ECO

Volume 58, Issue 8

Monday, 26 Nov. 2018

www.cbd-alliance.org

Deep-Sea Mining and Biodiversity Loss

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The deep-sea has been described by the United Nations First World Ocean Assessment, published in 2016, as a vast realm which "constitutes the largest source of species and ecosystem diversity on Earth" and that the diversity of organisms in the deep sea supports ecosystem processes necessary for the Earth's natural systems to function.

At the same time, there is increasing interest on the part of a number of countries and companies to begin mining the deep ocean for metals such as cobalt, copper, nickel, gold, silver and rare earths. Much of this interest is focused on mineral deposits in areas of the world's deep ocean seabed which lie beyond the jurisdiction of individual nations, an area covering over a third of the surface of the planet.

In response to commercial interest, the *International Seabed Authority* (ISA), the global body established under the *UN Convention on the Law of the Sea* (UNCLOS) to regulate seabed mining in the international area of the world's oceans on "behalf of mankind as a whole", is currently in the process of developing regulations that would permit mining in the area.

Countries that are members of the ISA have set a target date of 2020 to finalize the regulations. In the meantime, the ISA has already handed out 29 licenses to explore the deep-sea for minerals in the Indian, Atlantic and Pacific Oceans covering some 1.5 million square kilometres.

One company, *DeepGreen*, has two contracts with the ISA to explore approximately 150,000 km^2 of the seabed for metals in the eastern Pacific Ocean between Mexico and Hawaii in an area known as the *Clarion-Clipperton Zone*[1] (CCZ). The CCZ is the area managed by the ISA that has attracted the greatest commercial interest to date. DeepGreen, which has teamed up with *Maersk*, a global shipping company, and *Glencore*, one of the world's largest metals producers, aims to mine in the CCZ for nickel, cobalt, manganese and copper found in polymetallic nodules (also known as manganese nodules) lying on the seafloor in the area. It states on its website[2] that *"the world has a problem"* because *"it's getting harder to obtain the metals we need for our future - to build the electric cars, wind turbines, smartphones, supercomputers and other future technologies that will make us less reliant on fossil fuels"* and that deep seabed mining is the answer to the supply problem.

This echoes assertions often heard from other propo znents of deep-sea mining: that society must mine the deep sea for the metals needed to transition to a renewable energy economy, since terrestrial supplies are increasingly in short supply. However, a 2016 report by the *Institute for Sustainable Futures* - titled *Renewable Energy and Deep-Sea Mining: Supply, Demand and Scenarios*[3] - refutes this claim. Having reviewed global supplies and projected demand for metals currently considered essential to renewable energy technology, the report concludes that even under the most ambitious scenario - a 100% renewable energy economy globally by 2050 - it is not necessary to mine the deep sea.

More importantly, recent studies have concluded that the CCZ is an area of much higher biodiversity than previously thought and that the nodules themselves provide critical 'substrate' for important habitat forming species in the region. The type of mining that companies and countries are considering to extract

metals from the seafloor in the CCZ is likely to cause widespread destruction of marine life in and on the seabed. A single 30-year mining operation in the CCZ would directly impact an estimated 9-10,000 km^2 of seabed. Sediment plumes generated by the mining would likely impact deep-sea species and ecosystems well beyond the actual mining sites. The emission of noise and light and the discharge of sediment, residual ore and wastewater from the mining ships at sea would likely impact species inhabiting the water column at multiple depths.

