



WHY THE RUSH?

SEABED MINING IN THE PACIFIC OCEAN





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

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FRONT COVER: Secretary General of the United Nation's International Seabed Authority, Michael Lodge, dons a 'DeepGreen' hard-hat. Lending his position to promote DeepGreen's commercial interests calls into question the ISA's capacity to serve the interests of its member states and the environment it is mandated to protect.
Image source: <https://twitter.com/mwllodge/status/984626856384221185>

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ACRONYMS

CCFZ	Clarion Clipperton Fracture Zone
CEO	Chief Executive Officer
CIIC	Cook Islands Investment Corporation
CSIRO	Australian Commonwealth and Scientific Industrial Research Organisation
DSM	Deep Sea Mining
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
EU	European Union
GEM	Geoscience, Energy and Maritime Division (of Pacific Community-SPC)
GSR	G-TEC Sea Mineral Resource
ISA	International Seabed Authority
NORI	Nauru Ocean Resources Inc.
PIC	Pacific Island Country
PIF	Pacific Islands Forum
PNG	Papua New Guinea
P-SIDS	Pacific Small Island Developing States
RLRF	Regional Legislative and Regulatory Framework
SOPAC	South Pacific Applied Geoscience Commission (which is now GEM)
SPC	Pacific Community
TOML	Tonga Offshore Mining Limited
TSX	Toronto Stock Exchange
UNCLOS	United Nations Convention on the Law of the Sea

EXECUTIVE SUMMARY

The Pacific Ocean is the scene of a new wild west. Companies and their investors, hungry for profits, are driving a speculative rush for seabed minerals. They are aided in this by donor government supported programs that promote the development of 'responsible' sea bed mining regulations.

THE PERILS OF DEEP SEA MINING

Deep Sea Mining (DSM) is as yet an unproven industry hoping to extract minerals deposited on the sea floor at depths below 200m. The metals sought include iron, manganese, copper, zinc, lead, nickel, cadmium, silver, platinum, cobalt, rare earths and gold. There are three distinct types of ore deposits found in the deep sea: ferromanganese nodules; cobalt crusts; and seafloor massive sulphides.

Very little is known about the potential impacts of DSM. These uncertainties are due to the experimental nature of the mining as well as the lack of knowledge about the ecosystems of the deep ocean and the ways in which these connect with marine food webs.

The only certainty associated with DSM is that there would be direct and indirect impacts at every stage of the mining process.

WHOSE INTERESTS WILL NEW REGULATIONS BE SERVING?

The development of seabed mining regulations, at both Pacific regional and international levels is occurring in haste in the absence of meaningful public debate and with little consideration of the precautionary principle and the free, prior and informed consent of the Pacific island citizens who would be adversely affected by this unprecedented industry.

The processes surrounding the seabed mining regulations appear to be pushed along by would-be DSM companies and skewed towards their interests. It is questionable whether the International Seabed Authority (ISA) – the United Nation's (UN) agency responsible for managing seabed resources outside national jurisdictions and charged with developing DSM regulations for this area – is in fact able to serve the interests of its member states and the environment it is mandated to protect.

The Secretary-General of this UN body, Michael Lodge, actively promotes the commercial interests of one seabed mining company, DeepGreen Metals Inc., in the company's advertising videos and in orchestrated panels at meetings of Pacific island political leaders.

The ISA's Legal and Technical Commission which drafts the Mining Code is closed to civil society participation, despite receiving direction from the ISA Assembly to meet in open sessions. The exploration licences the ISA Secretariat has issued to DeepGreen and other companies are also confidential, as are the annual reports on exploration activities that companies are required to submit to the ISA.

In a move that questions the integrity of the ISA, DeepGreen's Chief Executive Officer Gerard Barron's close relationship with President Baron Waqa of Nauru saw him take Nauru's seat during the February 2019 ISA meeting. He used the opportunity to promote his company and to urge the ISA towards completing the deep sea Mining Code.

The Nauru government, responding to DeepGreen's promises of wealth, has become the Pacific's seabed mining

champion. Nauru's President Waqa, ISA Secretary-General Michael Lodge and DeepGreen have utilised Nauru's position as 2019 chair of the Pacific Islands Forum to promote seabed mining as the region's economic panacea. In this, they have attempted to justify their views through the existence of the Regional Legislative and Regulatory Framework and more recent draft regional agreement on seabed mining developed by the Pacific Community (SPC) and European Union funded DSM programs. The SPC-EU DSM program was implemented by the SPC's Geoscience, Energy and Maritime Division (formally Applied Geotechnical Division) which holds decades of data on surveying the sea floor body. However these documents have been met with vocal opposition from Pacific civil society, who see them as a possible opening to massive exploitation and risk.

DeepGreen's interests are clear and unsurprising. Its financial prospects depend on the finalisation of the ISA seabed Mining Code and the Pacific regional seabed mining treaty. What is startling is the way in which the ISA Secretary-General and Nauru's government appear willing to sacrifice their official mandates. Their duties of care for global, regional and national citizenry, and the marine environments we all depend on, are seemingly being abandoned in favour of a financially, socially and environmentally risky DSM industry and DeepGreen's commercial interests.

WHY THE RUSH?

Some investors in first-mover seabed mining companies have already made handsome profits based on speculation about the possibility and the potential of DSM in the Pacific Ocean, without undertaking any actual mining.

Whether or not they ever undertake any mining, DSM industry speculators

are poised to reap further profits if the regulations they are pushing for are ratified. They are ready to ride the resultant wave of speculation on the value of seabed minerals and of their exploration licenses.

