



Regional Environmental Management Plan Strategy: Cobalt Ferromanganese Crust

SANDOR MULSOW

International Seabed Authority

Director

Office of Environmental Management and Mineral Resources

14-20 Port Royal Street | Kingston | Jamaica

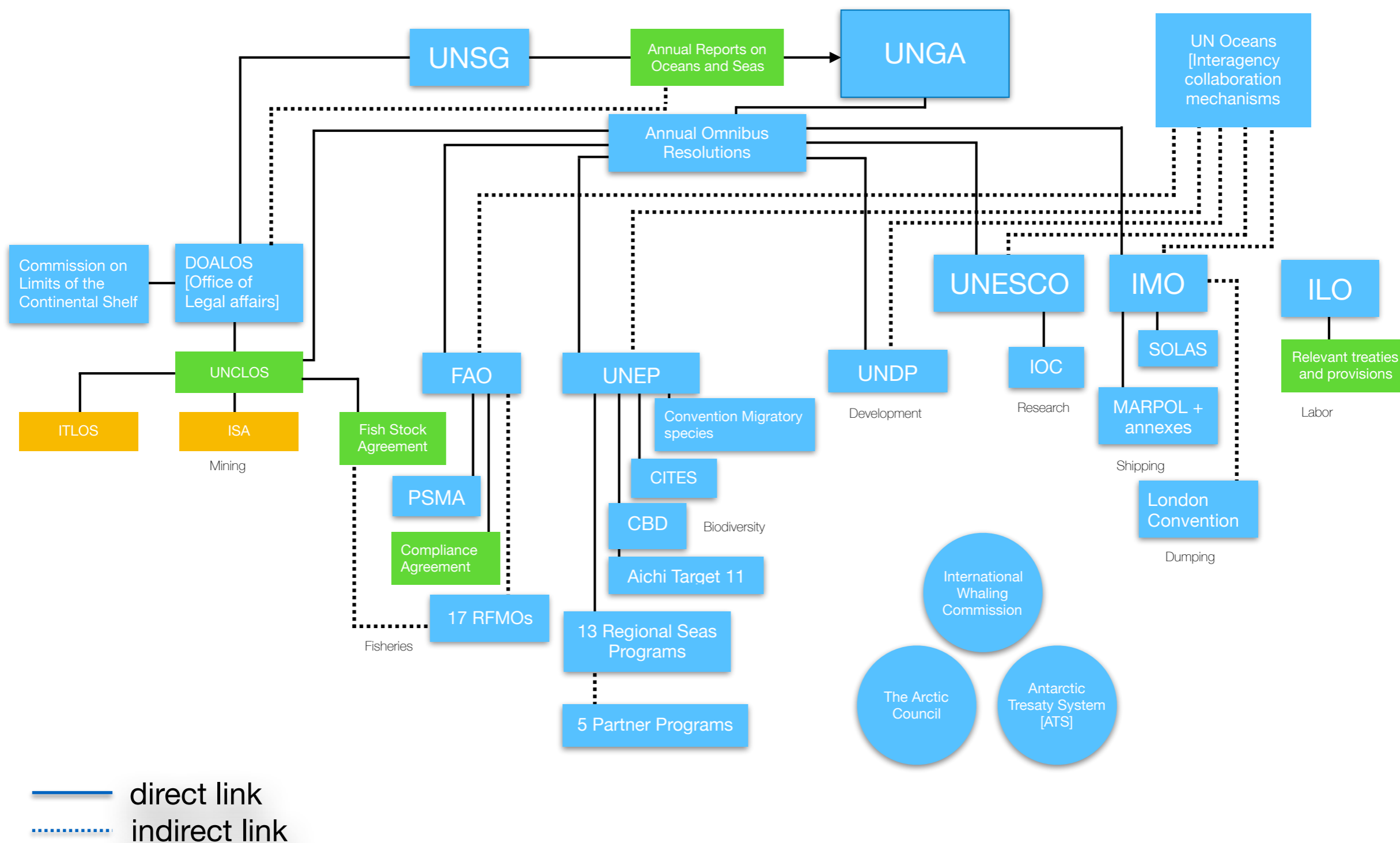
☎ Office: +876 922-9105 ext 254 or SL: +876 948-7909