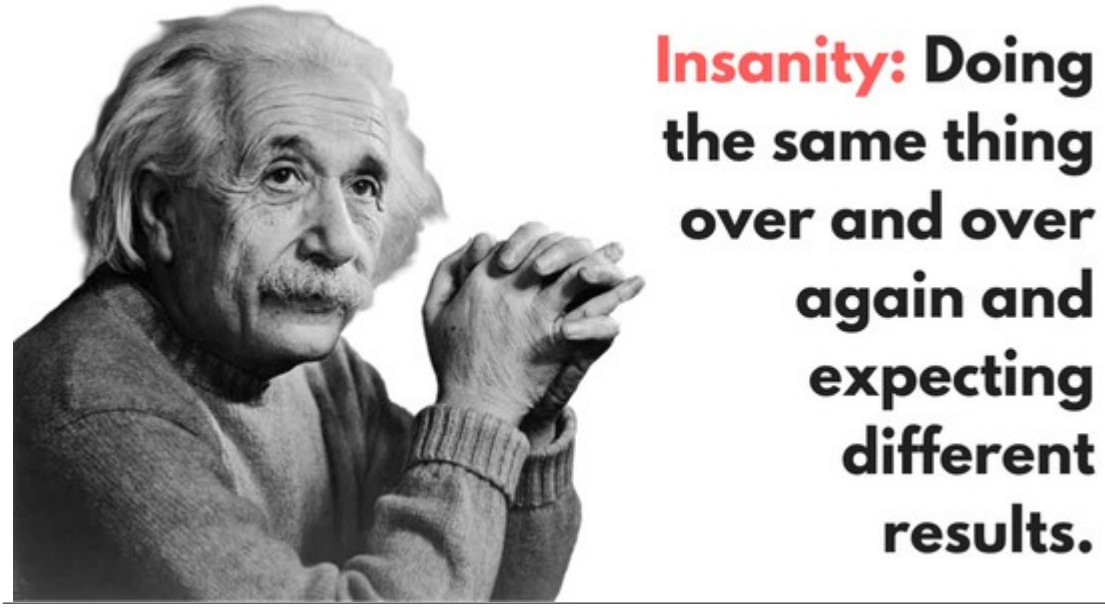
An article published in *Nature Geoscience* in June 2017 entitled *Biodiversity loss from deep-sea mining*[4] and others in Frontiers in *Marine Science*[5] and *Marine Policy*[6] earlier this year argue that for these and other reasons biodiversity loss is likely to be inevitable and irrevocable if deep-sea mining is permitted to occur and that most of this loss is likely to be permanent on human timescales given the very slow rates of recovery of deep-sea ecosystems. Moreover, deep-sea ecosystems are already, and increasingly, under stress from climate change (deoxygenation, acidification, reduced food supply, increased temperatures), plastics, persistent organic pollutants and other factors as recognized by the UN's *1st World Oceans Assessment* and numerous scientific publications.

As many scientists have concluded, we are living through a major extinction event, possibly the most drastic since the end cretaceous extinction event 65 million years ago. A recent submission[7] to the ISA on its 'strategic plan' signed by 50 NGOs questions whether deep-sea mining can ever be compatible with marine conservation or sustainable development goals.

Our concern is that deep seabed mining may open a whole new frontier of environmental degradation, biodiversity loss and potential extinctions across areas of the planet that are poorly studied yet increasingly recognized as high in biodiversity and which have heretofore remained relatively untouched by direct human impact but are already under stress and threat from climate change and other human activities. Concerted international efforts to halt and reverse biodiversity loss are critical to the survival of our biosphere, including us. Mainstreaming this goal in extractive industries, including mining, is essential. The international community of nations should not agree to permit deep-sea mining on the global ocean commons unless biodiversity loss can be prevented.

We regret that, for logistical reasons, we are unable to hold the side event on deep-sea mining scheduled for Tuesday 27 November.
We are writing in Eco to share these views with you.

1 isa.org.jm/maps#maps-block_2-9
2 deep.green/producing-future-metals
3 savethehighseas.org/publicdocs/DSM-RE-Resource-Report_UTS_July2016.pdf
4 nature.com/articles/ngeo2983
5 frontiersin.org/articles/10.3389/fmars.2018.00053
6 sciencedirect.com/science/article/pii/S0308597X17306061
7 http://www.seas-at-risk.org/27-deep-sea-mining/896-more-than-45-ngos-call-on-world-community-to-protect-the-deep-sea-from-mining.html



Target 21: Venues must contribute to biodiversity loss

Antje Lorch (Ecoropa)

In contrast to other Aichi Targets, Target 21 is well implemented: "By 2020, most COPs will have taken place in venues that destroy biodiversity".

The main tool to achieve this has been the choice of venues.

- COP12 (2014) took place in a **ski resort** that was in the process of expansion for the Olympic Winter games. Delegates could hear the reassuring sound of chainsaws chopping down trees on Mount Gariwang, a 500 year-old, well-preserved ecosystem. *ECO 50(3)*
- COP13's location was a golf course and hotels for which a **mangrove forest** and lagoon were destroyed. Local Maya people previously associated with the mangrove forests can now be found working in hotel toilets and serving the wider tourist industry. *ECO 54(9)*
- COP 14 is also in a **tourist-monoculture.** Delegates will find some clear examples of coral-bleaching on their hotel beaches.