Globally, ocean ecosystems are under stress due to pollution, plastics, overfishing and climate change. The aspirations of sea bed mining companies will seriously compound these environmental stressors.

In recognition of this, civil society, NGOs, fisheries, tourism operators, scientists and governmental bodies around the world are calling for a moratorium on deep sea mining. Hearing these concerns, the European Parliament adopted a resolution on international oceans governance in January 2018 that called on European states to stop sponsoring deep sea mining exploration in international waters and to support a moratorium on deep sea mining. Over the past year, this call has been echoed by the Environmental Audit Committee of the UK House of Commons, the UN Envoy on Oceans at the World Economic Forum in Davos, and the Bainimarama government of Fiji announced in June 2019 that it will ban sea-bed mining in its waters.

Scientific research continues to add to the grim pool of knowledge about our oceans' declining health and their importance as planetary life support systems. A moratorium on deep sea mining is the only safe recourse. The urgency of the species extinction crisis we now face demands a moratorium on the development and the adoption of seabed mining regulations as well as on the issuing of exploration and exploitation licences in national and international waters.



*"... the only wise policy is
a global moratorium on all
deep sea mining."*

"Environmental risks and impacts of deep sea mining would be enormous and unavoidable, including seabed habitat degradation over vast ocean areas, species extinctions, reduced habitat complexity, slow and uncertain recovery, suspended sediment plumes, toxic plumes from surface ore dewatering, pelagic ecosystem impacts, undersea noise, ore and oil spills in transport, and more ... the only wise policy is a global moratorium on all deep sea mining."

Professor Richard Steiner, Oasis Earth

Source: 'Deep Sea Mining a New Ocean Threat', Professor Richard Steiner, *Huffington Post*, 20 October 2015, https://www.huffpost.com/entry/deep-sea-mining-new-threa_b_8334428

1. SEABED MINING IN THE PACIFIC:

a speculative frontier

Seabed mining in the Pacific Ocean remains a *speculative* and *experimental* activity driven in large part by commercial and geostrategic competition. While extensive seabed exploration has been carried out, no commercial seabed mining operation has yet been established. There is intense interest in the future financial returns that may be available through seabed mining as states consider ways to secure access to 'rare earth' minerals that may have increasing strategic value. Yet Pacific islanders view the ocean differently.

For hundreds of generations Pacific peoples, living on thousands of islands, have sailed and fished, traded and explored across the immense Pacific Ocean. In the traditions of Oceania, the sea is not understood as an 'empty' space, or as a 'void' between land masses. Nor is it appreciated solely as a source of economic returns. For centuries, Pacific island cultures have understood the ocean to be intertwined with society, identity and place.¹ Pacific people are connected to their vast ocean, and through it, to each other. Contemporary discussions about seabed mining in the Pacific Ocean need to be understood in the context of Pacific relationships with the ocean and not only focus on potential economic returns.

Commercial interest in seabed mining began as early as the 1870s when polymetallic manganese nodules were first discovered in the Atlantic Ocean. In the Pacific Ocean, significant interest in seabed mining was ignited in the mid-

1970s, driven primarily by global increases in prices for metals, and a perceived need to secure supplies of strategic metals.² From the mid-1970s through to around 2010, the formerly independent Applied Geotechnical Division (SOPAC) - now SPC's Geoscience, Energy and Maritime Division (GEM) - was engaged to undertake exploration for seabed minerals in the Pacific Ocean. This exploration was carried out in partnership with Pacific island governments with support provided by donor governments - particularly Japan and member states of the European Union (EU). These exploration activities identified three main types of mineral deposits in the Pacific Ocean: Seafloor massive sulphides, polymetallic manganese nodules and cobalt rich crusts.³

Today, Papua New Guinea (PNG), Tonga, Fiji, Vanuatu, Solomon Islands and the Cook Islands all have active mineral exploration licences in their national waters (Exclusive Economic Zones or EEZs). Many of these exploration licences are held by the mining company Nautilus Minerals Inc. and its subsidiaries. In 2013 Nautilus held more than 100 active prospecting licences primarily in the EEZs of PNG, Solomon Islands, Vanuatu and Tonga.⁴ PNG is the only Pacific island country to have issued a seabed mining licence - granted in 2011 to Nautilus for the Solwara 1 project.⁵


In addition to exploring their EEZs, some Pacific Island Countries (PICs) have sponsored mining companies to undertake

exploration for seabed minerals in areas a speculative frontier beyond national jurisdiction (known as the 'Area'). Under the requirements of the UN Convention on the Law of the Sea (UNCLOS), exploration licenses for the Area are granted by the International Seabed Authority (ISA) and the ISA may only grant exploration contracts to state sponsored companies. Furthermore, UNCLOS gives preferential access to seabed minerals in the Area to developing States. To avail themselves of this opportunity, 'first mover' seabed mining companies have partnered with small PICs.

Kiribati, Nauru and Tonga have sponsored ISA exploration licences in the Clarion Clipperton Fracture Zone (CCFZ) in the eastern Pacific with the support of subsidiaries of the companies Nautilus (Tonga Offshore Mining Limited, TOML), DeepGreen Metals Inc. (Nauru Ocean

Resources Inc., NORI) and Marawa Research and Exploration Limited.⁶ The Cook Islands sponsored its own state owned company (Cook Islands Investment Corporation, CIIC) to obtain an exploration license in the CCFZ. It also has a joint venture agreement with Belgium company G-TEC Sea Mineral Resource (GSR).⁷ Independently, the Belgian government has also sponsored GSR for an exploration license in the CCFZ.

