CLIPPERTON ZONE
FOR THE CLARIION
MANAGEMENT PLAN
AN ENVIRONMENTAL
REGIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR THE
WORKSHOP FOR THE ESTABLISHMENT OF A
MAJOR TOPICS

- IPAAS
- IMPLICATIONS FOR MONITORING & MPAS
- ELEMENTS OF AN EMS REVIEW OF ENVIRONMENTAL RISKS
- INTEGRATION WITH OTHER REGIMES
- LEGAL & POLICY CONSIDERATIONS
- METHODOLOGY
- ISA ASSESSMENT & ADOPTED
ISA ASSESSMENT & METHODOLOGY

ADOPTED
ISA ASSIGNMENT

- Examine relevant legal & technical issues
- Suggest basic elements of an environmental management plan for the CCZ

Plan for the CCZ

Environmental Management

ISA ASSIGNMENT
ADOPTED METHODOLOGY

1. SUMMARIZE LEGAL & POLICY CONSIDERATIONS
2. DISCUSS INTEGRATION WITH OTHER REGIMES
3. REVIEW KNOWN ENVIRONMENTAL RISKS
4. USE ISO 14001 AS TEMPLATE FOR SUCCESSED ISA ENVIRONMENTAL MANAGEMENT SYSTEM
5. SUGGEST SPECIFIC APPROACH RELATED TO MONITORING & MARINE PROTECTED AREAS
LEGAL & POLICY

WORKSHOP FOR THE ESTABLISHMENT OF A REGIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR THE CLARION-CLIPPERTON ZONE

CONSIDERATIONS

LEGAL & POLICY
INTERNATIONAL LAW AND POLICY FRAMEWORK

- 1982 UN Convention on the Law of the Sea (LOSC)
- Sector – IAMS Code
- Self Regulation by the Deep Seabed Mining
- International Environmental Law Instruments
- International Seabed Authority (ISA) Instruments
- Self-Policy Documents and Policy Documents
- International Environmental Law Instruments (LOSC)
- 1982 UN Convention on the Law of the Sea

- States Parties have a general obligation to protect and preserve the marine environment (Art. 192).
  - Prevent and reduce and control pollution of the marine environment from any source including the use of technologies under their jurisdiction or control (Arts. 194 and 196);
  - Assess the potential effects of activities under States Parties jurisdiction or control which may cause substantial pollution of or significant and harmful changes to the marine environment (Art. 204);
  - Monitor the risks or effects of pollution on the marine environment (Art. 206);
  - Protect and preserve rare and endangered species and other forms of marine life (Art. 194(5));
  - Protect and preserve rare and fragile ecosystems as well as the habitat of rare and endangered species under their jurisdiction or control (Arts. 194 and 196);

This general obligation encompasses responsibilities to:

- Prevent, reduce and control pollution of the marine environment (Art. 192);
- Preserve the marine environment (Art. 192).

States Parties have a general obligation to protect and preserve the marine environment and ecosystems.
ISA is responsible for administering the mineral resources of the Area including prospecting, exploration and exploitation activities for these resources of the Area including prospecting, (Art 157(1))

ISA is charged with taking the necessary measures to ensure effective protection for the marine environment from the harmful effects which may arise from such activities (Art 145)

1982 UN Convention on the Law of the Sea (LOSC)
The ISA must adopt appropriate rules, regulations and procedures to:

– Prevent reduce and control pollution and other hazards to the marine environment that have the potential to interfere with the ecological balance of the marine environment;

– Protect and conserve the natural resources of the Area, preventing damage to the flora and fauna of the marine environment (Art 145, Annex III Art 17)

The ISA must adopt appropriate rules, regulations and procedures to:

1982 UN Convention on the Law of the Sea (LOS)
LTC must:

- Formulate and submit to the ISA Council rules, regulations and procedures on prospecting exploration and exploitation in the Area including assessments of the environmental implications of these activities.
- Make recommendations to the Council on a monitoring programme to observe, measure, evaluate and analyse the risks or effects of pollution of the marine environment resulting from these activities.
- Ensure that existing regulations are adequate and complied with.
- Coordinate the implementation of the monitoring programme (Arts 165(e-h) and 215).