✉ Email: smulsow@isa.org.jm |

🌐 Website: www.isa.org.jm



Ocean Governance



ISA Ocean Governance

UNCLOS ➔ *1994 Agreement* ➔ *Part XI: Annex III* ➔ **ISA**

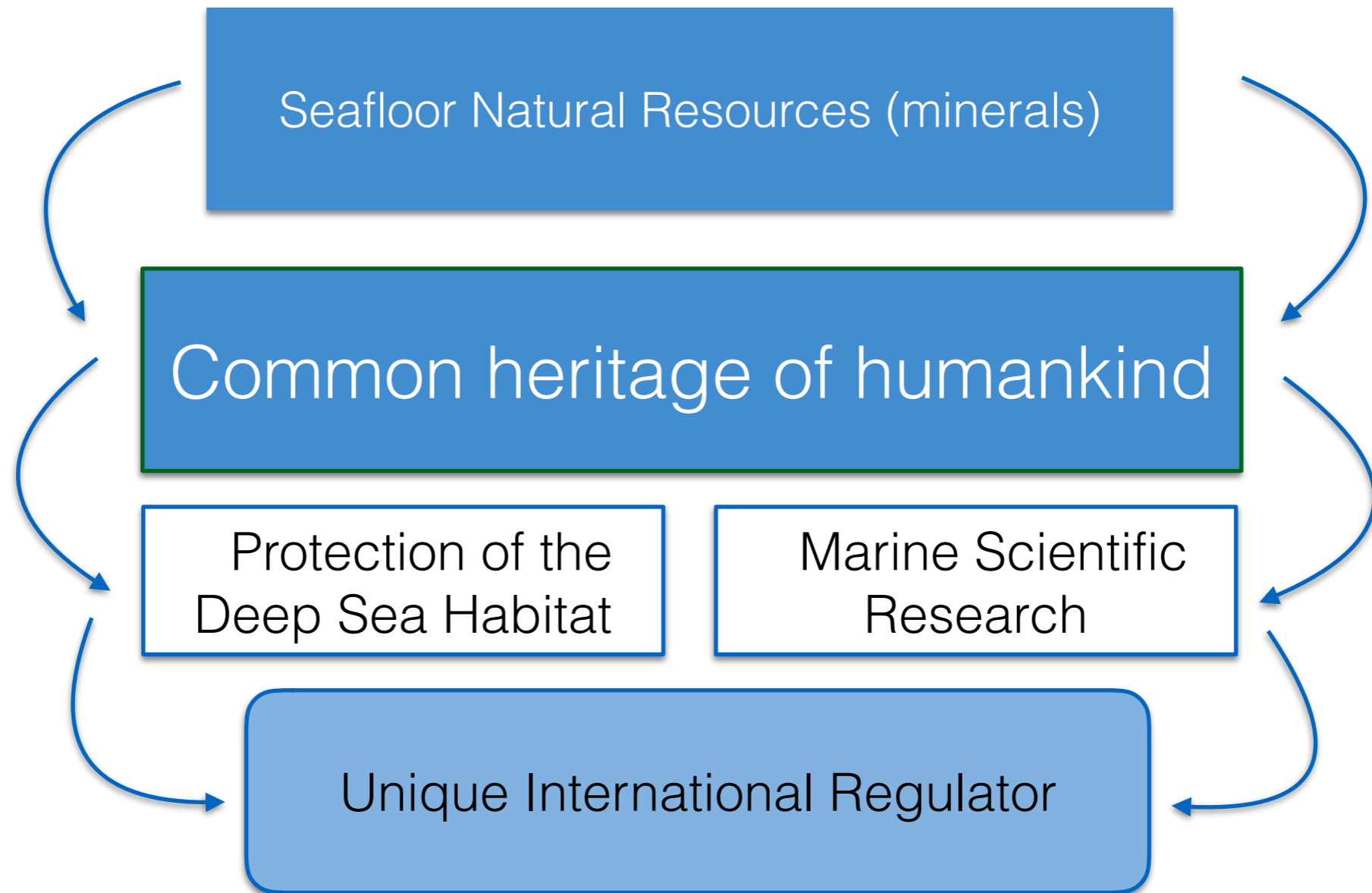
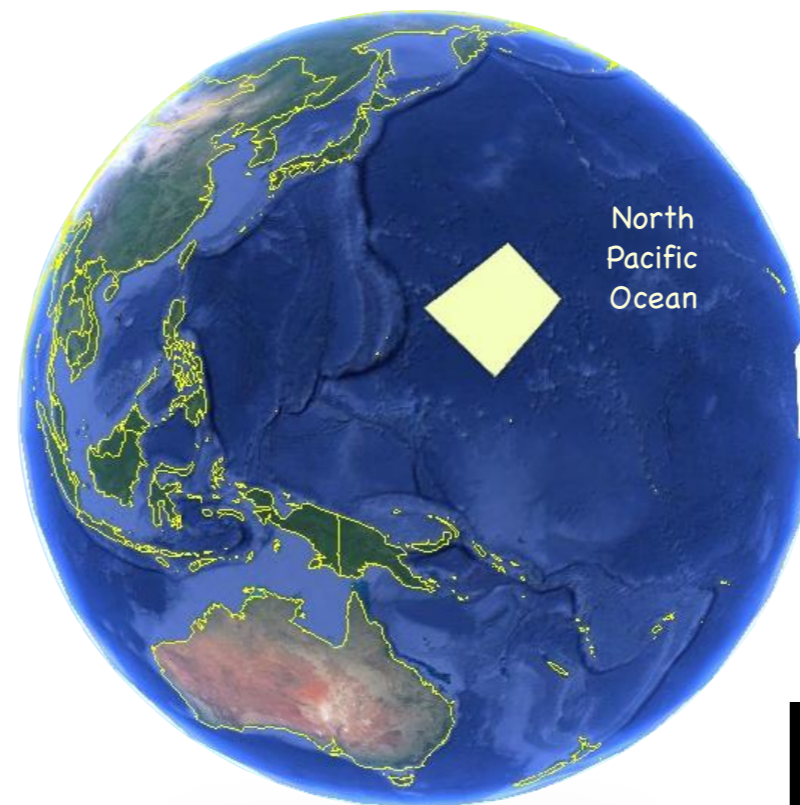


