

Update Deep-Sea Law To Spur US Mining Projects

By **Camisha Simmons** (December 20, 2021)

The Biden administration and legislators have recently voiced their concerns that failure to address China's grip on the global supply chain for minerals — including rare earth elements, which are critical to U.S. national security and our way of life — could be dangerous to the U.S.[1]

Numerous thought leaders have proposed solutions to the U.S.'s rare earths supply chain problem. The most recent solutions offered, however, do not include a plan to extract the vast abundance of rare earth elements and other natural resources under the high seas that lie beyond any nation's jurisdiction.



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The deep seabed — which a 2018 National Geographic article described as "closer than the moon, yet less well-mapped than Mars"[2] — is the final vast earthly frontier of exploration, mining, production and development of rare earth minerals, as well as hydrocarbons like oil and gas, and other natural resources.

Trillions of dollars' worth of unmined rare earth minerals and other natural resources are on and underneath the deep seabed in the high seas.[3] Mining the seabed for these critical natural resources is crucial to immediate and long-term U.S. economic and energy independence and national security.

China, which to date has the most deep-sea exploration contracts with the International Seabed Authority, or ISA, dominates the rare earth minerals market. The Wall Street Journal recently reported that China is in the process of merging assets from various state-owned firms to create one of the world's largest rare earths companies.[4]

The U.S. government, on the other hand, is sitting idle.[5] Neither private U.S. investors nor exploration and production companies are highly active in the deep-sea mining industry. Current U.S. deep-seabed mining law is just too antiquated and inadequate to provide U.S. investors and companies assurance and a well-developed legal framework to mine the deep sea.

This article highlights and analyzes current international and U.S. deep-sea mining law, and suggests paths forward.

1982 U.N. Convention on the Law of the Sea

The areas of the high seas that fall outside of any nation's jurisdiction — including the deep seabed and its natural resources — are considered by many across the globe as the common heritage of mankind, to be shared communally and not exploited and owned by any one sovereign nation.

This principle was codified as Article 136 of the 1982 United Nations Convention on the Law of the Sea, or UNCLOS.[6] UNCLOS and the ISA — the regulatory body created by UNCLOS — provide a regime to mine the deep seabed lying beyond national jurisdiction.

Article 133 of UNCLOS broadly authorizes the exploration and production of resources underlying the high seas, including "all solid, liquid or gaseous mineral resources in situ in

the Area at or beneath the seabed, including polymetallic nodules." [7] This allows for mining and extracting not only rare earth elements, but also hydrocarbons.

U.S.'s Antiquated and Inadequate 1980 Deep Seabed Hard Mineral Resources Act

The U.S. participated in the development and negotiation of UNCLOS, and signed it, but has not ratified it. [8] UNCLOS was signed in 1982 and went into effect on Nov. 16, 1994.

In 1980, prior to UNCLOS's signing and effective date, the U.S. enacted the Deep Seabed Hard Mineral Resources Act, or DSHMRA. [9] The U.S. intended DSHMRA to merely serve as gap legislation until the U.S. acceded to UNCLOS or another international treaty governing mining the deep seabed. [10]

Now, over 40 years after DSHMRA was promulgated, the U.S. has yet to accede to an international regime governing deep-seabed mining. This leaves U.S. investors and mining companies in legal limbo. DSHMRA is out of date, and does not provide U.S. investors and mining companies enough comfort and certainty to proceed with capital-intensive exploration and mining of the deep seabed. [11]

One problem with DSHMRA is that it does not provide U.S.-based investors and mining companies a secure framework for resolving disputes between U.S. parties and parties proceeding under UNCLOS. The ISA regulates operations and disputes under UNCLOS, for those parties with contracts with UNCLOS.

DSHMRA, in contrast to UNCLOS, does not appear to authorize mining hydrocarbons, including valuable potential energy sources such as methane hydrate. The U.S. law only allows for the mining of "hard mineral resources," i.e., "any deposit or accretion on, or just below, the surface of the deep seabed of nodules which include one or more minerals, at least one of which contains manganese, nickel, cobalt, or copper." [12]

By definition, hydrocarbons, like valuable icy methane hydrates, [13] rare earth elements and other natural resources not on or just below a seabed of metallic nodules, are excluded as minable under DSHMRA.

