



Statement by  
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*The Ad-Hoc Open-ended Informal Working Group to  
study issues relating to the conservation and  
sustainable use of marine biological diversity  
beyond areas of national jurisdiction*

31 May to 3 June 2011

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Distinguished Co- Chairs, Excellences', honourable delegates, ladies and gentlemen,

At the outset I wish to congratulate Ambassador Palitha Kohona of Sri Lanka and Ms Liesbeth Lijnzaad of the Netherlands for their appointment as Co-Chairs for this, the 4<sup>th</sup> meeting of the Ad-Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. I also wish to thank the Co-Chairs for the opportunity that they have provided the International Seabed Authority to make a presentation on its activities in this regard, including marine scientific research.

Co-Chairs,

As you are well aware, "The Authority is the organization through which States Parties to the Convention, in accordance with Part XI of the convention, organize and control activities in the Area, particularly with a view to administering the resources of the Area." This is to be done in accordance with the regime for seabed mining established in Part XI and other provisions of the United Nations Convention on the Law of the Sea.

Co-Chairs,

Under articles 145 and 209 of the Convention, the Authority has the responsibility to establish international rules, regulations and procedures to prevent, reduce and control pollution of the marine environment from activities in the Area, and to protect and conserve the natural resources of the Area and prevent damage to the flora and fauna of the marine environment. The role of the Authority in this regard can be considered both complementary to and a critical element of wider global efforts aimed at the protection of marine biological diversity in areas beyond national jurisdiction.

I wish to start my presentation with an introduction to the Area, followed by a summary of the Authority's work in formulating and adopting regulations for the protection and conservation of the marine biological diversity associated with the three marine mineral resources on which, the Authority is currently focussed. These mineral resources are polymetallic nodules which occur in the abyssal plains, cobalt-rich ferromanganese crusts deposits that occur on seamounts in the Area, and polymetallic sulphides deposits that occur along the Mid-Ocean Ridge system.

### **The "Area"**

The first slide shows the approximate size of the Area which is over 50 per cent of the Earth's surface. Its size will only be fully ascertained when the work of the CLCS is completed.

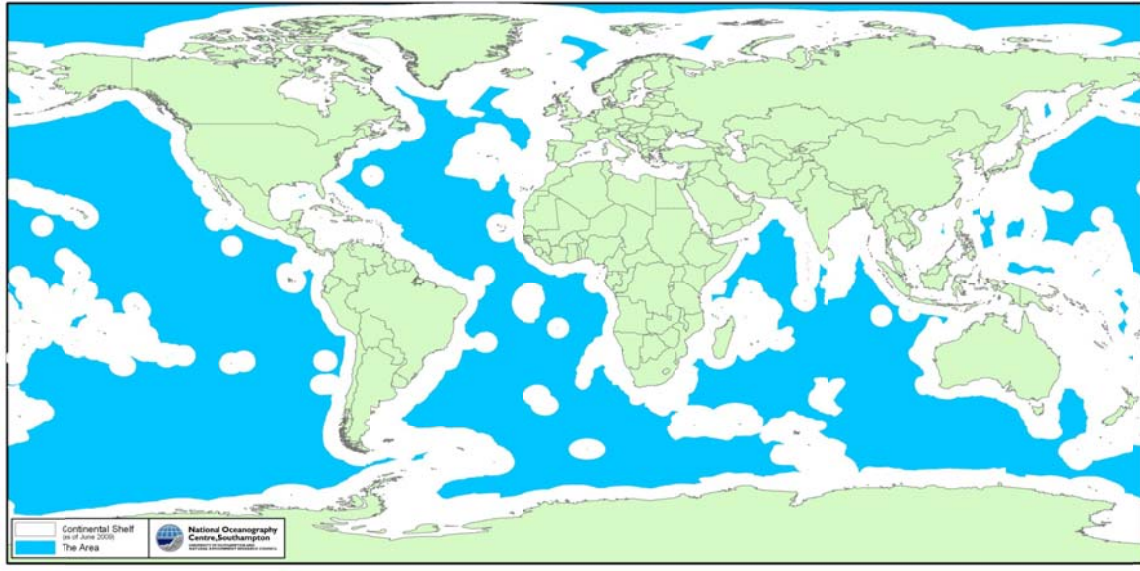


Figure 1: The Area (in blue)

### **Exploitation of the mineral resources of the Area**

Co-Chairs,

It is expected that for all three mineral resources, their exploitation will involve some form of gathering of the resource from the seafloor (nodules), or scrapping the surface of seamounts to collect the resource (cobalt-rich crusts) or digging the resource from the seabed (sulphides) before bringing them to the ocean surface and transporting them to shore. In all cases it is expected that plumes will be generated that would smother associated biodiversity. Therefore the main anthropogenic benthic impact on the environment in the Area is expected to originate from this activity.