This report examines the way in which seabed mining is being accelerated in the Pacific region through an apparent alliance between companies (in particular DeepGreen Metals), national leaders (especially the President of Nauru and his government), the Secretariat of the Pacific Community and the UN's ISA (via the enthusiasm of its Secretary General.



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Image: Young boys from Mioko, Duke of York Islands in Papua New Guinea preparing to catch fish for their family, Photo: Nat Lowrey.

2. WHY THE RUSH?

frontier investors and their institutional backers promoting seabed mining in the Pacific Ocean

2.1 NAUTILUS AND DEEPGREEN: MINERS OF MARKETS AND PROFITS

As frontier investors and first-mover seabed mining companies, Nautilus and DeepGreen have already made significant profits based on speculation about the *possibility* and the *potential* of DSM in the Pacific Ocean, without undertaking any actual mining. Nautilus is a Canadian registered company that until April 2019 was listed on the Toronto Stock Exchange (TSX). DeepGreen is a private company incorporated in British Columbia, Canada.

In order to raise capital, first mover seabed mining companies need to convince investors they have regulatory approval, a social license, and can provide financial returns. Ensuring regulatory certainty for would-be investors has proved a key driver for the development of legal regimes for seabed mining in PICs, as it has at the ISA, and explains DeepGreen's dogged determination to push these regulations through (as described in Sections 2.2 -2.4).

As *start-ups*, Nautilus and DeepGreen both developed high-profile partnerships with international terrestrial mining companies,⁸ which they leveraged to raise capital in centres like New York, London and Toronto.

Some of Nautilus' early investors left the company at the height of its share price, with their personal wealth significantly enhanced, and established DeepGreen. However, Nautilus is now on the brink

of bankruptcy⁹ with numerous small shareholders, investors and contractors facing huge losses. A far cry from the public relations spin it used to gain their confidence.

Nautilus expended significant energy over many years wooing the government of PNG to commit to buying into the Solwara 1 project. When the government appreciated the risks involved with the project and tried to renege on its direct financial involvement, Nautilus forced the PNG government through arbitration conducted in Australia to follow-through and purchase a 15% share in the Solwara 1 project.¹⁰

The PNG government turned to its national bank for a loan of USD 125 million to fulfil this obligation via a state-owned enterprise and without parliamentary approval. PNG will be left justifying its investment in this failed speculative venture to a citizenry lacking basic health care, schools, and infrastructure.¹¹ When the loan is called in, the cost to PNG will be equivalent to one-third of the country's entire health budget for 9 million people 2018.¹² When challenged over this debacle in PNG parliament by the shadow treasurer Mr Ian Ling Stucky, Prime Minister O'Neill reflected that PNG had underwritten the Solwara 1 project "in a deal that should not have happened in this country and as a result it has cost us a lot of money."¹³

Nautilus Minerals provides a good case study of the financial, social and

reputational risks associated with deep sea mining (DSM). Since 2017, Nautilus survived on a drip feed of bridging loans from its two major shareholders, Russian mining company Metalloinvest and Omani conglomerate MB Holding. The company felt the brunt of years of investor indifference due to concerted opposition from international and PNG civil society, the launch of a legal case in 2017 by members of local communities at risk from its flagship Solwara 1 project, the divestment of its remaining mainstream miner Anglo American in early 2018, and the loss of key staff and its crucial production support vessel late in 2018.

In February 2019, Nautilus finally filed for court protection from creditors under the Canadian Companies' Creditors Arrangement Act.¹⁴ Nautilus was delisted from the TSX¹⁵ in April 2019 and four of its five directors, and its Chief Executive Officer (CEO) resigned.¹⁶

The company has until August 30, 2019 to fire sale its assets (largely its seafloor mining equipment and licences) in a bid to either survive in some very shrunken form or declare itself bankrupt. Papua New Guineans are calling on their government to learn from the costly mistake of investing in the Solwara 1 project and to cancel all the licences they issued to Nautilus.¹⁷

The strategies employed by first mover investors - who established Nautilus and leveraged seabed mineral exploration licenses to raise capital - are explored further below

2.1.1 RAGS TO RICHES FOR FRONTIER INVESTORS

During the early 2000s, Nautilus applied for prospecting tenements in a number

of Pacific island jurisdictions, gaining exploration licenses for large swathes of the seabed in the waters of PNG, Fiji, Tonga, Solomon Islands and Vanuatu. By 2007 Nautilus had 'laid claim to 106,500 square miles of seabed, an area larger than the UK'.¹⁸

The manner in which these exploration licences were obtained illustrates an extremely cavalier attitude towards Pacific Island sovereignty, governance and towards gaining social licence. In 1993 Julian Malnic (the Australian editor of *Miner*, an industry journal), wrote a story on Australian scientist Dr Ray Binns' discovery of valuable mineral deposits from hydrothermal vents on the seabed near PNG islands. Dr Binns had told media that the copper and gold content around these 'black smokers' constituted 'bonanza figures'. Thinking he would get in before the *gold rush*, Malnic used Dr Binns data without the scientist's knowledge, founded Nautilus Minerals Niugini Ltd, and filed for exploration rights with the Papua New Guinea government. As journalist Joshua Davis explains:

*Malnic took photographs of Binns' samples and also managed to snap some of the navigational charts identifying the location of the smoker. When he got home, he scrutinized the photos, jotted down the longitude and latitude, and mailed a mining claim to Papua New Guinea officials. Unbeknownst to Binns, Malnic then persuaded the Papua New Guinea government to award him its first-ever underwater exploration claim. Malnic had just staked Binns' smoker.*¹⁹

In 1997 the PNG government granted the world's first exploration licence for underwater polymetallic sulphides to Nautilus Minerals Niugini Ltd for the Solwara 1 site.

