number of nodules.

The Metal Co. and those who support deep sea mining say their industry is essential in order to provide the raw materials needed to combat fossil fuel-driven climate change.

"Metal extraction—whether on land or from the deep sea—will impact ecosystems..." acknowledges the company on its website. However, "the clean energy transition will require trade-offs."

But authors of the new report—and other experts—say that's untrue. They argue that technological innovation, dedicated recycling of e-waste, and laws that enable consumers to extend the lifetime of their electronic products, can fill the need.

"I would agree with the deep sea mining industry that climate change is our biggest planetary challenge, our gravest threat... if there was a thing that deserves the title of existential crisis, it would be that," said Douglas McCauley, an associate professor in the Department of Ecology, Evolution, and Marine Biology at UC Santa Barbara, who was not involved in the report.

But, he said, "It's a deception, a lie that if we want to tackle climate change or make meaningful climate action that we therefore have to mine the oceans."

In 2021, the Pacific Island nation of Nauru, in partnership with the Mineral Co., notified the International Seabed Authority—an intergovernmental body of 167 member states and the European Union established under the 1982 U.N. Convention on the Law of the Sea (UNCLOS)— of plans to begin mining in international waters.

The move triggered the U.N. Convention on the Law of the Sea's "two-year rule," which required the board's 36-member council to consider and provisionally approve mining applications by July 9, 2023.

The council missed that deadline and ended its meeting without finalizing regulations. The council is now working to adopt regulations by 2025.

Next month, the council will begin deliberations in Jamaica, and environmentalists are hoping to persuade it to ban deep sea mining, or at least issue a moratorium.

They say that innovations in battery technology and production, as well as recycling and right-to-repair laws, will make the need to pursue this destructive practice obsolete.

"Why go destroy one place and jump to the next place to destroy it to get new minerals, when suddenly we have new technologies that help us actually increase circularity and close the loop, pulling materials out of the stockpiles we already have," said McCauley.

According to the report, consumers throw away more copper and cobalt in discarded electronic waste every year than could be produced through the year 2035 by the Metals Co. in the Clarion Clipperton Zone.

And they say extending the life of electronic products through repair and reuse could reduce the need for new materials. For instance, doubling

the lifetime of a product can reduce demand by 50%, while increasing product lifespans by just half can reduce demand by one-third.

"Right now we're throwing away 47 pounds per person of e-waste every year," said Fiona Hines, a legislative analyst with CALPIRG. "That's 3 million tons a year in the U.S."

Currently, California, Massachusetts, Maine, Colorado, Minnesota and New York are the only states with Right to Repair laws, however 30 more are considering bills.

There are currently no deep sea mining operations taking place anywhere in the world's oceans, although pilot and test runs have been conducted to evaluate the ecosystem response of extracting nodules from the ocean floor.

Those experiments and models have shown irreparable local damage, as well as more widespread harm caused by the clouds of sediment such activities could spread in ocean currents.

"These are some of the lowest resiliency ecosystems on the planet," said McCauley.

Mining in them would create "harm that we, so far in all of our studies have not seen yet recover," he said referring to a 1989 mining simulation off South America's coast, which has still not rebounded 35 years later.

He said the deep sea area is not like shallower regions in the ocean, such as the Bikini Atoll in the central Pacific— over which 23 atomic bombs were dropped between 1946 and 1958—but which is arguably flourishing today, having recovered coral, fish, turtle and invertebrate populations. Or like a rain forest, which can be devastated, but will eventually regrow—even if not with old growth.

In the regions proposed for deep sea mining, nothing seems to come back, he said.

"There are physical reasons for that—we're talking about a space which has very low light, very low energy, extremely cold temperatures and high pressures. So life down there just moves at a much, much slower pace," he said.

And then there are the sediment plumes that could block out sunlight or cloud usually crystal-clear waters, that worry fishermen and environmentalists. Unlike terrestrial operations, these plumes, tailings and waste can't be confined—and models show them moving hundreds or thousands of miles.

"There are no borders recognized by wildlife in the ocean," said Deehan, state director at Environment California. She noted the Pacific leatherback sea turtle, which is considered endangered.

"It travels all the way from Indonesia across the Pacific Ocean back to California, every year. And then there are the whales that migrate all across world. These ecosystems, they are all interconnected and they support the wildlife in our ocean."

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