The Evolving Science and Institutional Landscape to Exploit Marine Minerals

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Prerequisites for exploitation activities

1. Readiness of the International Seabed Authority
2. Development of the Regulatory Framework for mineral exploitation by the ISA
3. Environmental knowledge (nodules, crusts, SMS)
4. Equipment development (nodules, crusts, SMS)

Review of the International Seabed Authority under UNCLOS Article 154

Carried out by Seascape Consultants

Draft submitted to 22nd session of ISA in 2016

Final version to be submitted to the 23rd session in 2017

Forward look

- The Authority lacks a strategic plan
  - Vision over 10 and 25 year periods
  - Programme of work, exploitation code, requirements for environmental protection, mechanisms for regulation and enforcement, mechanisms for adaptive management, fiscal regime including benefit sharing/ financial liability/ sustainability fund, mechanisms to address Common Heritage of Mankind etc
  - Organisational structure – separation of licensing from regulation
  - Budget – how can this be increased in advance of earnings?
- Needs to engage more with BBNJ and SDG discussions (UN's Biodiversity Beyond National jurisdiction and UN's Sustainable Development Goals)
- Needs to become much more transparent in its decision making processes

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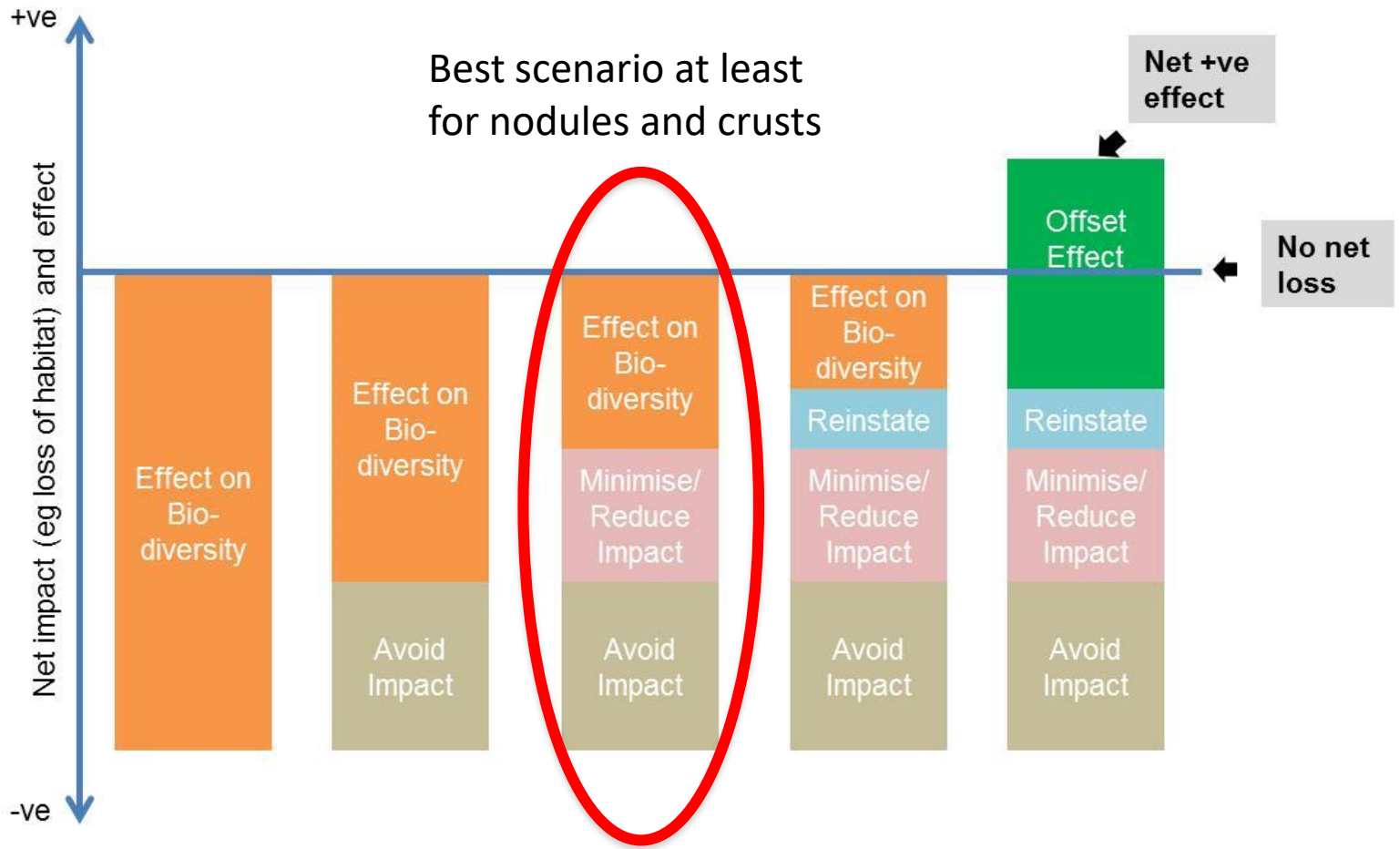
Development of the Regulatory Framework for mineral exploitation by the ISA