Having secured an exploration license for seabed minerals in Papua New Guinea, Malnic travelled to Tonga, where he staked seabed exploration tenements encompassing a vast area of Tonga's Exclusive Economic Zone. Here again, the way that Malnic obtained those tenements is instructive. As Malnic later explained to the Australian Broadcasting Corporation:

*When I got there [to Tonga] the Mining Act was only one and a half pages long! And I had to really simulate the whole process of claiming there ... 'They were very nice people and gave me the keys to the department over the weekend. It was a pretty sleepy place back then, Tonga. 'I drafted a form, wrote Ancient Kingdom of Tonga across the top, and for an application fee put \$300 Tongan dollars. It sounded about right. 'Then I made the forms, printed them out, filled in the forms by hand, so they looked the part, and took out eight and a half degrees of latitude of mineral potential, right through the Tongan exclusive economic zone.'*²⁰

Despite obtaining extensive seabed exploration tenements in a number of Pacific island countries, Julian Malnic struggled to raise the capital needed for the expensive processes involved in commercial prospecting of the seabed.²¹ Things changed when Malnic's friend, David Heydon joined Nautilus in 2002.

An Australian with a background as a prospector and a dotcom entrepreneur, Heydon bought out most of Malnic's stake in Nautilus and became CEO of the company.²² Then, in 2004, Nautilus entered a 'farm in'²³ agreement with multinational gold mining company Placer Dome to undertake commercial exploration at its tenements in PNG.²⁴ Heydon had a further breakthrough when a 'reverse takeover' was engineered, which saw Nautilus merge with a Canadian mining company named Orca Petroleum in 2006.²⁵ The merger allowed Nautilus to gain listing on Canada's TSX Venture Exchange.²⁶ As it announced its public listing, Nautilus also announced the Placer Dome joint venture agreement.²⁷ In July, Barrick Gold (which itself took over Placer Dome in early 2006) converted the joint venture agreement to shares in Nautilus.²⁸ This precipitated something of a rush for Nautilus shares. Mining giant Anglo American took up stocks, and Canadian mining company Teck-Cominco took a 9.2% equity position.²⁹ In February 2007 Nautilus was listed on the London stock exchange, quickly raising \$100 million from public shareholders.³⁰

By 2007, on the prospect of seabed mining in PNG and elsewhere in the Pacific, Heydon managed to convert Nautilus' exploration tenements into more than \$300 million worth of capital. As journalist Joshua Davis wrote in *Wired* magazine in 2007:

*...in the past year, [Heydon] has almost single-handedly ignited the current rush to mine mineral deposits on the ocean floor ... Shuttling between the UK, Australia, Canada, and the US, he's delivered his spiel hundreds of times to investors ... as well as to the world's largest mining companies.'*³¹

Early investors in Nautilus have made significant returns. Heydon's friend Gerard Barron – founder of online advertising company AdStream – invested in Nautilus in 2001 and helped Heydon with communication and fundraising strategies. In 2017 the online news agency *mining.com* explained that Barron's six-year involvement with Nautilus had 'turned a \$226,000 investment into \$31 million, and he successfully exited his position near the height of the market'.³² Heydon himself, who had once lived in a caravan because he had sold the family home to raise venture capital, also became wealthy.³³

In 2008 Heydon resigned as Nautilus CEO to pursue seabed mining in international waters. Before he left, he helped Nautilus establish wholly-owned subsidiaries in the Pacific island countries of Tonga (TOML) and Nauru (NORI).³⁴ In April 2008 Tonga and Nauru sponsored applications to the ISA by TOML and NORI respectively, for exploration licenses in the CCFZ. TOML continues as a subsidiary of Nautilus, whereas control of NORI passed to Heydon's new venture 'DeepGreen Resources' which was established in 2010 and later renamed DeepGreen Metals.

In 2011 as director of NORI, David Heydon signed a 15-year exploration contract with the ISA, allowing exploration and prospecting for minerals in a designated area of the CCFZ.³⁵ With the granting of this licence, Heydon then set out to leverage NORI's stake in the international seabed to raise the capital needed to undertake prospecting. Heydon's son Robert, who had joined the board of NORI, estimated four billion USD would be needed for this venture.³⁶

To generate investor interest in DeepGreen and in its new exploration

licence, Heydon again turned to Gerard Barron.³⁷ Barron was appointed CEO of DeepGreen, while David and his son Robert Heydon retained senior positions in the company. A number of people who had previously been part of Nautilus, including Samantha Smith, and Anthony Sullivan (who was previously Chief Operating Officer at Nautilus), also joined DeepGreen.

DeepGreen prepared and funded the successful application to the ISA for an exploration licence by the small and remote Pacific island country of Kiribati.^{38,39} Obtained in 2015, the licence saw Kiribati sponsor a state company, Marawa Research and Exploration Ltd in return for DeepGreen receiving an off-take agreement.⁴⁰

Serious questions have been raised about the way in which DeepGreen obtained exploration licenses from Kiribati. Felix-Malin 2018 wrote:

*The practical development of a future DSM industry in Kiribati has taken a rather fraudulent course. In the absence of a DSM policy and outdated legislation, predatory investors ... attained survey and exploratory leases by bribing high-ranking officials, both with respect to areas within national jurisdiction as well as Kiribati's sponsorship area in the Clarion-Clipperton Fracture Zone (CCFZ).*⁴¹

Irrespective of how they were obtained, Heydon and Barron sought to leverage the exploration licences granted to Nauru and Kiribati to generate investor interest in DeepGreen. To do this they partnered with an established terrestrial mining company; a similar strategy to



Nauru President Baron Waqa and DeepGreen CEO Gerard Barron grasping the promise of wealth - a polymetallic nodule. Gerard Barron travels the world promoting the enormous value of DeepGreen's seabed mineral resource.