Responsibilities
Legal and Technical Commission (LTC)
Adequacy and Content of ISA Regulations

ISA regulations must:

1. Be drawn up to secure effective protection of the marine environment both from harmful effects directly resulting from activities in the Area or from shipboard processing and discharge into the marine environment of sediment, wastes or other effluents.

2. Take into account the extent to which such harmful effects may directly result from drilling, dredging, coring and excavation as well as from disposal, deriving from that mine site and processes immediately above a mine site of minerals resulting from activities in the area or from shipboard processing immediately above a mine site of minerals.

ISA regulations must:
Responsibilities of States Parties

- States Parties must adopt complementary laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations, structures and other devices flying their flag, under their registry or operating under their authority.
- These laws and regulations must be no less effective than the ISA rules, regulations and procedures.
- States Parties must adopt complementary laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels.
International Environmental Law Instruments and Policy Documents

- Precautionary approach
  - Where there are serious or irreversible threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a means for postponing cost-effective measures to prevent environmental degradation (Rio Declaration Principle 15)
- Duty to prevent harm to areas beyond national jurisdiction (Rio Declaration Principle 2)

2) National Jurisdiction (Rio Declaration Principle 15)
Agenda 21 Oceans Chapter

- Development of economic incentives to encourage the use of clean technologies such as the polluter pays principle
- Development of policies to consider marine environmental and social development considerations into economic and social development and the integration of marine environmental protection
- Prior assessment of activities that may have significant adverse impacts on the marine environment
- Application of preventive precautionary approaches to reduce risk of harm to marine environment

International Environmental Law Instruments

Policy Documents
The 1992 Convention on Biological Diversity (CBD) and its Conference of Parties (COP) have urged States Parties and relevant organizations to further develop scientific and technical guidance for the implementation of Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs) in areas beyond national jurisdiction (ABNJ). COP CBD has also developed criteria for ecologically and biologically significant areas (EBSAs), and COP CBD has urged States Parties and relevant organizations to develop and apply these criteria to ABNJ. Additionally, COP CBD has encouraged the conservation of habitats and ecosystems and genetic material of species, including those that are protected under the International Environmental Law Instruments and Policy Documents.
ISA Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (2000) impose comprehensive environmental responsibilities on the States and State sponsored entities involved in the activities. Where exploration activities cause significant adverse changes in the marine environment, ISA may also take emergency environmental protection measures. Monitoring programs and annual reports are also required.

- Monitoring programs on the marine environment, pollution and impacts on the marine environment, for proposed measures for the prevention, reduction, and control of pollution, and the impact of the activities on the marine environment and description of the potential environmental baseline studies for oceanographic and environmental baseline studies.
- States and State sponsored entities involved in prospectioning and exploring for polymetallic nodules in the Area (2000) must submit a description of their proposed exploration in the Area.
- ISA Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (2000) impose comprehensive environmental protection measures.
ISA Instruments and Policy Documents

- Polymetallic Nodules Environmental Guidelines (2001) specify in extensive detail the data to be collected by the contractor in order to establish an environmental baseline for a particular exploration area.
- The Guidelines also expand on the types of exploration activities which require an EIA and the observations and measurements to be made.
- Guidelines currently under review and subject to ISA approval will provide further guidance to contractors on the key parameters for the oceanographic and biological data to be submitted.
Further amendments to both the Polymetallic Nodules Regulations and Guidelines on acceptable heads of claim regarding damage to the marine environment penalties that may be imposed by the ISA Council on contractors for which liability may potentially arise and levels of cause serious harm to the marine environment and financial capability to respond to any incident or activity which represents a significant adverse change in the marine environment criteria for determining whether an effect from an activity in the area exploitation because of risk of serious harm to the marine environment criteria for identification of areas which the Council disapproves for criteria for identification of impact reference zones phase including:

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Self Regulation by Deep Seabed Mining Sector


• IMMS Code comprises a Statement of Environmental Principles and a set of Operating Guidelines for application at specific mining sites.

