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*The Pacific environment, sustaining our livelihoods and natural heritage*

## Twenty Sixth SPREP Meeting of Officials

Apia, Samoa  
22<sup>nd</sup> – 24<sup>th</sup> September 2015

### **Agenda Item 10.4.4: Deep Sea Mining (DSM) – the role of SPREP**

#### **Purpose**

1. To seek guidance on and the endorsement of SPREP's role in assisting members to address the environmental aspects of DSM.

#### **Background**

2. Deep sea minerals prospecting commenced in the Pacific region in the early 1970s with the formation of the Pacific Islands Applied Geoscience Commission (now SPC Geoscience Division). Deep sea mineral deposits, or indications of deposits, have been identified within the exclusive economic zones (EEZs) of most SPREP Member states, with three deposit types: seafloor massive sulphides (SMS), manganese nodules (MN) and cobalt-rich crusts (CRC). The jurisdictional issues associated with DSM are at the national level when carried out within EEZs and when carried out in Areas Beyond National Jurisdiction (ABNJ) or International Waters the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) are applied through the International Seabed Authority (ISA). The majority of SPREP Members are parties to UNCLOS. In addition there is Flag and Port State control provisions that regulate ship-based activities related to DSM which fall under UNCLOS and the International Maritime Organisation (IMO) related conventions

3. Since 2011, the Secretariat of the Pacific Community (SPC) - European Union (EU) Deep Sea Minerals Project (SPC-EU DSM Project) has made significant advances with respect to increasing Pacific island countries and territories' (PICTs) knowledge of their deep sea mineral resources; supporting the development of national policies and laws; building technical capacity through training workshops covering geological, technological, legal, environmental, social and financial aspects of deep sea mining; and increasing public awareness of and participation in deep sea mining discussions. SPREP has received no funding through the SPC-EU DSM Project but has, nevertheless, cooperated with SPC in a number of project events and activities

4. Growing regional interest in deep sea mining is evident through: the granting of more than 300 exploration licenses within the EEZs of some Pacific island countries; the passing of specific laws for deep sea mining in the Cook Islands, Fiji, Tonga and Tuvalu; public consultation on deep sea mining policies and/or draft legislation in Kiribati, Vanuatu and the Marshall Islands; Cook Islands and Tonga identifying deep sea minerals as one of their national development priorities in the 2014 Palau Declaration. DSM is also being carried out in ABNJ with Kiribati, Nauru and Tonga entering into 15 year contracts with the International Seabed Authority (ISA) for deep sea minerals exploration in the Clarion-Clipperton Fracture Zone.

5. In 2011 Papua New Guinea became the first country in the world to issue a mining licence within its EEZ. The licence was issued to Nautilus Minerals Ltd for its Solwara 1 project to mine SMS deposits. Nautilus Minerals Ltd is expected to commence mining within the next few years, using technology adapted from the offshore oil and gas industry.

6. DSM potentially threatens deep sea biodiversity and broader marine ecosystem health and function. Development of DSM is a three stage process: (1) prospecting; (2) exploration; and (3) mining (or extraction). Prospecting typically involves the use of remote sensing technology and the collection of a few seafloor samples. Exploration involves seafloor mapping, seafloor and water sampling, and may also involve drilling, dredging and test mining. Mining will involve damage to and/or complete removal of deposits and their associated habitat and fauna; introduction of noise, vibration and lighting to the deep sea environment; generation of sediment plumes that are likely to affect fauna at and beyond the mining site; generation of a returned seawater plume that may have different characteristics to surrounding seawater (e.g. temperature, dissolved minerals, salinity, suspended sediment); generation of overburden/waste rock and tailings; and production of lighting, noise, vibrations and discharges from mining vessels (e.g. ballast water, treated sewage, grey water, food waste, highly salinated water from desalination plants, atmospheric discharges).

#### **SPREP's Role in DSM**

7. SPREP's mandate is to assist Members to effectively conserve and protect the Pacific island regions' environment through effective national and regional environmental governance. At the national level this is done by strengthening legal instruments, policies and procedures including environmental safeguards while at the regional level this includes facilitating Members becoming parties to and implementing national obligations under relevant Multilateral Environment Agreements (MEAs). SPREP is Secretariat to the Noumea Convention and its associated Protocols, the Dumping Protocol and the Emergencies Protocol, which apply to Parties' EEZs and to areas of the high seas beyond national jurisdiction that are completely enclosed by these EEZs. Three areas of SPREP's Strategic Plan 2011-2015 are also particularly relevant to deep sea mining: (1) biodiversity and ecosystem management; (2) waste management and pollution control; and (3) environmental monitoring and governance.

8. To date, the Secretariat's involvement with deep sea mining has been unfunded and thus on an *ad hoc* basis but has included:

- a. development of an information paper titled, *Understanding and Applying the Precautionary Principle to Deep Sea Minerals Mining in the Pacific Islands Region: A Socio-cultural and Legal Approach*;
- b. making significant contributions to various SPC-EU DSM Project activities;
- c. preparation of a submission to the International Seabed Authority on the draft document, *Developing a Regulatory Framework for Mineral Exploitation in the Area*;

- d. participation in DSM-related discussions during the May 2015 Pacific Ocean Alliance Meeting, *High Hopes for High Seas*; and
- e. engagement with the Deep Sea Mining Transparency Group.