The exclusion of the mining of hydrocarbons under DSHMRA is understandable. At the time DSHMRA became law, manganese nodules were the primary known valuable mineral resource on the surface of the seabed. Methane hydrates and other natural resources were later discovered thanks to technological advances that now enable exploration of the seafloor. [14]

Additionally, though DSHMRA allows for private exploration and commercial recovery of hard mineral resources of the deep seabed, the law states that the resources of the deep seabed are the common heritage of mankind — a global commons. [15]

This creates an incongruence between the U.S.'s stated policy position on mining and ownership rights with respect to resources underlying the high seas and the nation's current position on mining and ownership of space resources, which are governed by the Commercial Space Launch Competitiveness Act. [16]

Space resources, particularly asteroids, hold mineral wealth valued into the quintillions of dollars. [17] The in situ natural resources in outer space — like the natural resources on and under the deep seabed — fall outside of any sovereign's jurisdiction.

However, the Commercial Space Launch Competitiveness Act, unlike UNCLOS and DSHMRA, expressly allows broad and mostly unfettered commercial recovery, private ownership and use of space resources. Further, to buttress the U.S. position on private recovery and ownership of space resources, in April 2020, via executive order, the U.S. explicitly rejected the notion that outer space and its resources are the common heritage of mankind.[18]

The U.S. has thrown its weight behind private U.S. entities' ability to mine for resources in outer space. In contrast, the U.S. has ignored and failed to prioritize deep-sea mining. With the enactment and implementation of the Commercial Space Launch Competitiveness Act, there is incongruence between U.S. law and policy on outer space mining and deep-sea mining.

Possible Paths Forward

Considering the foregoing, Congress should consider amending DSHMRA to, among other things, broaden the definition of mineral resources to include a wide swath of minerals and other natural resources, including all rare earth minerals and hydrocarbons, even if those natural resources are not on or below metallic nodules on the seabed.

Congress should also explore the unsigning of UNCLOS. The unsigning of UNCLOS, which considers the deep sea a shared global common resource, will align the U.S.'s policy on deep-sea mining with its most recent policy position on outer space mining and private ownership of resources mined, extracted and appropriated in territories falling outside of any sovereign nation's jurisdiction.

An alternative solution would be U.S. ratification of UNCLOS, after the United Nations' amendment of UNCLOS to resolve the U.S.'s various concerns with the law.

Hopefully Congress will soon fix the outdated U.S. deep-sea mining law. The nation's goals of ensuring long-lasting economic and energy independence and uncompromised national security are at stake.

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[1] See Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017, The White House (June 2021), available at <https://s.wsj.net/public/resources/documents/100-day-supply-chain-review-report.pdf>. See also Sen. Ted Cruz and Gov. Mike Dunleavy, China could cut our access to critical minerals at any time — here's why we need to act, The Hill (Oct. 21, 2020), available at <https://thehill.com/blogs/congress-blog/politics/522000-china-could-cut-our-access-to-critical-minerals-at-any-time>; Senator Marc Rubio Press Release, Rubio Introduces Bill to Combat China's Rare Earth Monopoly, Boost U.S. Advanced Manufacturing, (July 11, 2019), available at <https://www.rubio.senate.gov/public/index.cfm/2019/7/rubio-introduces-bill-to-combat-china-s-rare-earth-monopoly-boost-u-s-advanced-manufacturing>.

[2] Jon Letman, *The Race Is On to Mine the Deep Sea — But Scientists Are Wary*, National Geographic (Aug. 29, 2018), available at <https://www.nationalgeographic.com/environment/2018/08/news-race-to-mine-deep-sea-drones-seafloor-environmental-impact/>.

[3] See, e.g., Bill Whitaker, *Why the U.S. is missing out on the race to mine trillions of dollars worth of metals from the ocean floor*, CBS News (Nov. 17, 2019), available at <https://www.cbsnews.com/news/rare-earth-elements-u-s-on-sidelines-in-race-for-metals-sitting-on-ocean-floor-60-minutes-60-minutes-2019-11-17/>.