To protect the biodiversity associated with each of the mineral resource types, in each case, biodiversity (or fauna) needs to be identified in a standardized manner, their gene flow in the mineral provinces in question determined, and their distribution in the different ocean provinces where the minerals occur need to be ascertained. Since the scientific knowledge, (in particular the characteristics noted above) and understanding of deep ocean biodiversity associated with the different mineral types is severely lacking, the efforts of the Authority since its establishment have been aimed at obtaining answers to these unknowns as well as a better understanding of this environment (including natural variability).

Co-Chairs,

The mineral resource that is most associated with the Convention is polymetallic nodules. Polymetallic nodules were the driver for Part XI of the Convention. At the time the Convention was being negotiated, the theory of plate tectonics, which led to the knowledge that other minerals could be found in marine areas was only just taking form.



Polymetallic nodules which were introduced to the debates in the UN General Assembly were the only marine minerals known to exist in the Area. Following years of prospecting campaigns, nodules were discovered in all oceans. However the main areas of commercial interest were identified to be the Clarion-Clipperton Fracture Zone (CCZ) in the Pacific Ocean and the Central Indian Ocean Basin (CIOB) in the Indian Ocean. The Authority has entered into exploration contracts with seven entities in the CCZ and one exploration contract in the CIOB. The second slide shows the CCZ, the seven contract areas and the reserved areas associated with them. The CCZ is 4.5 million square kilometres.

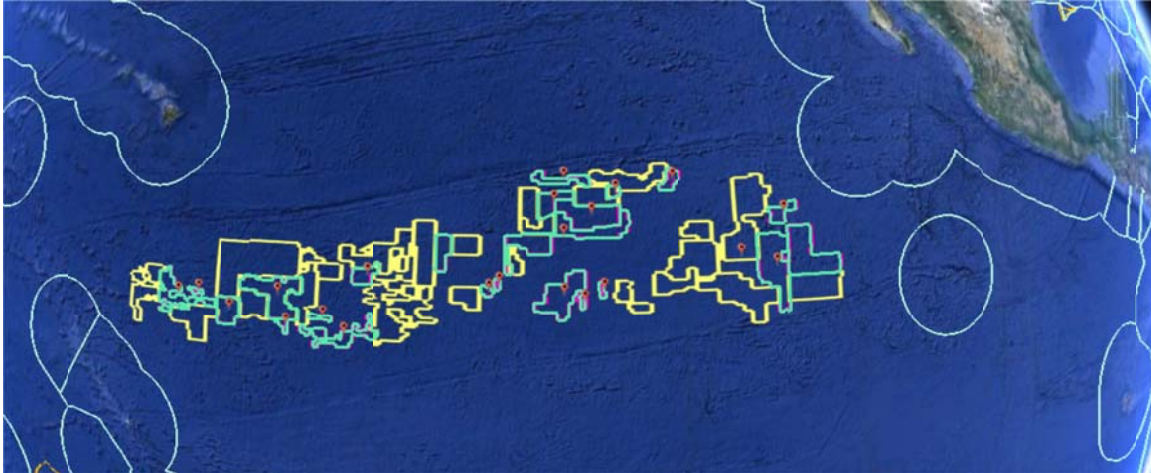


Figure 2: Contractor (green) and Reserved (yellow) areas in the Clarion--Clipperton fracture Zone.

Distinguished delegates,

Following the adoption of the exploration code for polymetallic nodules by the Authority in July 2000, the Authority embarked on an effort to provide guidelines to exploration contractors for environmental management. At a workshop convened for this purpose, the Authority discovered a variety of issues associated with the data and information on the biodiversity associated with the polymetallic nodule deposits in the CCZ and CIOB. These issues included, inter alia, the fact that the contractors had not used a standardized taxonomy to identify species in their exploration areas. In addition to the problem of not being able to compare the data and information provided by contractors, it also meant that there was also no information on gene flow and species distribution in the CCZ.

Co-Chairs,

Based on these findings, the Authority took advantage of article 143 of the Convention, and promoted and encouraged the conduct of marine scientific research with contractor scientists and independent scientists in a project called the ISA/Kaplan project in the CCZ.

The ISA/Kaplan project studied the levels of biodiversity, species ranges and rates of gene flow in the abyssal nodules province, in particular the Clarion-Clipperton fracture Zone. It involved some contractor scientists as well as berth space on contractor research vessels for the independent scientists working on the project. The project utilized new sampling efforts, specifically “DNA-friendly” sampling techniques, combined with molecular taxonomic studies to evaluate biodiversity levels, species ranges and gene flow across the CCZ. It compared morphologically based taxonomy with results from the new molecular studies, through collaborations among taxonomists working with major museum collections such as the Natural History Museum of London and the Smithsonian Institution and molecular geneticists.