9. It is important for SPREP to formalise its role with respect to DSM so that the Secretariat can provide effective support for Members to enable them to strengthen their national environmental governance to enable effective management of deep sea mining. Key areas of SPREP's role are outlined below:

- i. Integrated Ocean Management – SPREP promotes an integrated ocean management approach that facilitates marine spatial planning for multiple use and sustainable development of marine resources, and biodiversity conservation and social-ecological resilience, especially in the face of climate change. The Pacific Oceanscape Framework, the opening of the Office of the Pacific Ocean's Commissioner and the launching of the Pacific Ocean Alliance provide the regional framework for this. A number of Members are starting to establish national frameworks to apply this approach within national jurisdictions. Within available resources, SPREP supports regional efforts and provide guidance and support for these national efforts.
- ii. Effective engagement with and implementation of MEAs - DSM planning, assessment and decision-making processes must meet obligations under international and regional MEAs and associated policy frameworks, to which SPREP Members are a party. SPREP will assist members to effectively engage and implement MEAs<sup>1</sup>.
- iii. Applying the Precautionary Approach - There remain many uncertainties regarding DSM's potential adverse impacts on deep sea ecosystems; the types of impact mitigation strategies that are likely to be effective; the availability of suitable mining technologies; the commercial viability of deep sea mining activities; and whether mining proponents will be able to secure a 'social licence to operate'. Given these uncertainties, there is strong justification for applying the precautionary approach across planning, assessment and decision-making processes for deep sea mining. Application of the precautionary approach should involve practical measures to protect the marine environment and the people who value it as part of their culture, livelihoods and existence and reflect levels of uncertainty and possibility for harm, as determined by a participatory process. SPREP's role is to assist members to apply the precautionary approach when undertaking DSM
- iv. Strengthening Environmental Impact Assessment (EIA) - Due to the complexities and potential adverse ramifications surrounding DSM, all project proposals must be subject to an effective environmental impact assessment (EIA) process that is objective and transparent; that provides clear protocols for government, proponents and stakeholders to follow; and that is based on the best information and analyses available. Marine spatial planning (MSP) can also be important tools

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<sup>1</sup> Those of particular relevance are those MEAs and frameworks that place a duty on signatories to protect and preserve the marine environment; prevent, reduce and control marine pollution; undertake sound environmental management; assess the effects of development activities on the environment; apply the precautionary principle; and promote public participation in decision-making. Important international MEAs include the United Nations Convention on the Law of the Sea, Rio Declaration on the Environment and Development; Agenda 21; Convention on Biological Diversity; Convention on the Conservation of Migratory Species of Wild Animals; the International Maritime Organisation Conventions; and SIDS Accelerated Modalities of Action (SAMOA) Pathway. Important regional MEAs and frameworks include the Noumea Convention; Pacific Islands Regional Ocean Policy; Framework for a Pacific Oceanscape; and the Pacific Ocean Pollution Prevention Programme.

for higher-level environmental planning, assessment and management by establishing the over-arching context for project-level EIA pinpointing locations where deep sea mining is/is not permissible; stipulating desired types and characteristics of developments; and identifying broad environmental management and marine protection measures that need to be followed. The bulk of SPREP's ongoing DSM support to countries is the ongoing strengthening of EIA frameworks, its implementation and the building of capacity to manage the EIA process including monitoring and reporting.

- v. Biodiversity Conservation and Protection of the Environment - Scientific research has found deep sea environments to be rich in fauna, home to a variety of novel habitats, spatially variable on fine scales, seasonally variable in some regions, and containing some of the most intact biological communities on earth. Notwithstanding what is known about the deep sea, the ecosystems targeted for mining are generally poorly understood, especially in comparison to terrestrial ecosystems and in terms of the biological importance of their constituent species and their linkages with coastal or pelagic ecosystems. SPREP should work with Members to ensure biodiversity protection and maintenance of ecosystem health and function.
- vi. Environmental Data Management - DSM environmental investigations provide novel scientific research opportunities that may lead to the identification of new species, biologically-significant habitats and species, and potentially valuable genetic resources. Data collection, analysis, presentation and management associated with deep sea prospecting, exploration, mining and research must be scientifically rigorous and should further our understanding of the values and significance of deep sea organisms and habitats, of the likely impacts of deep sea mining, and of the steps that need to be taken for effective management of exploitation activities. All non-proprietary deep sea data collected by mining companies and research institutions should be freely shared to increase the knowledge base of Pacific island countries, to support effective environmental planning, assessment and decision-making processes, and to help avoid and reduce future resource management conflicts. SPREP has established a regional environmental database that can be a repository of this data and has a programme to assist Members to establish national environmental databases.

### **Financial Considerations**

10. The SPREP role for DSM will need to be funded and it is considered that donors and partners should consider assisting SPREP's work in this area. SPREP's role also needs to be reviewed periodically, as knowledge of deep sea environments increases; exploration and mining technology advances; the potential impacts of deep sea mining are better understood; and activities progress from prospecting and exploration to commercial extraction of mineral resources. Further guidance on the role of Members and the Secretariat is in Attachment 1.

11. The Secretariat will require additional partnerships and resources to effectively support Members in managing DSM, particularly over the long-term. It is proposed that SPREP will integrate this role within its new Strategic Plan, will establish new partnerships and formulate project proposals to facilitate implementation of its agreed support activities.

## Recommendations

12. The Meeting is invited to:

- **consider and endorse** the role of the SPREP Secretariat in supporting Members to manage DSM;
- **encourage** donors and partners to support SPREP's work on the environmental impact of DSM;
- **direct** the Secretariat to establish partnerships and seek additional resources to fulfill this role;
- **note** the guidance contained in Attachment 1.

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31 June 2015