Table 1. Summary of approved plans of work under ISA's Contract Regimes: 1) parallel regime (PR) and 2) equity joint venture (EJV)

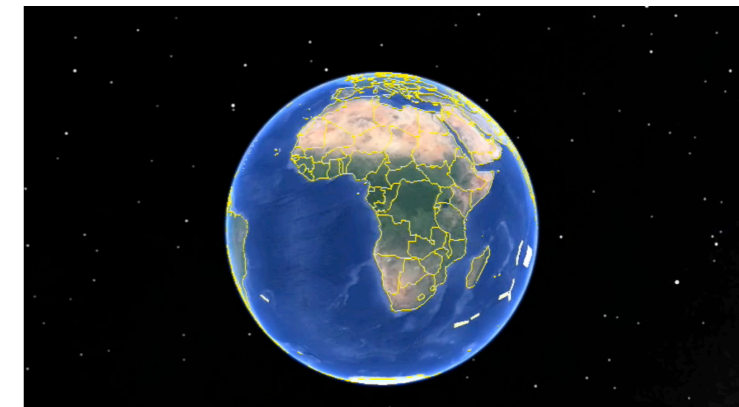
Ore	Contractors	Parallel Regime	Equity Joint Venture	Allotted Areas [km ²]	Reserve Areas [km ²]
PMN	17	7	10 (7+3 ^a)	1,241,212	1,313,443
PMS	7	0	7	70,000	0
CRFC	5	1	4	15,000	3,000
Total	29	8	21	1,326,212	1,316,443
		^a Developed Member States with EJV regime			