Among its recommendations, the ISA/Kaplan project suggested the establishment of marine protected areas in the CCZ to help mitigate the impacts of mining in this geographic area.

Co-Chairs,

Following consideration of the ISA/Kaplan report and recommendations by the Legal and Technical Commission (LTC) of the Authority, the LTC requested the Secretariat to convene a workshop to ensure that the scientific basis for the recommendation to establish areas of particular environmental interest was acceptable, and to prepare a regional scale Environmental Management Plan (EMP) for the CCZ.

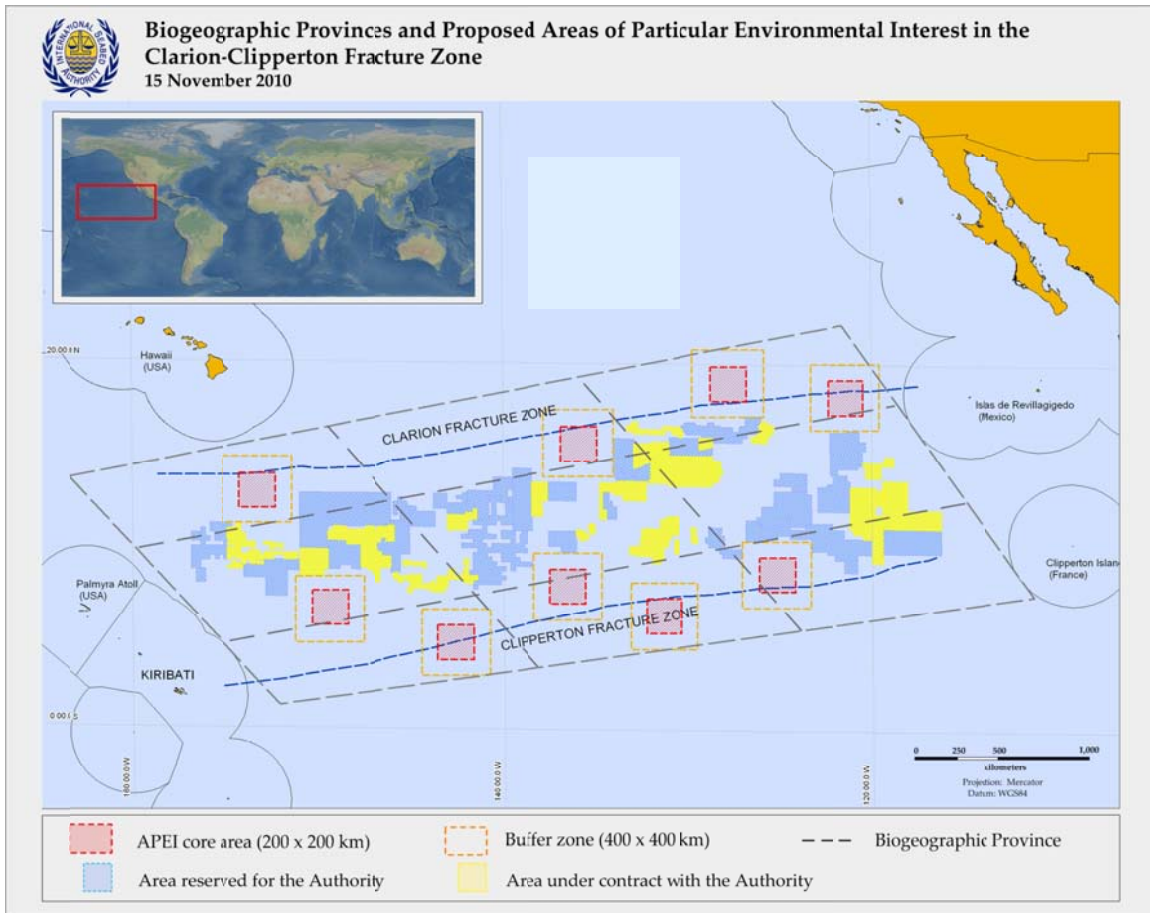
The workshop was held in November 2010. It included representatives of ISA contractors, experts, and relevant organizations, such as OSPAR, CBD, IUCN and WWF. The workshop produced a draft EMP for consideration by the LTC at the 17<sup>th</sup> session of the Authority.

Distinguished delegates, several guiding principles were used to develop the EMP. These were, inter alia, the Common heritage of mankind, the precautionary approach as contained in Principle 15 of the Rio Declaration, the relevant articles of the Convention that considers it the duty of all states to protect and preserve the marine environment, and to conserve and sustainably use marine biodiversity.