Other useful tools for unsustainable conferences:

- **Temperature**: Depending on local conditions successful negative effects can be created by using unheated tents (COP12) with temperatures dropping to zero at night - and mitigating this with enormous heaters and nearly 100 open-air space heaters for the opening reception. In warm climates, excessive air-conditioning to chill delegates is an excellent way to waste energy.
- **Transport:** Naturally host countries do not wish delegates to use public transport. Delegates can therefore be happy about the negative effects of combustion engines when they sit waiting with just a few others in a big empty shuttle bus. This also effectively prevents interaction with local people.
- **Food**: Meat production and industrial agriculture are drivers of biodiversity loss. Therefore vegetarian options and local food choices should be limited, and food should always be served wrapped in plastic.

We encourage future host countries to follow this trend of "greening the meetings." Let's make sure that the air we breathe, the water we drink, the food we eat, and the ground we stand on will contribute to biodiversity destruction - especially while we negotiate about how best to halt biodiversity loss.

"Those who fail to learn from history are condemned to repeat it"

Nele Mariën (Friends of the Earth International)

Parties engaging in the post-2020 process will be handling a very important task: coming up with objectives that respond to the imperative need to respect planetary boundaries. Failure is not an option, as the survival of many species, and ultimately humanity, is at stake. This convention holds the responsibility towards the world to respond to the global threat of accelerating biodiversity loss

Unfortunately, we don't have a good track record in achieving the objectives we set for ourselves, as the deficient achievement of the Aichi targets sadly shows. We need to gather profound understanding of what were the real reasons the implementation of them failed, in order to do it different next time around.

Therefore, building the future process on the lessons learned from the current implementation period is an important principle. We need to set up processes, such as an online consultation, to gather the lessons learned from a broad range of perspectives.

Building the post-2020 process on the basis of lessons learned is the only way to restore trust in objectives being set by the CBD.

More vigorous engagement with parliamentarians urged in pursuing CBD targets

Teddy Baguilat (President of the ICCA Consortium)

The 14th meeting of the Conference of Parties to the Convention on Biological Diversity is well underway and one cannot help but be amazed by the eloquent force of the youth voice in Egypt. Likewise, the guardians of our planet, the indigenous peoples as well as the mothers of nature, our women, have made sure that the movements from the ground are heard in the crafting of COP decisions.

However, what is glaring in this Conference is the absence of parliamentarians. Perhaps it is by design that legislators play a distant role in the COP talks. But let's remember that the parliamentarians are the keepers of the purse. More importantly, they are the policy- and lawmakers.

After all the debate and back-room negotiations, ultimately we have to return home to our countries and convince our parliamentarians to legislate appropriate policies and allocate budgets to fulfil our commitments. Otherwise, what we might have achieved after 13 days is dabbling in empty rhetoric.

For instance, let us take an example from the Philippines to show how important it is to have parliamentary engagement. We have recently passed a new law on protected areas, the Expanded National Integrated Protected Area System Act. Aside from delineating additional protected areas in the country, the law is revolutionary because it recognizes that ancestral territories of indigenous peoples within protected areas could be governed by established and effective traditional governance of the indigenous peoples.

The pro-indigenous peoples provisions of the law were not achieved easily as resistance remains strong from fortress conservation mindsets. Sustained consultation and dialogue among indigenous peoples, conservation experts, environment ministry officials and the legislators led to a draft that was acceptable to enable it to pass the legislative mill although not ideal from the point of view of the indigenous communities.

Now the law's viability is moving towards a critical stage as the implementing rules and regulations are currently being drafted which would detail how the law is going to be enforced, including management of conflict areas between indigenous conserved areas and national parks. There are an estimated 1.6 million hectares of indigenous territories overlapping with state-sanctioned protected areas in the Philippines.

There is also a pending bill in the Philippine Congress that would grant state recognition to *Indigenous Communities Conserved Areas* or ICCAs as a measure to complement the new protected area law. It has passed at the committee level and is pending in both chambers of Congress.

It's time we recognize that indigenous peoples have since time immemorial been protecting and conserving the planet's biodiversity. But rhetoric is not enough. Our laws should reflect that.

The CBD Alliance thanks USC Canada for their support for the ECO.

***Submissions** are welcome from all civil society groups.*
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