[4] See International Seabed Authority, *Exploration Contracts*, available at <https://isa.org.jm/exploration-contracts>. See also Keith Zhai, *China Set to Create New State-Owned Rare-Earths Giant*, Wall Street Journal (Dec. 3, 2021), available at [https://www.wsj.com/articles/china-set-to-create-new-state-owned-rare-earths-giant-11638545586#:~:text=The%20new%20firm%20will%20be,firms%2C%20including%20China%20Minmetals%20Corp;Todd%20Woody,China%20Extends%20Domain%20with%20Fifth%20Deep%20Sea%20Mining%20Contract,China%20Dialogue%20Ocean\(Aug.15,2019\),available%20at%20https://chinadialogueocean.net/9771-china-deep-sea-mining-contract/](https://www.wsj.com/articles/china-set-to-create-new-state-owned-rare-earths-giant-11638545586#:~:text=The%20new%20firm%20will%20be,firms%2C%20including%20China%20Minmetals%20Corp;Todd%20Woody,China%20Extends%20Domain%20with%20Fifth%20Deep%20Sea%20Mining%20Contract,China%20Dialogue%20Ocean(Aug.15,2019),available%20at%20https://chinadialogueocean.net/9771-china-deep-sea-mining-contract/).

[5] See, e.g., Bill Whitaker, *Why the U.S. is missing out on the race to mine trillions of dollars worth of metals from the ocean floor*, CBS News (Nov. 17, 2019), available at <https://www.cbsnews.com/news/rare-earth-elements-u-s-on-sidelines-in-race-for-metals-sitting-on-ocean-floor-60-minutes-60-minutes-2019-11-17/>.

[6] See UNCLOS, art. 136, available at https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf.

[7] See *id.*, art 133.

[8] Though the U.S. has not ratified UNCLOS and does not adopt its deep-sea mining provisions, the U.S. however, is bound by certain other provisions of UNCLOS that reflect customary international law. See, e.g., *United States v. Alaska*, 503 U.S. 569, 588 n. 10 (1992).

[9] 30 U.S.C. §§ 1401-1473.

[10] See *id.* § 1401(a)(16) (providing, among other purposes for the law, that the "legislation is required to establish an interim legal regime under which technology can be developed and the exploration and recovery of the hard mineral resources of the deep seabed can take place until such time as a Law of the Sea Treaty enters into force with respect to the United States").

[11] Indeed, only one U.S. company, Lockheed Martin Corporation, has licenses with the U.S. under DSHMRA; its other contracts are with the ISA under UNCLOS through its wholly owned foreign subsidiary UK Seabed Resources Ltd. No deep-seabed mining has yet occurred under Lockheed's U.S. licenses under DSHMRA.

[12] *Id.* § 1403(6).

[13] Alex Gilbert, Morgan D. Bazilian and Sterling Loza, *The World's Next Energy Bonanza*, FP (Jan. 9, 2020), available at <https://foreignpolicy.com/2020/01/09/fracking-oceanic-methane-hydrates-global-energy-landscape-bonanza/> (noting "another hydrocarbon resource — oceanic methane hydrates — has the possibility to do even more to change the

picture. Formed only under the unusual combination of low temperatures and high pressure under the ocean subsurface and in permafrost regions at high latitudes, the potential of these hydrates is truly extraordinary").

[14] See, e.g., Curtis Rist, *Why We'll Never Run Out of Oil*, *Discover* (June 1999), available at <https://www.discovermagazine.com/environment/why-well-never-run-out-of-oil>.

[15] 30 U.S.C. § 1402 (b)(1).

[16] 51 U.S.C. §§ 51301-51303.

[17] See, e.g., Susanne Barton and Hannah Recht, *The Massive Prize Luring Miners to the Stars* (2018), available at <https://www.bloomberg.com/graphics/2018-asteroid-mining/>.

[18] See Executive Order on Encouraging International Support for the Recovery and Use of Space Resources, April 6, 2020, available at <https://trumpwhitehouse.archives.gov/presidential-actions/executive-order-encouraging-international-support-recovery-use-space-resources/>.