Image source: <https://twitter.com/deepgreenmetals/status/1047178636128702464>

one they had used to generate investor interest in Nautilus. In 2012, DeepGreen entered into an 'off-take' agreement with commodity giant Glencore, which Heydon saw as the 'potential catalyst to attract investors'.⁴²

In April 2018 an exploration expedition was launched by DeepGreen, in partnership with the shipping company Maersk, for the NORI exploration tenement in the eastern Pacific Ocean.⁴³ The expedition, launched from San Diego, will yield data for an Environmental Impact Statement (EIS) that NORI/DeepGreen plans to submit to the ISA.⁴⁴ This is a necessary step if DeepGreen is to potentially move from an exploration licence to a full mining licence in international waters; that is, if the ISA finalises regulations enabling exploitation of the international seabed (expected in 2020). The launch of the research expedition was attended by Nauru President Baron Waqa, Secretary General of the ISA Michael Lodge, as well as DeepGreen CEO Gerard Barron.⁴⁵

Following the expedition, DeepGreen announced it had found abundant 'world-class' polymetallic nodules in NORI's seabed mining tenement with CEO Gerard Barron informing would-be investors at 'Mines and Money' forums around the world that DeepGreen's seabed mineral resource is potentially worth billions.⁴⁶

Whether DeepGreen will actually carry out seabed mining at all, remains to be seen. As the experience of Nautilus indicates, if the company's officers jump ship at the right time they stand to make significant personal gains and relieve themselves of all responsibility to those they convinced to invest with impunity. **According to Gerard Barron, 'whether you invest in a company like DeepGreen or not, everyone is a sucker for the story'.**⁴⁷

2.2 THE ROLE OF THE PACIFIC COMMUNITY (SPC)

Under international law, including UNCLOS and the Convention on Biological Diversity, all states have obligations to regulate seabed mining activities to protect the environment and to ensure activities do not adversely affect neighbouring states. In effect, this means that national policies and legislation regarding seabed mining are required before mining companies undertake seabed exploration and exploitation. However, most PICs are yet to develop legislation either to regulate seabed mining activity in their EEZs or to govern their seabed mineral activities in the Area. This is also true of PNG, despite its government being the first worldwide to issue a DSM licence.

2011 saw the launch of the Deep Sea Minerals Project by the Pacific Community (SPC): the SPC-EU DSM project. Funded by the EU, the project was framed as responding to an 'urgent need' to develop national policies and legislation to govern seabed mining in the face of a 'rapidly growing commercial interest in deep sea minerals'.⁴⁸

The SPC is a regional technical agency that was established by colonial powers in the Pacific in the aftermath of World War II. SPC has long had a mandate to provide technical support and development programs for Pacific islanders in areas such as health, agriculture, water, culture and heritage. Even after PICs began to gain independence from the 1960s onwards, the SPC remained a regional organisation with a membership of both island states and colonial powers. Furthermore, in the early 2000s, the formerly independent Applied

Geotechnical Division (SOPAC) - now SPC's Geoscience, Energy and Maritime Division (GEM) - became a division within the SPC. For decades prior SOPAC had surveyed the Pacific seabed, often through technical projects funded by donor governments.

EU support for facilitating DSM in the Pacific derives from concerns in Europe about lack of access to terrestrial minerals. Additionally many European governments see opportunities for European based equipment manufacturers and ship builders to participate in a potential DSM industry. Thus financing the SPC-EU DSM project is consistent with the European Innovation Partnership on Raw Materials promoting "Environmentally Responsible Deep Sea Mining" and the European Commission re-affirming DSM as one of its priority Blue Growth sectors.

Only one year after its inception, the SPC-EU DSM Project developed the *Regional Legislative and Regulatory Framework for Deep Sea Minerals Exploration and Exploitation* (RLRF).⁴⁹ The RLRF was developed without the meaningful discussion of PIC governments and their citizens

The SPC-EU DSM project then provided funding for a dedicated legal team to assist PICs to develop national policy and legislation. The enactment of seven new seabed mineral laws in Pacific island countries soon followed:

- Fiji International Seabed Mineral Management Decree (2013)
- Tonga Seabed Minerals Act (2014)
- Tuvalu Seabed Minerals Act (2014)
- Nauru International Seabed Minerals Act (2015)

- Cook Islands Seabed Minerals Exploration and Prospecting Regulations (2015)⁵⁰
- Kiribati Seabed Minerals Act (2017)
- Federated States of Micronesia Seabed Resources Act (2018)

The SPC-EU DSM project legal team has also prepared and promoted a draft Pacific regional seabed mining treaty, which is expected to be put to the SPC executive in mid-2019, and subsequently to the Pacific Islands Forum (PIF) for 'endorsement' by Pacific island leaders in August 2019.⁵¹ If endorsed, that proposed agreement – *the Regional Agreement for Cooperation Among Pacific Island Countries and Territories to Support Sustainable Development and Responsible Management of Deep Sea Minerals in the Pacific Region* – will further cement the perception of a social license for seabed mining in the Pacific Ocean.⁵²