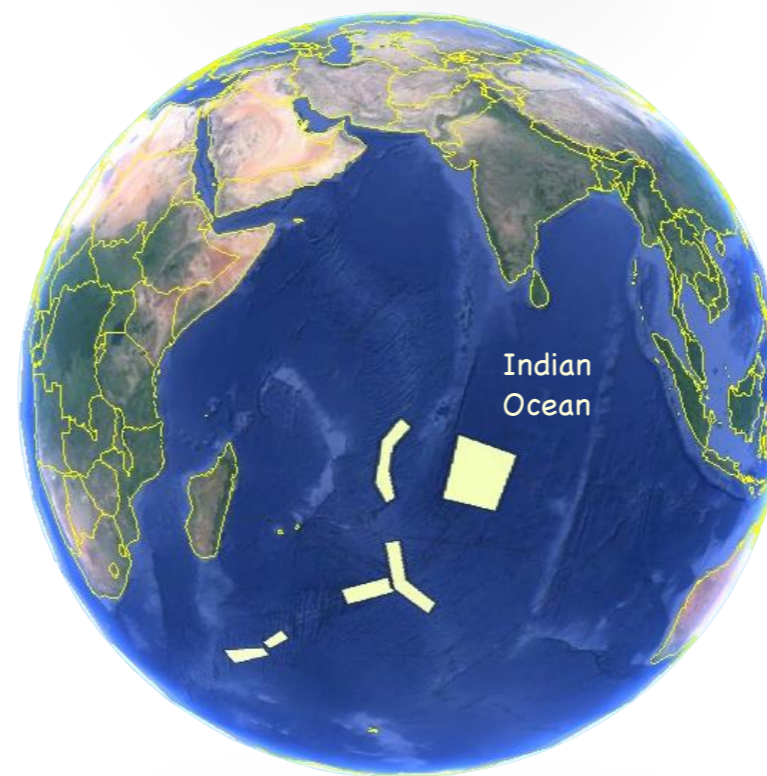
PMN: 16 Contracts



CC: 4 Contracts



PMS: 2 Contracts
CC: 1 Contract



PMS: 3 Contracts
PMN: 1 Contract

PMN: Manganese Nodules
PMS: massive sulphides
CC: Cobalt Crusts

Article 8: Reservation of Areas

1. All, except for reserved areas and Enterprise; area requested for mining activities shall cover a sufficiently large area, not be a single one, to allow 2 mining site operations.
2. The applicant should indicate 2 commercially equal areas to ISA; within 45 days ISA designates which becomes a reserve area solely for the conduct of activities by the Authority/Enterprise/association with developing states

UNCLOS-Annex III:Art 8; Thereafter Designated the Parallel Regime

ISBA/18/A/11[22 Oct 2012]

Assembly adopted Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area.

Regulation 17: Data and information to be submitted before the designation of a reserve area

Regulation 19: Equity Interest in a joint venture arrangement; into effect when exploitation takes place. Outcome: no reserved area for developing countries

Regulation 12: Total area covered by the application

1. Blocks [20 km²], not to exceed 150 blocks [3,000 km²]; extended within 550 x 550 km

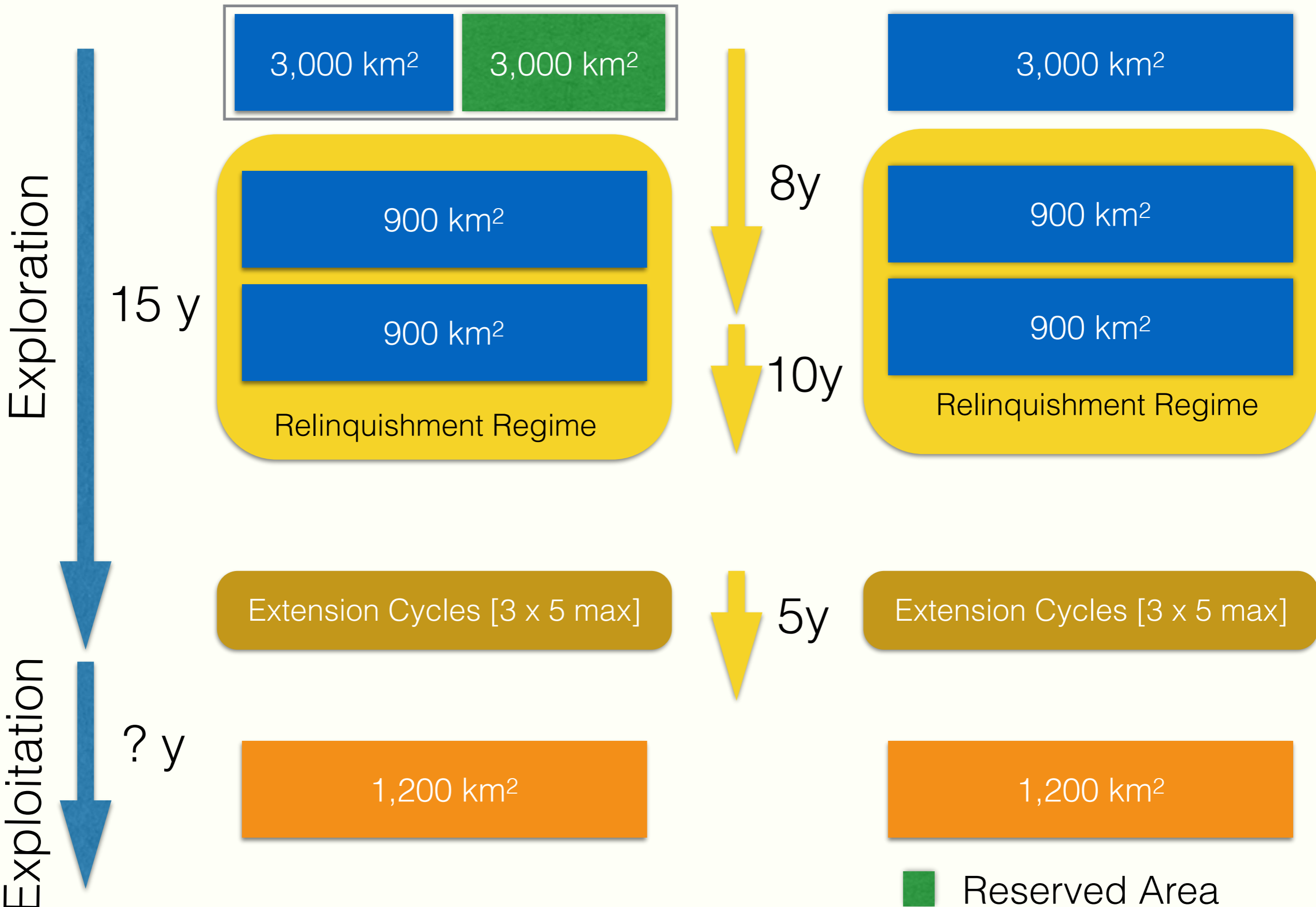
Regulation 27: Size of area and relinquishment [not need to be contiguous, sub-blocks]