• Code is a voluntary instrument which provides a framework and benchmarks for marine mining companies and other stakeholders, governments, IGOs and NGOs involved in prescribing, assessing, and benchmarking best environmental practices at marine mining sites.

• Code is currently under review.
INTEGRATION OF PLAN WITH OTHER REGIMES
Cross Sectorsal Regimes and Processes

UN Working Group on ABNJ

Regional Seas Organizations

LOSC Part VII

High Seas

LOSC Part XIII

Marine Scientific Research

Fisheries Sector Instruments

LOSC Part VII/UN Fish Stocks Agreement/RFMOs

Shipping Sector Instruments - MARPOL 73/78

Regional Seas Organizations

UN Working Group on ABNJ
The water column above the Clarion Clipperton Zone is high seas and subject to Part VII of the LOSC. Activities in the Area must co-exist with States and their flag vessels and nationals exercising high seas freedoms which may also involve interaction with the seabed. Adverse environmental impacts from other human uses of the high seas are only remotely regulated through mechanisms such as flag state and port state control with their inherent limitations. There is some potential for undermining of CCZ environmental management plan unless cross-sectoral information exchange and coordination occurs with other sectors conducting activities on or above the CCZ.

- Activities in the Area must co-exist with States and their nationals exercising high seas freedoms.
- The water column above the Clarion Clipperton Zone is high seas.
Marine scientific research is already well integrated into the Area research under Part XI of the LOSC are also applicable. The general principles applicable to marine scientific research under the ISA and other international channels disseminate the results of research and analyses through the ISA and other international channels. They effectively work in partnership to coordinate and produce and for the benefit of mankind as a whole (Art 143). Both States Parties and the Authority may carry out marine scientific research in the Area for peaceful purposes and for the benefit of mankind as a whole. Marine scientific research is already well integrated into the Part XI regime.
Freedom of fishing applies in water column above CCZ subject to conditions set out in Part VII Section 2 LOSC, UNGA Res 61/105 of 2006 called on Flag States and RFMOs to conduct environmental assessments prior to authorizing bottom contact fishing activities including the identification of vulnerable marine ecosystems (VMEs) and to manage such activities so as to prevent significant adverse impacts to VMEs.

Of most relevance to environmental protection in the area are the adverse impacts of unregulated high seas bottom trawling. Resolutions and regional fisheries management agreements, and the UN Fish Stocks Agreement and relevant UNGA resolutions and regional fisheries management agreements, subject to conditions set out in Part VII Section 2 LOSC, Freedom of fishing applies in water column above CCZ.
Fisheries Sector Instruments

• VMEs were defined in International Guidelines for the Management of Deep Sea Fishing in the High Seas adopted by FAO in 2008. If an area meets the VME criteria, the Flag State of a fishing vessel or relevant RFMO must manage deep sea fishing activities to prevent significant adverse impacts or not authorize them to proceed. Consultation with relevant RFMOs (WCPFC) in developing CCZ environmental management plans will be important in identifying VMEs and any measures needed to protect them.

• VMEs were defined in International Guidelines for the Management of Deep Sea Fishing in the High Seas adopted by FAO in 2008.
Shipping Sector Instruments

The major threat to the CCZ marine environment from shipping activities is the intentional and accidental discharge of pollutants into the high seas water column above the CCZ.

Through the mechanism of flag State jurisdiction and IMO regulatory instruments, there is regulation of shipping activities in high seas areas.

Most relevant instruments are MARPOL 73/78 and London Convention and Protocol.

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Shipping Sector Instruments
Shipping Sector Instruments

• Designation of special areas under MARPOL 73/78 where vessel source discharge restrictions apply and particularly sensitive sea areas (PSSAs) where associated protective measures apply is potentially available in areas beyond national jurisdiction

• None so far declared in ABNJ and would need to be supported by majority of shipping States to be effective
Role of Regional Seas Organizations

Regional seas organizations (RSOs) are already playing a role in the protection and preservation of the marine environment in ABNJ in regions such as the South West Pacific, NE Atlantic and the Mediterranean.

