

The seabed - a no-go zone for mining

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Turning Down the Heat: Can We Mine Our Way Out of the Climate Crisis?
Ottawa, Canada, November 14, 2019



It is a great privilege for me, as an Indigenous Grassroots Activist to present issues surrounding Climate Change and Mining from a Papua New Guinean Perspective.

I represent communities and organizations in my South Pacific country. We are the very first people on earth to have experienced the impacts of the first ever permitted Deep Sea Mining project.

The project was headed up by a Canadian mining company called Nautilus and the project site was just off the coast of my island home.

My Island Home



Location of the Solwara 1 deposit (source: Nautilus Minerals, 2018).

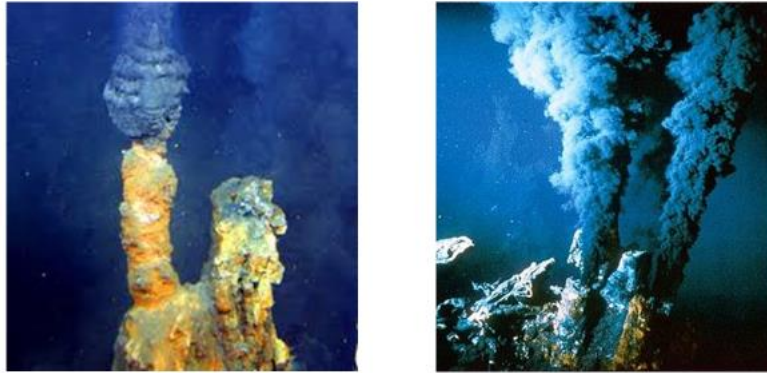


Here you see my island of New Ireland in Papua New Guinea and the Solwara 1 project site of Nautilus.

My village is called Danu and is located on the west side of New Ireland province just 30 kilometres away from the project site. I am from the Loxun Clan and one of the Mandak peoples.

As member of the International Community, we are concerned about the countless challenges the world is facing today. Climate Change is a reality to which we cannot remain indifferent.

Hydrothermal Vents – cradles of life on earth



Hydrothermal vents, such as these, were the target of Nautilus’s mining project.

These vents occur at depths of 1000 to 4000 metres. They are thought to be the origins of life on earth. Active vent zones are thought to only exist in 50 square kilometers of the ocean.

They spew out a hot chemical and mineral rich mixture from the depths of the earth that solidifies into structures called chimneys.

The environment around these vents is very cold, pitch dark, and under a great deal of pressure. Still, these vents are teeming with unique and unusual life forms, some of which only occur on a particular vent.

Hydrothermal Vents - Unique Life Forms



These are some of the amazing creatures that can be found around hydrothermal vents.

They are unlike any other species on earth. They survive by feeding on bacteria and other single-celled organisms that do not derive energy from photosynthesis, but from the chemicals spewed out by the vents.

Only a fraction of the species on these vents have been discovered to date. These vents, and the animals around them, have barely been studied because they are so very deep and remote.

Nautilus's Deep Sea Mining Equipment



These are the machines that Nautilus built to lower unto the seabed near my home.

They are designed not only to destroy the hydrothermal vents but also to dig into the seabed beneath the vents.

The species around the vents will be destroyed as well. We have no idea how this impact may affect the wider food chain in the Bismarck Sea that we depend on.

Impacts of exploration by Nautilus



When Nautilus conducting its exploration we started to experience serious impacts.

We became fearful for our future. We were worried because the mining is experimental, there are no examples anywhere in the world, and Papua New Guinea has no regulatory framework. Also, we knew that there is an active undersea volcano at that site, could it cause a tsunami?

It also affected our unique shark calling culture that is our identity. We can call sharks to our canoes. They are a major source of food for our people. When Nautilus started its exploration activities the sharks left our waters.

Opposition to Nautilus's Solwara 1 Project

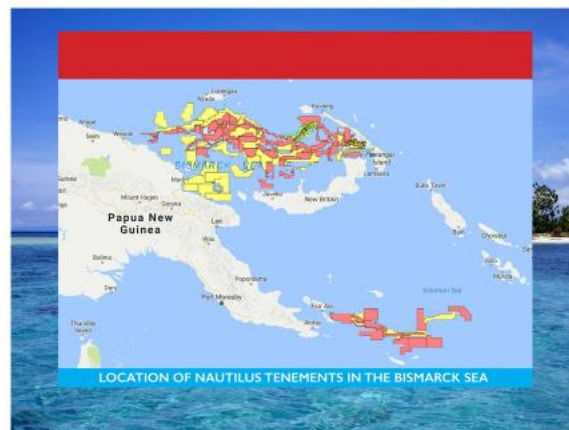


Slowly we organized and started to oppose Nautilus's Solwara 1 Project.