1. After 8 years, should relinquish at least 30% [900 km²]
2. After 10 years, should relinquish at least 30% [900 km²]

Cobalt-rich Ferromanganese Crust

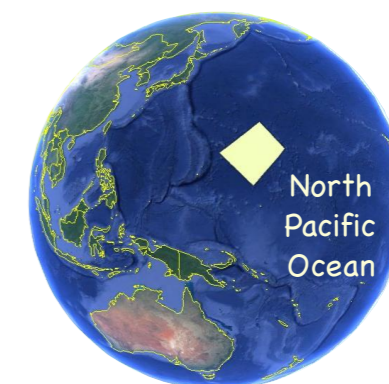
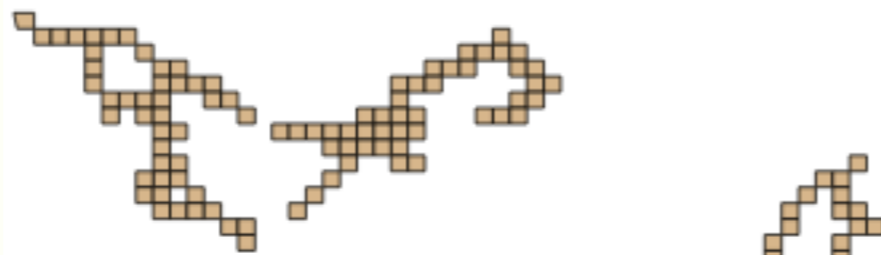
Developed MS

Developing MS

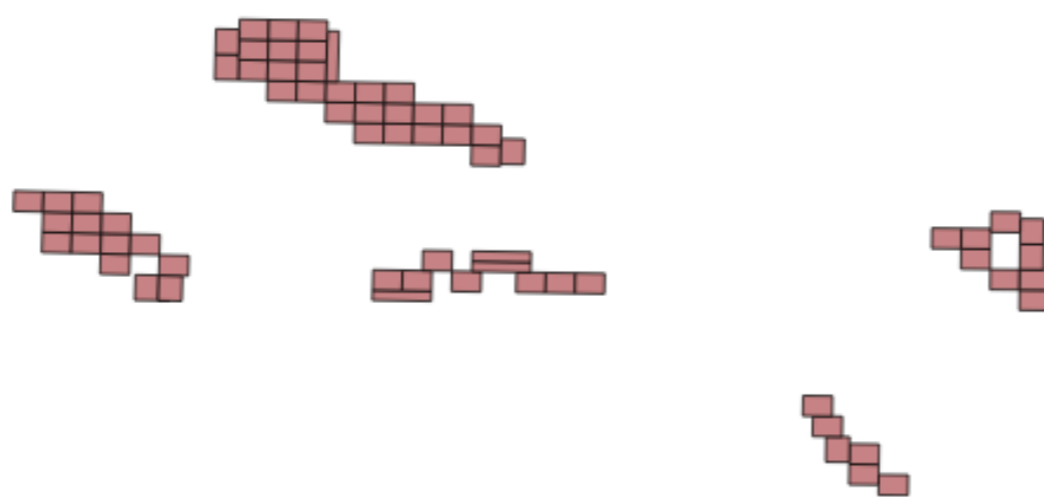
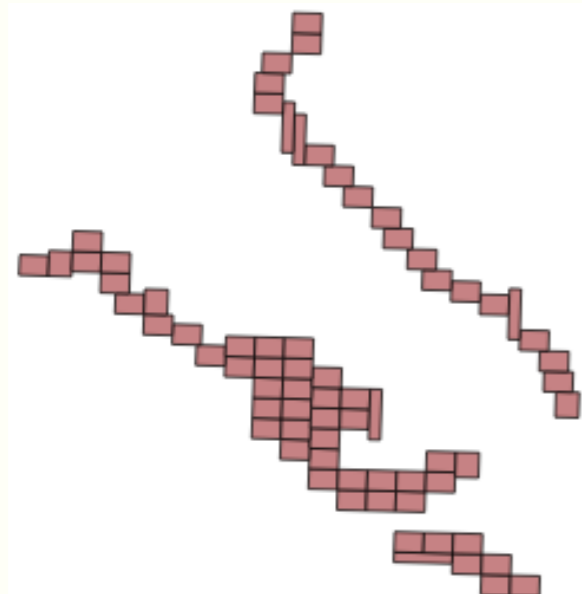