It is problematic that a regional technical agency, funded by external powers, and with a history of close links to the mining industry has taken the lead in the development of seabed mining regulation in PICs. Other regional agencies that have a mandate for helping PICs make decisions about oceans governance have played only a minor role when it comes to the development of seabed mining policy and regulations. Many in the Pacific feel that the program actively advocated for DSM in the interest of companies and at the expense of Pacific island peoples.⁵² It is beyond refute that regional technical programs relating to seabed minerals – funded by international donors with the active participation of seabed mining companies – have inadvertently facilitated seabed mining activities in the Pacific Ocean.⁵³

The EU-SPC DSM project ended in 2016. It is succeeded by the *Abyssal Initiative*, launched in 2017 by the ISA and the United Nations Department of Economic and Social Affairs. The purpose of the Abyssal Initiative is to build on the EU-SPC DSM project by ensuring 'that the targeted countries are in a position to comply with their national and international obligations as seabed activities progress'.⁵⁴

Under the initiative a regional 'training and capacity building workshop on deep seabed mining' was held in Tonga in February 2019. The workshop claimed to focus on the 'potential benefits associated with an increased participation of Pacific Small Island Developing States (P-SIDS) in deep-sea mining activities'.⁵⁵ Seabed mining companies Nautilus and DeepGreen were well represented at the Tonga workshop. This calls into question whose benefits are really being addressed by the initiative, especially so as the workshop statement very much serves these companies interests, announcing that PICs 'agreed that it is a priority for P-SIDS that the draft Exploitation Regulations currently being developed under the auspices of the ISA be adopted'.⁵⁶

It is beyond refute that regional technical programs relating to seabed minerals – funded by international donors with the active participation of seabed mining companies – have facilitated seabed mining activities in the Pacific Ocean.

2.3 INTERESTING BEDFELLOWS: DEEPGREEN AND NAURU

Nauru is a small nation consisting of one island and a population of around 13,000 people. Nauru's colonial-era history of terrestrial mining has been described as



Photo: Nauru President Baron Waqa dons a DeepGreen hard hat to celebrate the launch of the NORI exploration vessel in San Diego, April 2018.

Image source: <https://twitter.com/mwllodge/status/984626856384221185>

one of the world's worst environmental disasters.⁵⁷ During the colonial period, when Nauru was administered by Australia, the island was ruthlessly exploited for its phosphate reserves. Mining for phosphate (used as fertiliser in Australia, New Zealand and elsewhere) has 'left 80 percent of the land barren, uninhabitable and so contaminated that human health is suffering'.⁵⁸ In addition, Nauru has a track record of unwise investment decisions, using the proceeds of phosphate mining to invest in 'things which never actually turned out to work', according to John Connell of Sydney University.⁵⁹

Worryingly, there is also a history of alleged bribery of government ministers in Nauru. During 2009 and 2010 for example an international phosphate trader allegedly paid \$600,000 in bribes and kickbacks to Nauruan politicians, including current President Baron Waqa, in an attempt to secure access to cheap phosphate supplies.⁶⁰

Australia's colonial exploitation together with Nauru's post colonial choices, has left it the fourth poorest Pacific Island state, just above Niue, Tokelau and Tuvalu. With a GDP of about \$114 million dollars and a GDP per capita of \$8,343 (according to 2017 World Bank estimates), Nauru is susceptible to the overtures of DeepGreen. The Cook islands are the fifth poorest with a GDP of about \$244 million dollars, and have also signed deals for DSM exploration. Thus it is no accident that seabed mining company DeepGreen has chosen to cultivate a close relationship with Nauru politicians, including President Baron Waqa.⁶¹

The Nauru government, responding to promises of wealth, has become the Pacific's seabed mining champion. Nauru and DeepGreen have jointly released a video explaining the benefits that would accrue to PICs of seabed mining.⁶²

The communiques issued by these meetings are widely considered to set regional agenda. **Thus through its close relationship with the Nauru government, DeepGreen attempts to influence Pacific regional decision making.**

An example of this occurred during the Pacific Islands Forum Leaders' meeting hosted by Nauru in September 2018. A side event panel saw DeepGreen's former Head of Environment and Social Responsibility, Samantha Smith, sitting alongside incoming chair of the PIF, Nauru's President Baron Waqa and the ISA Secretary General Michael Lodge. While DeepGreen argued that seabed mining would help the world to tackle climate change and painted a picture of DeepGreen as a good corporate citizen contributing to efforts to clean up the 'great Pacific garbage patch',⁶³ President

Waqa promoted DSM as 'an industry for the Pacific' and said he 'hoped everyone can get on board'. Michael Lodge emphatically added his support.⁶⁴

2.4 THE INTERNATIONAL SEABED AUTHORITY - REGULATING IN WHOSE INTERESTS?

Next year, the little-known UN agency, the ISA, which is based in Kingston, Jamaica, is expected to open up the high seas to mining with the finalisation of the Mining Code. The Mining Code is a set of regulations for exploiting the sea floor in international waters. The ISA has already completed the regulations and recommendations for exploration. These have enabled the ISA to grant 29 exploration licences in international waters, including the four companies sponsored by PICs in the CCFZ. The final Mining Code is expected to be a 'comprehensive set of rules, regulations and procedures ... to regulate prospecting, exploration and exploitation of marine minerals in the international seabed Area'.⁶⁵ Just as mining companies are driving the development of regulation within Pacific EEZs, the ISA is under pressure to develop the seabed Mining Code. A deadline of 2020 has been set.⁶⁶

In anticipation of this deadline being met, some companies are already preparing Environmental Impact Statements (EIS) and testing mining technology 'in-situ' in the ocean environment. In March 2018, Belgian company GSR submitted an EIS to the ISA for plans to test equipment to bring polymetallic nodules to the surface,⁶⁷ including a 'pre-prototype' vehicle – *Patania II*. DeepGreen has also begun work towards producing an EIS for mining. In April 2018, its subsidiary NORI launched the first of five seafloor exploration expeditions in its 75,000km²



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Building a Strong Pacific: Our People, Our Islands, Our Will



Photo: DeepGreen's former Head of Environment and Social Responsibility, Samantha Smith, the ISA Secretary General Michael Lodge and Nauru President Baron Waqa, singing the same tune: promoting DSM at the 2018 Pacific Islands Forum leaders meeting.

