NGO Perspectives on the Regulation of Deep-Sea Mining

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• Agreed priority issue areas for drafting mining regulations over next 12-18 months – incl requirements for EIAs, EMPs, SEMPs + ‘zero’ draft, financing, adaptive management, liability, data management and serious harm
• Review of the working methods of the ISA (to be completed in 2017)
• Review of CCZ Regional EMP, welcomes SEMP initiative in the Atlantic (and other regions)
• Draft stakeholder consultation strategy
• Challenges in decision-making and in monitoring/enforcing compliance by contractors
NGO recommendations/input to ISA stakeholder consultations

- Precautionary and ecosystem approach
- Clear & robust conservation objectives
- Strategic/Regional Environmental Assessments and Plans prior to exploitation
- Periodic review of SEMP/cumulative impact assessments (every 5 years? Siting mining, preservation reference zones etc)
- Prior EIAs:
  - comprehensive baseline information (whole claim/bioregion)
  - independent scientific review
  - publically available
- Feedback loop between EIAs and SEMP/cumulative impact assessments and information generated while monitoring mining
SIAs/EIAs

• How do you determine the risk of significant adverse change? Acceptable level of risk?
• Over what time scales? Biogeographic scales?
• What are the metrics, proxies, or quantifiable indicators of risk?
• What and how much baseline information is necessary prior to mining to be able to assess the risk?
• What can and should an EIA determine or demonstrate? To what degree of certainty?
• How much precaution needs to be built into the management system based on what we don’t know?
• What impacts does ‘test’ mining need to assess, how, and what procedures/timeframe needed to evaluate results?
Clarion Clipperton Zone

Polymetallic Nodules Exploration Areas in the Clarion-Clipperton Fracture Zone
Areas under contract and areas reserved for the International Seabed Authority

Contract area or contract approved as of 28 February 2013
- Marawa Research and Exploration Ltd (Kiribati)
- Bundesanstalt für Geowissenschaften und Rohstoffe (BGR; Germany)
- China Ocean Mineral Resources Research and Development Association (COMRA; China)
- Deep Ocean Resources Development Company (DORD; Japan)
- G-TEC Minerals Resources NV (GSR; Belgium)
- Government of the Republic of Korea

Reserved area*  Area of particular environmental interest (APEI)**  Exclusive Economic Zones (VLIZ, 2011)

* In the case of polymetallic nodules, the so-called parallel system provides that each application for exploration by a developed State must cover two parts of “equal estimated commercial value”.
One part is allocated to the applicant and the other is to become the reserved area, which is set aside for the conduct of activities by the Authority or developing States.

** In July 2012, the Authority adopted an environmental management plan for the Clarion-Clipperton Zone to be implemented on a provisional basis over an initial three-year period. The plan includes the designation of a network of areas of particular environmental interest (ISBA/18/C/22).
Restoration/Remediation

- Is it possible?
- If not, what then?
- How much irremediable/irreversible damage is acceptable?
- Over what time scales?
- Can this be measured/quantified?
- What are the metrics/quantifiable indicators?
- What and how much baseline information is necessary to be able to do so?
- Precaution and the unknowns?
Possible Structure of regulatory regime

• Clear conservation objectives (ecological and social values)
• Sufficient baseline information at appropriate bioregional scales
• Environmental and strategic environmental impact assessments to assess potential impacts against conservation objectives/obligations
• Regional/Strategic Environment Management Plans (SEMPs)
• Active feedback between site/claim EIAs and environment management plans and SEMPs
• 50-100 year plans: collecting baseline information, SEMP, EIA and review of EIA, test mining, evaluation, commercial mining, post mining monitoring
NGO recommendations/input to ISA stakeholder consultations

• access to information, public participation, and transparent review procedures
• transparent and effective monitoring, control and enforcement procedures (IUU mining?)
• polluter pays principle
• liability fund
• sustainability fund
United Nations resolutions on managing the impacts of deep-sea fisheries in ABNJ
implementation by regional fisheries treaty orgs
The Anthropocene

• “Clearly we are in the midst of one of the great extinction spasms of geological history” E.O. Wilson, The Diversity of Life

• “We know that seamounts support large pools of undiscovered species, but we cannot yet predict what is on the unstudied ones. The tragedy is that we may never know how many species become extinct before they are even identified” Dr. Frederick Grassle, Rutgers University
Growing social awareness of human impacts on a planetary scale
The deep-sea is one of the largest reservoirs of biodiversity on the planet.
The Megafaunal Mass Extinction
(the global spread of Homo sapien hunter-gatherers)

“a geologically instantaneous ecological catastrophe that was too gradual to be perceived by the people who unleashed it”

John Alroy - A Multispecies Overkill Simulation of the End-Pleistocene Megafaunal Mass Extinction
SCIENCE VOL 292 8 JUNE 2001
Policy developments since the Pleistocene

“The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures”

(UNFSA Art 6.2/Rio Principle 15)

In other words, ignorance is no longer an excuse under international law
Conservation objectives

21st Century

DSM impacts in CCZ may risk being ecologically irreversible and/or no reasonable possibility for recovery

Can extinction be justified if the activity cannot be demonstrated to be necessary to society and other less harmful options for providing the materials or service have not been effectively explored?

Go/no go DSM a social choice – across many levels of society: companies, investors, consumers, regulators, conservationists
The regulatory processes adopted over the next few years may well represent our generation’s collective choices regarding the fate of deep-sea species and ecosystems potentially for many years to come.

Decisions we take today may have long-lasting impacts, one way or another. What choices will we make? We have a responsibility to future generations...
Obrigado!
And thanks to the Adessium Foundation, Synchronicity Earth, Oceans5, Pew Charitable Trusts, DSCC member organizations and the many scientists working on deep-sea fisheries and biology
ISA Exploration Regulations Nodules (Crusts/SMS)

- Regulation 2.3 (nodules) “Prospecting shall not be undertaken in an area ... which the Council has disapproved for exploitation because of the risk of serious harm to the marine environment”

- Regulation 1(f) “Serious harm to the marine environment” means any effect...which represents a significant adverse change in the marine environment”

- Regulation 31.4 “implement procedures for determining...whether proposed exploration activities in the Area would have serious harmful effects on vulnerable marine ecosystems and ensure that...those activities are managed to prevent such effects or not authorized to proceed.”