CRFC: APW-NW Pacific



North
Pacific
Ocean



South
Atlantic
Ocean

CRFC: APW-SAO

- not necessarily squares!

Mining Criteria and challenges for Cobalt Rich Crust



Defines methodologies/samplers/techniques

Mining operations will take place around the summit region of guyots on flat or shallowly inclined surfaces: summit platforms, terraces, and saddles.

Seamount summits will not be much deeper than about 2200 m; terraces will not be deeper than about 2500 m.

Little or no sediment will occur on the summit platform, therefore, a region of strong and persistent bottom currents.

The summit region above 2500 m will be large, more than 400 km².

Defines geographical areas for mining

The submarine flanks of islands and atolls will not be considered for mining.

Clusters of large seamounts will be favored.

The seamounts will be old, of Cretaceous age [140 - 65 My old); Crust thickness, slope stability, guyots with large summit areas

Seamounts with thick crusts and high grades (Co, Ni, Cu, etc.), 10's of cm scale

The Central Pacific best fulfills all these criteria



Mandate

The International Seabed Authority (Authority) is the only international organization mandated by the United Nations Convention on the Law of the Sea (the Convention) to administer, on behalf of the States Parties to the Convention, the mineral resources in the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (the Area), and to supervise current exploration activities as well as future mining activities in the Area. As such, under international law only the Authority is designated to act on behalf of mankind as a whole.

Legal Context

Under the Convention, State parties have a general obligation to protect and preserve the marine environment (Article 192; UNCLOS). This overarching obligation encompasses responsibilities to prevent, reduce and control pollution of the marine environment from any source, to monitor the risks or effects of pollution and to assess the potential effects of activities under State parties jurisdiction and control that may cause substantial pollution of or significant and harmful changes to the marine environment.