Other guiding principles included prior environmental impact assessment (The prior assessment of activities that may have significant adverse impacts on the environment), and transparency or public participation in environmental decision-making procedures.

Co-Chairs,

An integral part of the proposed regional EMP for the CCZ is a proposal to establish a network of nine Areas of Particular Environmental Interest (APEIs) covering ~1.5 million km<sup>2</sup> which is approximately one third of the area being managed (the CCZ). The third slide, figure 3 shows the areas of particular environmental interest in the CCZ.



**Figure 3: Locations of Areas of Particular Environmental Interest in the Clarion-Clipperton Zone.**

Co-Chairs,

For comparison, it is interesting to note that the largest high seas MPA that has been established is the Chagos marine reserve which is about 900,000km<sup>2</sup>. The draft EMP will be on the agenda of the LTC at the 17<sup>th</sup> session.

### **Cobalt-rich ferromanganese crusts deposits**

Co-Chairs,

Another marine mineral resource that has generated commercial interest and for which the Authority is formulating rules, regulations and procedures for exploration and subsequent exploitation are cobalt-rich ferromanganese crusts that occur on seamounts.

To protect the flora and fauna associated with this resource, the Authority convened a workshop in 2006 to ascertain the availability of data on associated biodiversity. The outcome of that workshop was the discovery that hardly any data had been collected from crusts bearing seamounts in the Area. Since without such data it would be virtually impossible to formulate plans to protect associated biodiversity, the Authority decided to enter into collaboration with CenSeam (Census of marine life on seamounts programme).

The ISA commissioned a study by CenSeam in an effort to answer the question whether fauna associated with cobalt-rich ferromanganese crusts differed from fauna on crust-free seamounts. The study was to help facilitate policy formulation for the relevant seamounts. If the fauna are the same, protecting sites which have no commercial interest would help to protect the identified communities. If fauna were different then some commercially viable sites may need to be set aside for the protection of associated biodiversity.

Co-Chairs,

The results of the study were published this year as ISA technical study No 8. The study suggests that faunal communities within areas of potential mining interest do not significantly differ from those areas that are not considered interesting for the mining of cobalt-rich ferromanganese crusts. The study also suggested that other factors such as depth played a stronger role in structuring communities. The study identified 967 species, of which 209 species were unique to cobalt-rich crusts deposits on seamounts.

A small working group of expert scientists met in Vancouver, Canada in May 2011 to review the results of the study, and it carried out additional analysis of the results of the study.

The working group concluded that more scientific research is needed.



## **Polymetallic sulphides deposits**

Distinguished delegates,

With regard to polymetallic sulphides deposits, the Authority entered into collaboration with ChEss (Chemosynthetic ecosystems group) in 2010 with a view to obtaining as much data and information on the biodiversity associated with areas of commercial interest at inactive vent sites. In 2010, a workshop was convened by ChEss in Dinard, France with the objective of formulating a general approach for the design of networks of areas for the protection of hydrothermal-vent and cold-seep ecosystems, and to outline research needs to assist the spatially based ecosystem management of human impacts in deep-sea chemosynthetic ecosystems. Although the workshop was not directly related to inactive sites, it served to highlight some of the elements that could be incorporated into an environmental management plan for areas of commercial interest for sulphides deposits at inactive vent sites

Co-Chairs,

It is proposed to make the recommendations of the Dinard workshop available to the LTC at the seventeenth session of the Authority.

Co-Chairs,

To summarize, the presentation, I wish to highlight the following:

1. The Area is more than 50% of the Earth's surface. It contains three mineral resources for which the Authority is formulating rules, regulations and procedures for their development. These are polymetallic sulphides, cobalt-rich ferromanganese crusts and polymetallic sulphides.
2. The main anthropogenic benthic impact will be from mining.
3. The ISA is the only international organization empowered to adopt rules, regulations and procedures to protect this environment.
4. The ISA is actively taking measures to promote and encourage MSR in the Area. In this regard some of the future research required will include:
  - (a) Collaborative studies on the natural variability of the deep-sea ecosystem, consisting of interdisciplinary variability studies of areas under contract, and unification and standardization of research and development methods;
  - (b) Cooperative biological research on the typical latitudinal and longitudinal ranges of benthic species associated with the different mineral provinces in the Area, the rate and



spatial scales of gene flow and the natural spatial and temporal patterns and scales of benthic community variability;

(c) Taxonomic coordination utilizing recognized experts to assist in the correct identification of animal fauna living on the deep seabed, for the purposes of establishing the geographical ranges of species and thus the likelihood of their extinction by a mining operation;

5. More research is required to obtain a better understanding of the environment of the Area, and
6. More support is required from states to facilitate the achievement of the required goals.

Co-Chairs, distinguished delegates, I wish to thank you for the opportunity to make this presentation.