This year, Nautilus went bankrupt and the company is now seeking protection for some of its creditors. A few years ago Nautilus used arbitration against our government to make it borrow money 125 million dollars to cover a 15% stake in the project. Now our government stands to lose this money.

And we don't know what will happen with the mineral rights and permits Nautilus has for the Solwara 1 project.

Other Nautilus concessions in Papua New Guinea

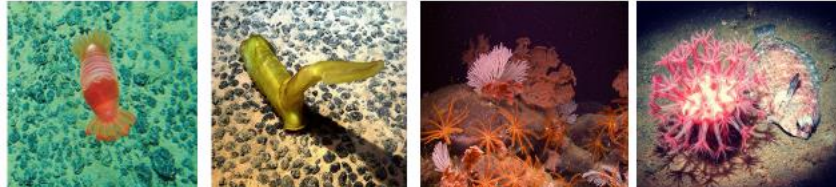


Also, your company Nautilus has many more tenements in the waters around Papua New Guinea, and around other Pacific Island Countries, such as Tonga.

Polymetallic Nodules



Seamount Crusts

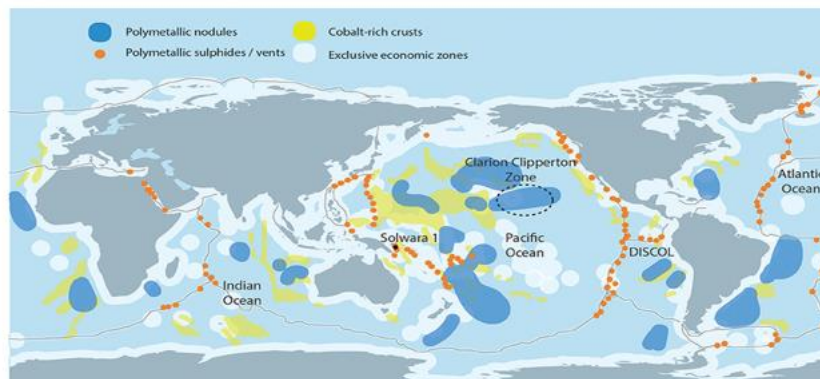


Hydrothermal vents are not the only target of mining companies.

They are also targeting Polymetallic Nodules, which are found at depths of 4000-6000 metres, and Seamount Crusts, which are found at depths of 800-2500 metres.

Each of these ecosystems have unique and largely undiscovered species associated with them.

Global Prospective Deep Sea Mining Projects



This map shows the known locations of hydrothermal vents, polymetallic nodules and seamount crusts.

Metals in each DSM target ecosystem



copper, gold,
silver, zinc, lead



nickel, cobalt,
copper, manganese,
iron oxides



Cobalt, manganese,
iron, copper, nickel
platinum

Each of these target deep sea ecosystems contain a range of metals, some of the major ones are named here.

You will notice that some of these are metals that are needed for the technologies of the green economy.

But does that make it all right to destroy these ecosystems with unknown consequences?

Industry public relations



'...whether you invest in a company like DeepGreen or not, everyone is a sucker for the story.'

CEO, Gerard Barron. February 2019



Source: Greenpeace. 17 July 2019. Deep sea mining is not the future. [Louisa Casson](#)

Mining companies that want to profit from mining the deep sea are marketing their companies as providing the solution of the world's climate crisis.

For example, Canada's DeepGreen, whose CEO Gerard Barron made a lot of money when he sold his shares in Nautilus, is promoting his company as providing "metals for the future."

Corporate Capture of the International Seabed Authority – United Nations

Mining Watch Canada | Deep Sea Mining Campaign
| London Mining Network JULY 2019



The Common Heritage of Mankind

- Twenty-nine exploration licences
- More than 1 million square kilometres of international seabed
- China, Korea, the United Kingdom, France, Germany, Russia, Kiribati, Nauru, Tonga and the Cook Islands, and
- Lockheed Martin (UK Seabed Resources)
- Canada's DeepGreen (Nauru Ocean Resources Inc.)
- Canada's Nautilus Minerals Inc. (Tonga Offshore Mining Limited).
- No exploitation, or mining, licence yet
- No mining regulations yet

The seabed and ocean floor and its subsoil in international waters has been recognized under the 1982 United Nations Law of the Sea Treaty (UNCLOS) as the “Common Heritage of Mankind.”