Objectives

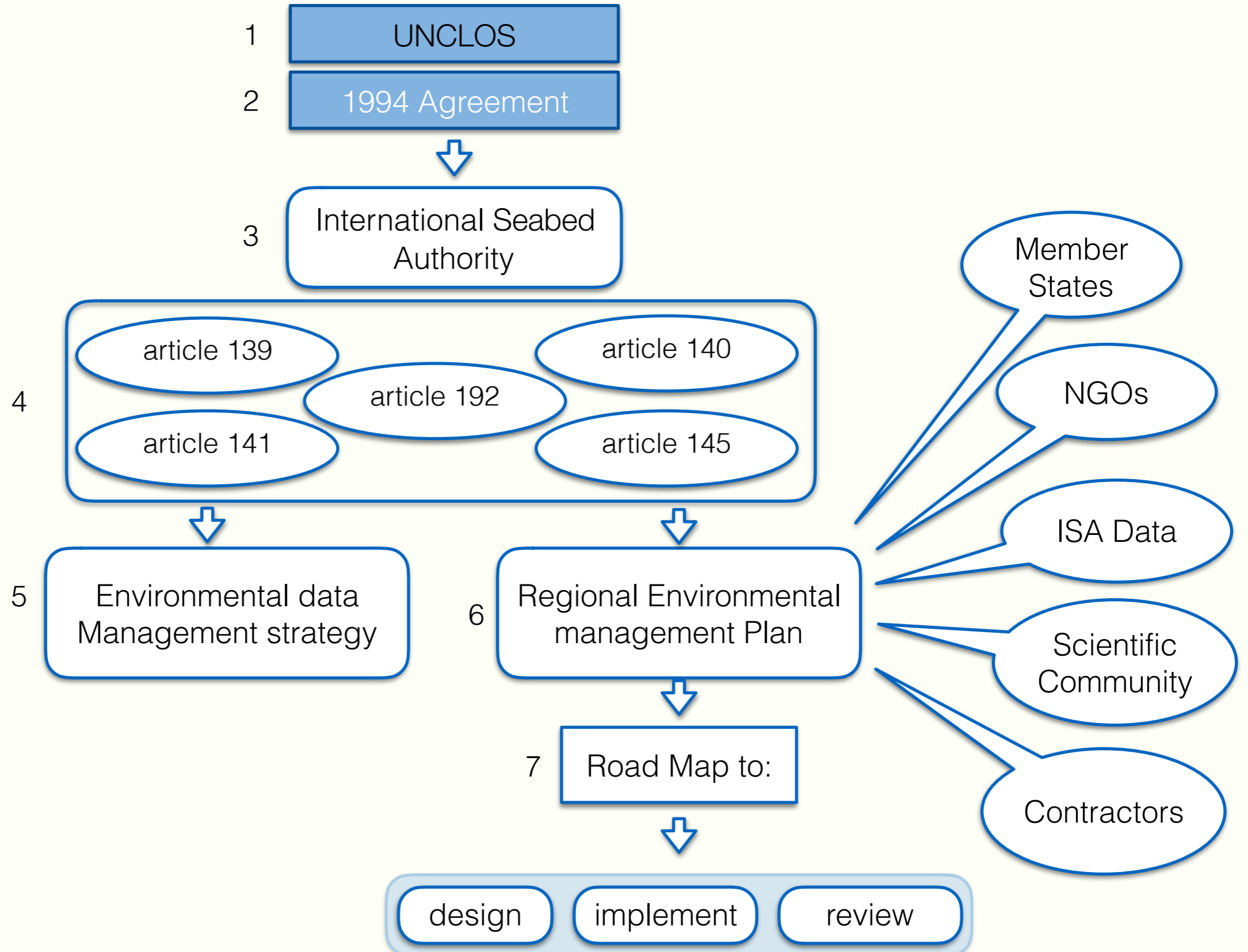
- a. Ensure that relevant organs of the Authority as well as contractors and their sponsoring States are provided with proactive area-based and non-area based management tools to support informed decision-making that balances resource developments with conservation;
- b. Contribute to the effective conservation and management of biodiversity in marine areas beyond national jurisdiction and help to build the resilience of deep-sea benthic ecosystems to the impacts of climate change on the ocean; and
- c. Ensure that a clear and consistent mechanism is established in order to identify particular areas though to be representative of the full range of habitats, biodiversity and ecosystems structures and functions, and provide those areas with appropriate levels of protection;