Although the three Pacific based RSOs do not have the water column above the CCZ within their areas of responsibility, their member States could form a compact to apply for protective measures such as special areas under MARPOL 73/78, PSSAs under IMO Guidelines and RFMO conservation and management measures related to high seas bottom fishing particularly in the CCZ areas of environmental interest.

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The three meetings of the UN Working Group on conservation of biodiversity in ABNJ have emphasized:

- Developing practical measures for the conservation and sustainable use of marine biodiversity in ABNJ.
- Cooperation and coordination among States and competent international organizations such as ISA in applying relevant approaches for the conservation and sustainable use of marine biodiversity in ABNJ.
- Cooperation and coordination in its implementation with States, IGOs, NGOs and other ocean sector representatives.

The Working Group provides a means of disseminating information on the CCZ environmental management and monitoring plan and fostering cooperation in its implementation with States, IGOs, NGOs and other ocean sector representatives.

The importance of conservation of biodiversity in ABNJ have emphasized.

The three meetings of the UN Working Group on ABNJ.
ENVIRONMENTAL RISKS FROM MINING

WORKSHOP FOR THE ESTABLISHMENT OF A REGIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR THE CLARION-CLIPPERTON ZONE
BASIC COMPONENTS & FIRST-ORDER RISKS IN CCZ™

Surface Vessel
- Mining discharge plume
- Oil, process water
- Lights & noise

Seabed Pick-up System
- Suspended sediments

Lift System
- Lights & noise
- Discharges
- Oil, process water
- Mining discharge plume

Impediments to swimming organisms
Direct disruption of habitat
Indirect disruption from sedimentation

Surface Vessel
CONSENSUS TO DATE

1. Most impacts are specific to the site and mining system, however:

2. Direct and indirect impacts on benthic life are likely to be significant and are very poorly understood.
ELEMENTS OF AN ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)
KEY ELEMENTS OF AN ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM

1. Is scaled to the organization
2. Includes commitment to continual improvement
3. Complies with legal & policy requirements
4. Provides framework for setting & reviewing environmental objectives
5. Is documented, implemented, & maintained
6. Is transparent internally & externally

ENVIRONMENTAL MANAGEMENT SYSTEM
KEY ELEMENTS OF AN ISO 14001
COMMITMENT TO CONTINUAL IMPROVEMENT:

PLAN
- DO
- CHECK
- ACT

Environmental Policy Planning Implementation & Operation
Checking
Management Review
Continual Improvement
PLANNING CONSIDERATIONS

1. Identify "Environmental Aspects"
2. Maintain links to legal & policy basis for action
3. Keep policies and actions current and relevant
IMPLEMENTATION & OPERATION

1. Commit the necessary resources
2. Define specific schedules for reporting and review
3. Develop emergency response procedures when appropriate
1. EMS team reports formally to OREM Director semi-annually.

2. Director reports to LTC annually.
CORRECTIVE ACTION, CONTROL OF RECORDS & MANAGEMENT REVIEW

1. Annual LTC review of reports
2. Reports made public, with redaction of proprietary data when necessary
3. Periodic (bi-annual?) review by Secretary General's office
4. Occasional workshops with outside experts

RECORDS & MANAGEMENT REVIEW
CORRECTIVE ACTION, CONTROL OF
ENVIRONMENTAL MONITORING & MPAS

REGIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR THE CLARION-CLIPPERTON ZONE
1. Organize contractor environmental research related to benthic habitats.

2. Assemble selected public data from CCZ into CDR.

3. Strongly support data collection & make them available in the Central Data Repository (CDR).

MONITORING

SUGGESTIONS
SUGGESTIONS FOR MPAS

1. Disseminate current proposal widely & seek reviews
2. Support research on benthic habitats in CCZ
3. Evaluate status of proposal regularly in EMS reports
4. Sponsor occasional workshops to review CCZ
5. Establish MPAs at least two years prior to prototype mining in CCZ

SUGGESTIONS FOR MPAS