The International Seabed Authority has the jurisdiction to issue exploration permits for deep sea mining. Twenty-nine such permits have been issued covering more than a million square kilometers of the seabed.

Michael Lodge the Secretary-General of the International Seabed Authority – you can see him on this slide - is very actively promoting Seabed Mining and also DeepGreen, the Canadian mining company, not only wearing DeepGreen's hat but also appearing on the company's promotional video.

Calling for a ban on Deep Sea Mining



In Papua New Guinea we have learned that Deep Sea Mining is dangerous for the sea, for our livelihoods, culture and economy. We are calling for a ban on Deep Sea Mining and our government has recently supported calls by other Pacific Island Countries for a moratorium on Deep Sea Mining.

Why we want a ban on Deep Sea Mining

- We rely on healthy oceans for our food, our livelihood and our culture
- Oceans are already overstressed by human impacts such as plastics, overfishing, acidification, DSM would be a catastrophic additional burden
- Species extinction is a serious and growing problem, the many unusual species associated with DSM target areas are virtually unknown and especially vulnerable
- We are not fooled by the rhetoric of the mining industry – we believe this is just another profit making scheme for frontier investors like DeepGreen and powerful multinationals such as Lockheed Martin
- Unacceptable mining impacts are not properly addressed on land and will be even harder to detect and avoid and impossible to mitigate in a deep marine environment
- The mining industry has proven itself to be irresponsible on land in every way – environmentally, socially, in terms of human rights, paying taxes, mine closure and taking responsibility for harm done. This is not an industry we can entrust with our precious oceans

There are many reasons why we want a ban on Deep Sea Mining. I've listed some here.

I'll just mention again that we Pacific people rely heavily on healthy oceans for our food, our livelihood and our culture. We cannot accept any such grave threat to the ocean

Also we know that unacceptable mining impacts on land are still not properly addressed and will be even harder to detect and avoid, and impossible to mitigate in a deep marine environment.

We are not alone

- **European Parliament – January 16, 2018** “...international moratorium on commercial deep-sea mining exploitation licences...”
- **Pacific island country organizations and governments are calling for a ban or moratorium: Fiji; Papua New Guinea; Vanuatu**
- **International Civil Society Organizations and Coalitions - Deep Sea Mining Campaign** has called for a ban on DSM. **Greenpeace** has called for a moratorium as has the **Deep Sea Conservation Coalition** - “there should be a moratorium on: deep seabed mining; the adoption of seabed mining regulations for exploitation (including the “International Seabed Authority Exploitation Regulations”); and the issuing of exploitation and new exploration contracts”
- **Scientists – See for example** <http://ourcommonheritage.org/>

We are no longer alone in our opposition. The European Parliament has called for an international moratorium on commercial deep sea mining exploitation licenses.

We are also supported by our Pacific neighbours Fiji and Vanuatu, which have called for a moratorium on deep sea mining.

And we are supported by a growing number of NGOs, Churches, and scientists.

What can the Canadian government do?

- **The Canadian Government needs to follow through on its commitments to provide the Ombudsperson for Responsible Enterprise the powers to compel documents and witnesses in the course of investigations of complaints.**
- **The Canadian Government needs to implement regulations that will mandate human rights due diligence for its multinationals operating overseas such as Nautilus and DeepGreen.**
- **The Canadian Government needs to promote recycling of metals for green technology and support innovation towards a post-extractive economy.**
- **The Canadian Government needs to protect its own oceans by ensuring that provisions of its laws that protect fish bearing waters from mine waste apply to Deep Sea Mining.**

There are many things that the Canadian Government can do.

It should promote sustainable harvesting of resources and care for the environment, not only in Canada but also by Canadian companies operating overseas.

Thank You



To conclude, on behalf of my clan Loxun of Danu Village, New Ireland Province and as an indigenous Papua New Guinean, I express my gratitude to the international community and for the solidarity groups around the world who have stood up to say NO to Deep Sea Mining in PNG.

It was through their support that we have now ceased Nautilus Minerals operation. Likewise, this is what we should be doing to address Climate Change.