Guidance Principles

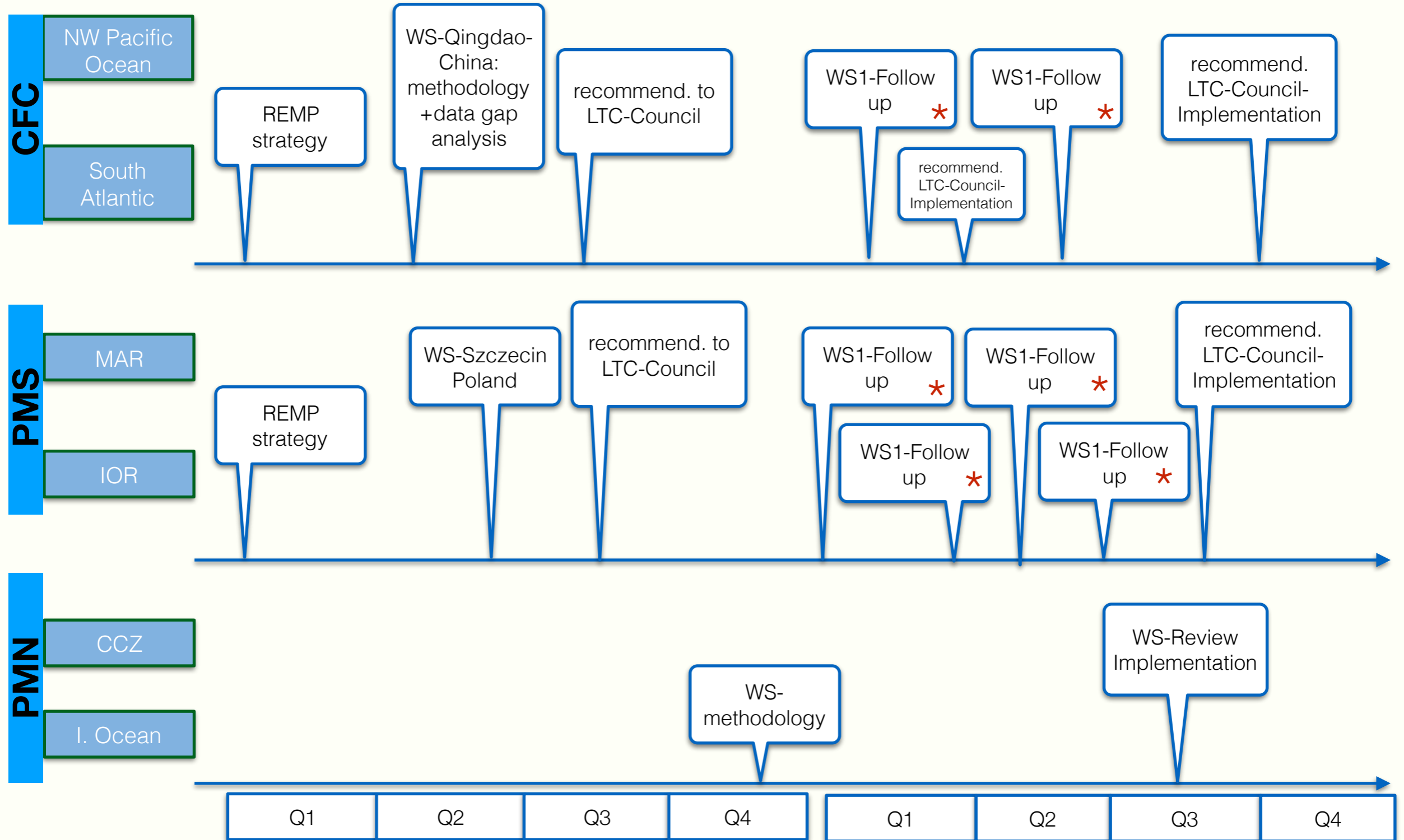
1. Common heritage of mankind. The Area and its resources are the common heritage of mankind. All rights to the resources of the Area are vested in humankind as a whole, on whose behalf the Authority shall act;
2. Precautionary approach. Principle 15 of the Rio Declaration on Environment and Development²⁰ specifies that where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;
3. Protection and preservation of the marine environment. All States have a duty to protect and preserve the marine environment;
4. Prior environmental impact assessment. The prior assessment of activities that may have significant adverse impacts on the environment;
5. Conservation and sustainable use of biodiversity. All States have a duty to conserve and sustainably use marine biodiversity;
6. Transparency. The Authority shall enable public participation in environmental decision-making procedures in accordance with the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 1998, and its own rules and procedures.

Regional Environmental Management Plan Strategy

1. UNCLOS most important achievement was declaration of Natural Resources in the area as common heritage of humankind
2. Important agreement on Part XI; basis for ISA creation
3. ISA instrument of DOALOS, was created in 1996
4. Major pillar of ISA mandates
5. Organized and standardize information for supporting ISA Management Plans in the Area
6. Regional Environmental Management Plan Creation through workshops, WG, tech./ Research studies.
7. Strategy's outcomes, submitted to LTC and Council for approval and budgeting. Becomes a new Program for the Secretariat.



Regional Environmental Management Plan Strategy



* WS recommended from Methodology + gap analysis

2018 2019
 timeline

Concluding remarks



- a. The authority has clearly the mandate and legal framework to undertake REMP in the Area.
- b. Cobalt Ferromanganese Crusts are well defined, seamounts-guyots, presents geographical constraints (block size-shape), ABMT need to be carefully chosen;
- c. REMP strategy is a dynamic one, must be updated constantly, not in substance but on implementation and review;
- d. REMP strategy calls for consensus on the recommendations of Workshops outcomes (Qingdao and Szczecin) in designing methodologies, cost-effective data gathering (gap analysis) initiatives, others;
- d. The authority will coordinate, organize outcomes proposed by workshops in methodology/design and other, initiatives recommended by Qingdao and Szczecin Workshops for CFC and Polymetallic Massive Sulphides;
- e. CCZ EMP will be reviewed and reshaped as REMP and a workshop convened to implement it. Same strategy will be used for Indian Ocean nodule fields.