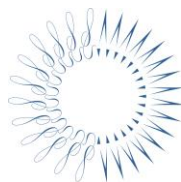


# WORKSHOP ON THE DESIGN OF “*IMPACT REFERENCE ZONES*” AND “*PRESERVATION REFERENCE ZONES*” IN DEEP-SEA MINING CONTRACT AREAS

Organized by the International Seabed Authority;  
supported by the Pew Charitable Trusts and the International Marine Minerals Society

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**27 to 29 September 2017**



THE  
**PEW**  
CHARITABLE TRUSTS



# The origin of the workshop:

- **The ‘Environmental Management Plan for the Clarion-Clipperton Zone’ of 2011 (ISBA/17/LTC/7; para. 50) states:**  
“The Secretariat will host a workshop including contractor representatives and expert consultants. The objective of the workshop will be **to develop specific guidelines for the contractors to use in the establishment of impact and preservation reference zones.**”
- **The ‘Decision of the Council of the International Seabed Authority relating to the summary report of the Chair of the Legal and Technical Commission ’ of last year (ISBA/22/C/28; para. 10) states:**  
“... and to consider holding a workshop on impact reference zones and preservation reference zones, and encourages the secretariat to work closely with the Commission to determine suitable timing for those workshops and to ensure the broadest participation of all concerned States Parties”

# This workshop has:

- **Over 50 participants (half representatives of contractors and half of IGOs, NGOs and member states)**
- **A full program with 3 days from 9am to 6pm dealing with 3 very different resource types/ ecosystems**
- **A clear goal and a roadmap how to get there (as outlined in a moment)**
- **An excellent group of 9 invited legal and environmental experts for different aspects of area-based management tools**

[The Secretariat has attempted to bring the best available expertise for all three minerals/ecosystems to this workshop.]

# What are Reference Zones for Impacts and for Preservation (IRZ and PRZ)?

- **There are legal requirements [see also presentation by Laleta Davis Mattis]**
- **Form needs to follow function (for best layout and most effective use)**
- **BACI (before – after – control – impact) design?**
- **Many open design questions:  
Location? Size? Number? Duration? Environmental Representativeness? ...**
- **Many open monitoring questions:  
Standardization? Duration? Statistical Robustness? ...**

09.00 – 09.20	Welcome to participants and layout of the workshop <a href="#">Stefan Bräger</a>
09.20 – 09.40	ISA regimes for deep-sea mining <a href="#">Sandor Mulsow</a>
09.40 – 10.00	Historical and legal background of IRZ and PRZ <a href="#">Laleta Davis Mattis</a>
10.00 – 10.20	Species composition and taxonomy: Critical knowledge in considerations of IRZs and PRZs <a href="#">Judith Gobin</a>

10.20 – 11.00 COFFEE BREAK

11.00 – 11.20 Welcome of the Secretary-General of ISA  
[Michael Lodge](#)

11.20 – 11.40 Ecosystem characteristics of abyssal nodule areas, especially in the CCZ  
[Craig Smith](#)

11.40 – 12.00 Characteristics of vent ecosystems relevant to reference zone design  
[Anna Metaxas](#)

12.00 – 12.20 Cobalt-rich crusts: ecosystem characteristics of seamounts relevant to zone design  
[Malcolm Clark](#)

12.20 – 12.40 Potential impacts of mining on deep-sea benthic habitats with a special focus on abyssal nodule habitats  
[Andrew Sweetman](#)

12.40 – 13.00 Biogeographic remarks and spatial scales  
[Andrey Gebruk](#)

## Roadmap

Background information on:

- the workshop,
- ISA contract areas,
- IRZ and PRZ, and
- the environmental complexity

Background information on:

- the 3 minerals / ecosystems,
- potential mining impacts,
- biogeography+connectivity of impacted species, and
- marine spatial planning

13.00 – 14.00	LUNCH
14.00 – 14.20	Connectivity using DNA – the basics <a href="#">Greg Rouse</a>
14.20 – 14.40	A systematic and adaptable design for conservation of mid-ocean ridges in the context of deep-sea mining <a href="#">Daniel Dunn</a>

14.40 – 15.00	Zoning experiences from Solwara-1 <a href="#">Samantha Smith</a>
15.00 – 15.20	Zoning experiences from New Zealand: some selected aspects of design and monitoring of deep-sea sites <a href="#">Malcolm Clark</a>
15.20 – 16.00	COFFEE BREAK
16.00 – 16.20	Status of the designation of PRZ and IRZ in DORD's license area in the CCZ <a href="#">DORD Co., Japan</a>
16.20 – 16.40	Contractor's experiences with PMN reference zones <a href="#">Republic of Korea</a>
16.40 – 17.00	Contractor's experiences with PMN reference zones <a href="#">BGR, Germany</a>
17.00 – 17.20	Contractor's experiences with PMN reference zones <a href="#">COMRA, China</a>

17.20 – 18.00      General principles for IRZ and PRZ  
[40 min plenary discussion](#)

Previous experiences with:

- Deep-sea zoning in EEZ mining projects, and by
- ISA contractors for poly-manganese nodules in the Clarion-Clipperton Fracture Zone

Group photo!