Image source: http://www.naurugov.nr/media/61011/nauru_bulletin__09_24sep2018__177_.pdf

CCFZ exploration area to collect the data required for its EIS and to attract investors. Following the expedition, DeepGreen announced it had found abundant 'world-class' polymetallic nodules in NORI's seabed mining tenement.⁶⁸

2.4.1 THE ISA COMPROMISED BY CORPORATE AGENDAS

Michael Lodge, Secretary General of the ISA, is enthusiastic about the commercial potential of the ocean floor. So much so, that the UN body's Secretary General plays an active public relations role for DeepGreen in its marketing videos.⁶⁹ Lodge has also supported DeepGreen's pitch to Pacific Island leaders to view

DSM as their economic panacea (see Section 2.3)

Michael Lodge's close relationship with DeepGreen and his obvious industry bias calls into question the capacity of his organisation to fulfil its mandate and serve in the interests of its member countries.

For example will the ISA deliberate the call made by the African Group of Countries at the February 2019 meeting to consider a ten year moratorium on DSM ? :

"We understand that there is a timeline to respect, but there are also other constraints and we should avoid rushing without a



Secretary General of the United Nations International Seabed Authority, Michael Lodge, dons a 'DeepGreen' hardhat, lending his position to boost DeepGreen's public image.

Image source: <https://twitter.com/mwllodge/status/984626856384221185>

proper and meticulous regulatory process. We would like to recall, in this regard, words pronounced by Peter Thomson, Special Envoy of the UN Secretary-General for the Ocean, at the Ocean Day in Davos last month, "There is a UN decade for Ocean science, which has been agreed to by 193 countries [...] in the General Assembly in December 2017, and that decade will run from 2021 to 2030 [...] why wouldn't we give that decade its full run before we start even thinking about disturbing the seabed of the high seas, we are talking moratorium of 10 years in that case". These words are food for thought to all of us."⁶⁹

Furthermore, a key aspect of the ISA's mandate is "to promote the orderly, safe and responsible management and development of the resources of the

*deep seabed area for the benefit of mankind as a whole. In doing so, ISA has the duty to adopt appropriate rules, regulations and procedures to ensure the effective protection of the marine environment from harmful effects that may arise from mineral exploration and exploitation in the Area."*⁷⁰

The affinity between Michael Lodge and DeepGreen, raises even greater doubts about the extent to which the ISA will address well publicised concerns that seabed mining will damage unique and not well-understood deep-sea ecosystems with far reaching impacts on marine food webs.⁷¹ In addition the UK House of Commons Environment Audit Committee recognised their January 2019 *Sustainable Seas* report that deep-sea mining would have "catastrophic impacts" and that the ISA benefiting from revenues from issuing mining licenses is "a clear conflict of interest".⁷²

While the ISA is charged with administering the resources of the Area for the benefit of humankind, it will rely on sponsoring states to monitor and enforce the activities undertaken by mining companies.⁷³ The reality is that that resources and capacity are unlikely to ever be available to enable independent monitoring of DSM's environmental impacts.

Many developing nations have already proven their inability to effectively monitor the impacts of land-based projects, let alone operations that will occur at the bottom of the ocean, thousands of kilometres from their shores. Nauru's history with its own terrestrial mining stands as a stark warning. It is widely accepted that PICs face serious

challenges in undertaking effective environmental impact assessments

This reality, and the lobbying of companies to weaken the environmental aspects of the ISA Mining Code, could see environmental management paid no more than lip service by the ISA.

In written submissions to the ISA on the draft rules for the Mining Code, DeepGreen subsidiary NORI along with other companies argued that the term 'best environmental practice' should be replaced with 'good environmental practice'.⁷⁴ NORI also recommended that the Code support the commercial interests of 'first mover' seabed mining companies with lower rates of royalty payments on seabed minerals than those that normally apply to nickel or copper sulphides.⁷⁵ NORI maintained that light royalty regimes would help 'initial Contractors to pay back their capital investment at the earliest possible time, and assist them to attract the capital required for infrastructure.'⁷⁶

Perhaps of even greater concern is the corporate capture of the ISA's Mining Code drafting processes. For example, the May 2019 workshop to develop environmental standards and guidelines was led by a combination of representatives of, or consultants to, seabed mining companies and their contractors, sponsoring states (countries with mining exploration claims with the ISA), representatives of national mining, geosciences or related ministries, the ISA's Legal and Technical Commission and the ISA Secretariat.⁷⁷ There were very few non-industry or non-ISA affiliated scientists or civil society representatives (the latter only having observer status in any case). A follow up workshop to draft the report was by invitation only.

It is very difficult to imagine that the final version of the ISA Mining Code will not favour corporate interests over the protection of the marine environment and the wider socio-economic interests associated with the many other uses of the world's oceans.


