**Deep-Ocean Stewardship Interventions during the 24th Session of the International Seabed Authority, Jamaica, July 2018**

**1st Intervention July 16 (Presented by Lisa Levin)**

On behalf of the Deep Ocean Stewardship Initiative I thank Professor Roth for a highly informative presentation on the financial benefits of deep seabed mining for polymetallic nodules. We encourage the Council to request that environmental costs, such as for impact assessment, monitoring and remediation, as well as the value of environmental damage from lost ecosystem functions and services, be incorporated into the model calculations.  Critical ecosystem services that could be impaired by mining include the sequestration of carbon, regeneration of nutrients that permit ocean productivity, fisheries, and biodiversity that has possible biomedical benefits. These are of value to all humankind *and the damage costs should not be borne by society.* Are you or the ISA prepared to include the environmental costs in the financial model? The deep-ocean stewardship initiative represents 600 deep sea scientist, economists, and policy makers from 45 countries that can bring expertise to this issue and stands ready to help the ISA and the MIT group. We will be presenting some of this information this Wed. morning at a breakfast side event at 8:45 am.

Finally, Thank you to  Panama and Tonga for recognizing the importance of addressing environmental costs.

**2nd Intervention July 17 (Presented by Anna Metaxas)**

The Deep Ocean Stewardship Initiative would like to applaud the ISA for incorporating within its fundamental principles the Protection and conservation of the Marine Environment (under Draft Regulation 2 , paragraph 5) and including biological diversity and ecological integrity, the precautionary principle/approach, ecosystem-based approaches, and access to data and information.  We encourage the Authority to formulate these as a set of overarching Environmental Goals and Objectives that can be applied uniformly over the Area, independent of targeted resources and regions. Such goals, based on scientific principles, are needed for the creation of operational definitions, indicators of of and thresholds for harmful effects, serious harm and significant adverse change caused by seabed mining all mentioned later in the Regulations and by many member states earlier today.

**3rd Intervention July 17 (Presented by Adrian Glover)**

Thank you Mr President.

Firstly, the Deep Ocean Stewardship would like to support the Bangladesh, Chile, Mexico, Belgium, Netherlands, German and other subsequent member states proposals to strengthen the inclusion of scientific expertise with regard to the development of REMPs, developing standard environmental guidelines and objectives, and throughout the revisions of the exploitation regulations and beyond. It is important to recognize that many of the environmental issues cannot be dealt with by one or a few scientists. Scientific networks such as DOSI, INDEEP, DSBS and DOOS can offer much-needed scientific expertise by drawing on a community of over 1000 scientists. A broad range of expertise is needed and will help the ISA - e.g. taxonomists, ecologists, geneticists, oceanographers. This may be further facilitated, we believe, by an Environmental Committee to coordinate the scientific input and ensure that it is communicated and implemented efficiently and effectively.

Additionally, with respect to draft regulation 3, the Deep Ocean Stewardship Initiative recognizes the efforts by the LTC to improve the communication of scientific data. We would like to recommend to the Council that, with regard to the difficult question of the value of deep-sea biodiversity, very nicely raised by colleagues at the Pew Trust, the draft regulations are modified to encourage the open communication of new deep-sea discoveries to the general public. Regulators, contractors and the scientific community have not done enough in this arena unfortunately. In particular, key to the engagement of the public is knowledge of the actual animals that live in the deep ocean, their mysteries and the remarkable fact that most of them have never been seen by anyone before. The recent BBC documentary Blue Planet II, based mainly on the wonders of ocean natural history, will likely reach over 1 billion people worldwide and is a great example of effective science communication. Without knowledge of, and public inspiration, about the animals that live in the deep sea, there will be little will to understand, manage or conserve it.

*To this end, I would propose an addition to DR 3(d)*

*Another item:*

*(iii) promote the dissemination of scientific information and data on matters relevant to the Area and its resources*

**4th Intervention July 17 (Presented by Diva Amon)**

Thank you Mr. President.

The Deep Ocean Stewardship Initiative supports the statements by Germany and Australia, regarding the need for the refinement of environmental requirements through qualitative and normative provisions (that is the explicit mention of threshold values for harmful effects in the regulations), REMPs as a prerequisite for awarding exploitation contracts, and a harmonized process to develop these plans.

Additionally, DOSI wishes to comment on DR49 ‘Compliance with the Environmental Management and Monitoring Plan’. With regard to DR49a “A Contractor shall monitor and report on the Environmental Effects of its activities on the Marine Environment, and manage all such effects as an integral part of its Exploitation activities”, DOSI believes that this process has to be underpinned by the availability of comprehensive baseline data, for example, from the exploration contract baseline studies in the regions and contract areas in question. DOSI would like to reiterate that our current scientific knowledge of the deep ocean environment is extraordinarily limited. Accurately defining the impacts of mining on the benthic and midwater environments, as well as what qualifies as harmful, will only be possible with sound scientific knowledge, robust criteria for defining effective protection, and global overarching strategic environmental goals and objectives. These need to be accompanied by targets and performance indicators.

**Written intervention July 18**

DOSI would like to point out the following, relevant to Part VI DR 57 (2f), which refers to restoration commitments. While experiments are still being planned to gain further evidence from next year, current scientific evidence does not suggest that restoration of deep-sea environments following mining is likely to be feasible in the short or even long-term. The slow growth and longevity of organisms, and altered substrates and geochemistry following mining, contribute to this conclusion.  Given the lack of scientific experiments in the deep sea, it is impossible to put absolute numbers on restoration times or costs. Additionally, results from experiments being planned on small scales would need to be scaled-up to be applicable to areas the size of impact areas from mining. This has yet to be done successfully for coastal systems (e.g. wetlands and coral reefs) where restoration has been ongoing for decades. Scientific studies of larval supply, hard-substrate colonisation and recruitment are likely to inform this debate scientifically and are highly valuable, but given the comments, we feel it is useful to point out to Council that current best scientific evidence is not supportive of proposed restoration plans.