09.00 – 09.20 Summary of Day 1 – General principles for IRZ and PRZ and introduction of the rotating working groups

[Amber Cobley](#)

09.20 – 10.00 WORKING GROUPS – ROUND 1: Three parallel working groups on design questions by deep-sea mineral:

WG on Nodules: Design of IRZ and PRZ  
(chair: [Craig Smith](#); rapporteur: [Samantha Smith](#))

WG on Sulphides: Design of IRZ and PRZ  
(chair: [Anna Metaxas](#); rapporteur: [Amber Cobley](#))

WG on Crusts: Design of IRZ and PRZ  
(chair: [Malcolm Clark](#); rapporteur: [Stefan Bräger](#))

10.00 – 10.40 WORKING GROUPS – ROUND 2: Three parallel working groups design questions continue – group members rotate

10.40 – 11.20 COFFEE BREAK

11.20 – 12.00 WORKING GROUPS – ROUND 3: Three parallel working groups design questions continue – group members rotate

12.00 – 13.00 Design principles for IRZ and PRZ  
[60 min plenary discussion](#)

13.00 – 14.00 LUNCH

14.00 – 14.20 The issue of scarcity in the design and monitoring of IRZ+PRZ  
[Lenaick Menot](#)

14.20 – 14.40 Molecular methods for monitoring in IRZ+PRZ  
[Greg Rouse](#)

Starting point for the working groups

3x3 rotating working groups on Reference Zone **design** by mineral/ecosystem

Additional background information on scientific **monitoring**

14.40 – 15.20	WORKING GROUPS – ROUND 4: Three parallel working groups on <u>monitoring questions</u> by mineral
15.20 – 16.00	COFFEE BREAK
16.00 – 16.40	WORKING GROUPS – ROUND 5: Three parallel working groups <u>monitoring questions</u> continue – group members rotate
16.40 – 17.20	WORKING GROUPS – ROUND 6: Three parallel working groups <u>monitoring questions</u> continue – group members rotate
17.20 – 18.00	Monitoring principles for IRZ and PRZ 40 min plenary discussion

3x3 rotating working groups on Reference Zone **monitoring** by mineral/ecosystem



## DAY 3 – FRIDAY, 29 SEPTEMBER 2017

09.00 – 09.20 Summary of Day 2 – Design and monitoring principles for IRZ and PRZ  
[Stefan Bräger](#)

09.20 – 10.20 Three parallel working groups on draft recommendations by deep-sea mineral [60 min without rotation]

WG on Nodules: Draft recommendations for IRZ and PRZ  
(chair: [Annemiek Vink](#); rapporteur: [Samantha Smith](#))

WG on Sulphides: Draft recommendations for IRZ and PRZ  
(chair: [Laleta Davis Mattis](#); rapporteur: [Amber Cobley](#))

WG on Crusts: Draft recommendations for IRZ and PRZ  
(chair: [Andrey Gebruk](#); rapporteur: [Stefan Bräger](#))

10.20 – 11.00 COFFEE BREAK

11.00 – 11.20 Outcome of WG Nodules – Draft recommendations  
[Annemiek Vink](#)

11.20 – 11.40 Outcome of WG Sulphides – Draft recommendations  
[Laleta Davis Mattis](#)

11.40 – 12.00 Outcome of WG Crusts – Draft recommendations  
[Andrey Gebruk](#)

12.00 – 12.20 Experimental design in the deep-sea to answer basic deep-sea mining questions: an initial power analysis  
[Jeff Ardron, ComSec](#)

12.20 – 12.40 International law and policy perspectives  
[Kristina Gjerde, IUCN](#)

12.40 – 13.00 Stakeholder concerns about scientific developments  
[Matt Gianni, DSCC](#)

Starting point for working groups on draft recommendations

3 non-rotating working groups on draft recommendations by mineral/ecosystem

Outcome of the working groups: Draft recommendations by mineral/ecosystem

Observations by other stakeholders: Draft recommendations by mineral/ecosystem

13.00 – 14.00 LUNCH

14.00 – 14.20 Design recommendations of the workshop  
Stefan Bräger

14.20 – 15.20 Design recommendations for IRZ and PRZ  
60 min plenary discussion

15.20 – 16.00 COFFEE BREAK

16.00 – 16.20 Monitoring recommendations of the workshop  
Amber Cobley

16.20 – 17.20 Monitoring recommendations for IRZ and PRZ  
60 min plenary discussion

17.20 – 17.50 Summarizing the workshop recommendations  
Malcolm Clark

17.50 – 18.00 Closing remarks  
Sandor Mulsow

Summary and plenary discussion of **design** recommendations \*

Summary and plenary discussion of **monitoring** recommendations \*

Intended outcome:  
Agreed **workshop** recommendations

\* Ample time for plenary discussions is provided to capture all available expertise, since one can only participate in one working group (for one mineral/ecosystem) in the morning.

# Procedure:

- All presentation will last 15 minutes with an additional 5 minutes for clarifying questions.
- Substantive discussions follow at the end of each major block for everyone to have a say.
- All outcomes (agreed and not agreed) will be reported to the Legal & Technical Commission.
- Agreed recommendations, however, are likely to carry more weight with the LTC.
- Helpful ISA publications can be found online:  
<https://www.isa.org.jm/documents-resources/publications>