2.4.2 DEEPGREEN CHOREOGRAPHING PACIFIC ENGAGEMENT AT THE ISA

At present the engagement of PICs with the ISA is driven by individual country delegations. This stands in contrast to the Pacific region's engagement in other international negotiations. At the UN climate talks for example, the Pacific Small Island Developing States (P-SIDS) regularly issue regional declarations as a bloc.

To date, the PICs with commercial relationships with seabed mining companies have generally been the most active at the ISA. In effect, this means that first-mover seabed mining companies have influenced the Pacific's engagement in negotiations at the ISA, and island states have argued for the interests of those mining companies.

In January 2019 the UN Special Envoy for the Ocean, Peter Thomson, expressed support for a 10-year moratorium on seabed mining.⁷⁸ At a subsequent plenary session of the ISA, the African Group requested that this proposal for a 10-year moratorium be part of the official meeting's record. By contrast, the Nauru delegation to the ISA meeting responded by saying:

We consider that the proposed 10-year delay being mooted by some delegations is likely to have significant cost implications to any Contractor investors and could

A photograph of Gerard Barron, CEO of DeepGreen, speaking at a conference. He is a man with dark hair, a beard, and glasses, wearing a black jacket over a white shirt with a blue patterned tie. He is seated at a wooden table with a microphone in front of him. To his left, a nameplate reads "ANKA". To his right, a nameplate reads "NAURU". A glass of water and some papers are on the table. In the background, other people are visible, and a microphone with a red light is also present.

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

GERARD BARRON, CEO, DEEPGREEN STATED IN A VIDEO INTERVIEW AT THE 121 MINING INVESTMENT CONFERENCE, CAPE TOWN, 25 FEBRUARY 2019

DeepGreen CEO Gerard Barron in Nauru's seat at the International Seabed Authority plenary session, February 2019.
Image source: <http://enb.iisd.org/oceans/isa/2019-1/27feb.html>

*potentially dampen interest in deep sea bed mining ... Nauru considers that it is desirable to commence environmentally responsible and commercially viable mining as soon as practicable.*⁷⁹

Furthermore, Nauru allowed DeepGreen CEO Gerard Barron to take Nauru's seat during a plenary session at the ISA in February 2019. Barron used the occasion to argue that seabed mining would help the world to tackle climate change and save PICs from the most devastating impacts of a warming planet. He further suggested that ISA member states 'have an incredibly important task' to finalise exploitation guidelines for the

international seabed by July 2020 and argued for those rules to be 'commercially responsible'.⁸⁰

DeepGreen's interests are clear. Its financial prospects depend on the ISA agreeing to a new Mining Code as soon as possible so the company can benefit from the rush of speculative investment that can be expected to follow.

What is shocking is the way in which the ISA Secretary General and the Nauru Government have allowed DeepGreen to use their positions in an attempt to influence international and Pacific regional law and policymaking to serve the company's interests.

3. CONCLUSION

This report reveals a rush to exploit the Pacific Ocean, sparked by the activities of a few first mover companies who have partnered with select Pacific island governments to obtain prospecting tenements for the ocean floor, and have leveraged those tenements to raise hundreds of millions of dollars in speculative capital. This rush has, in turn, sparked the interest of bigger players, including UN agencies, state actors, the European Union, multinational mining companies, and even a global military and defence company.

First mover companies with sights set on mining the seafloor of the Pacific Ocean are aided in their ambitions by what appears to be an alignment of interests with the ISA and some national governments. This report focuses on the nexus between DeepGreen Metals, the UN's ISA Secretary General and the President of Nauru and his government. Accountability must be brought to bear on these institutions.

Report after report lays bare the facts regarding the declining health of the world's oceans. The UN has recently provided its own testimony of the unparalleled rate of extinction of the world's biodiversity, warning of alarming implications for human health, prosperity and long-term survival.⁸¹ However the narrow agenda of a handful of people appears to be driving our planet's oceans even faster to the brink. Gilded in a veneer of public relations spin paying lip service to environmental concern, international and Pacific regulatory processes are being rushed to cater to their interests.

The seabed of the world's vast oceans represents the common heritage of humankind. Yet, where is the public debate about this unprecedented industry? An industry set to send machines to the ocean floor to plunder minerals – and to disturb fragile marine ecologies in ways we do not yet understand.

This unseemly haste to exploit the seabed of the Pacific Ocean must be halted before it is too late. A moratorium of at least 20 years must be imposed on the development of seabed mining regulations and the issuing of licences for exploration and exploitation in national and international waters. There must be robust, wide ranging debate and transparent participatory decision-making processes. Decisions that will affect the citizenry of the Pacific islands, and in fact the entire planet, must cease to be made by a small number of individuals with narrow interests behind closed doors.

And decisions must be based on independently scrutinised scientific data about the deep sea and the impacts of DSM. They must also be informed by rigorous analysis of minerals that can be supplied from **truly responsible** sources - such as the vast stockpiles of electronic and other wastes dumped by the first world onto the third - and on the potential to move towards systems of manufacturing based on circular economies.⁸²

While looking increasingly grim, the future of our oceans is not yet written; but much depends on decisions being made right now.

A key question remains: Why the rush?



“This [ISA] workshop is peddling deep sea mining to our governments but who will benefit? If mining was the panacea to the economic issues of the Pacific, we’d have solved all our problems long ago. Instead the environmental and social impacts of mining have made our peoples poorer.”

Emele Duituturaga, Executive Director,
Pacific Islands Association of Non-Governmental Organisations (PIANGO)

'PIANGO Calls for Pacific Island Seabed Mining Ban', *Subsea World News*, 19 February 2019
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