2014

2015

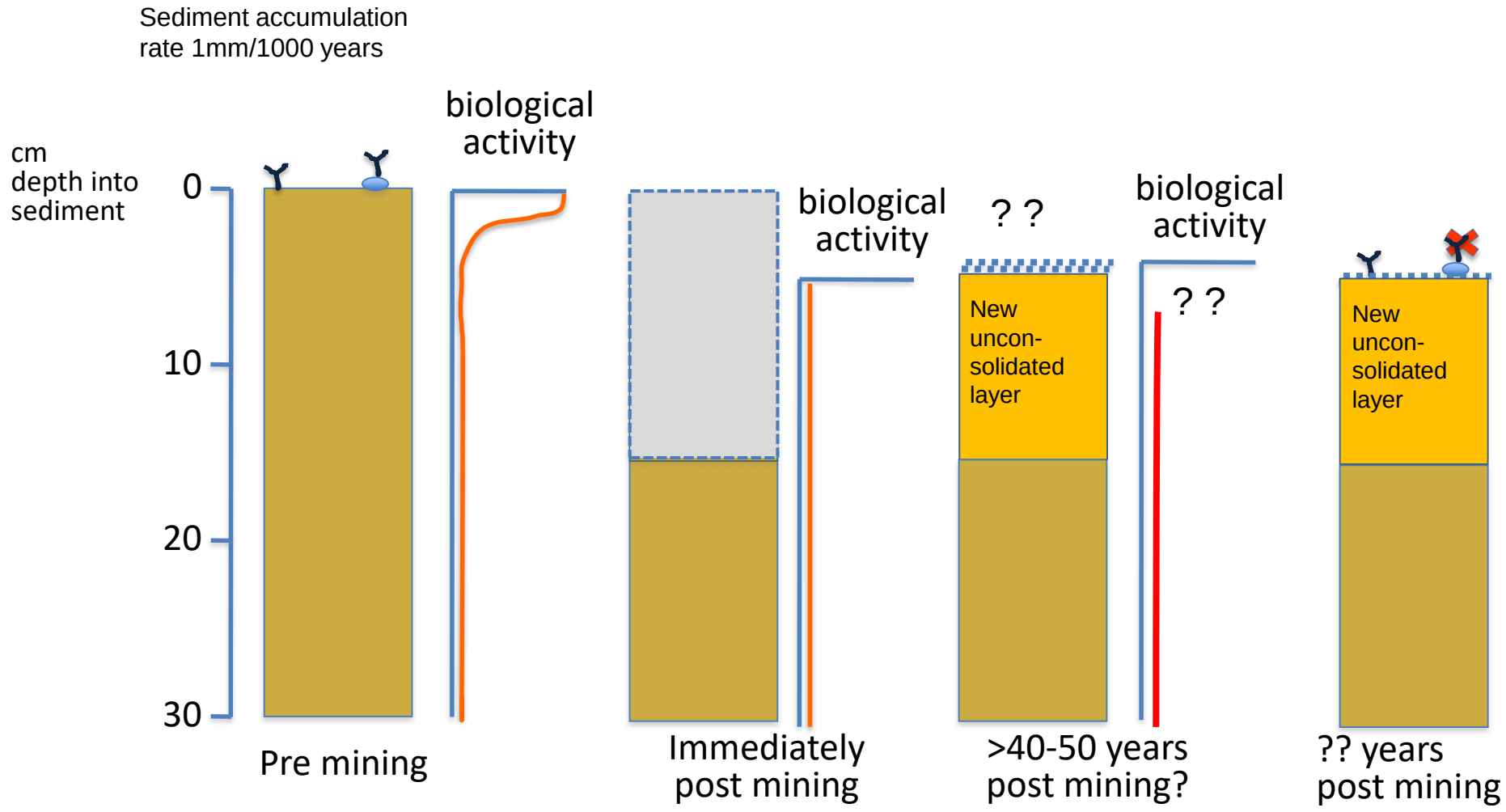
2016

The ‘Classic’ EIA Mitigation Hierarchy



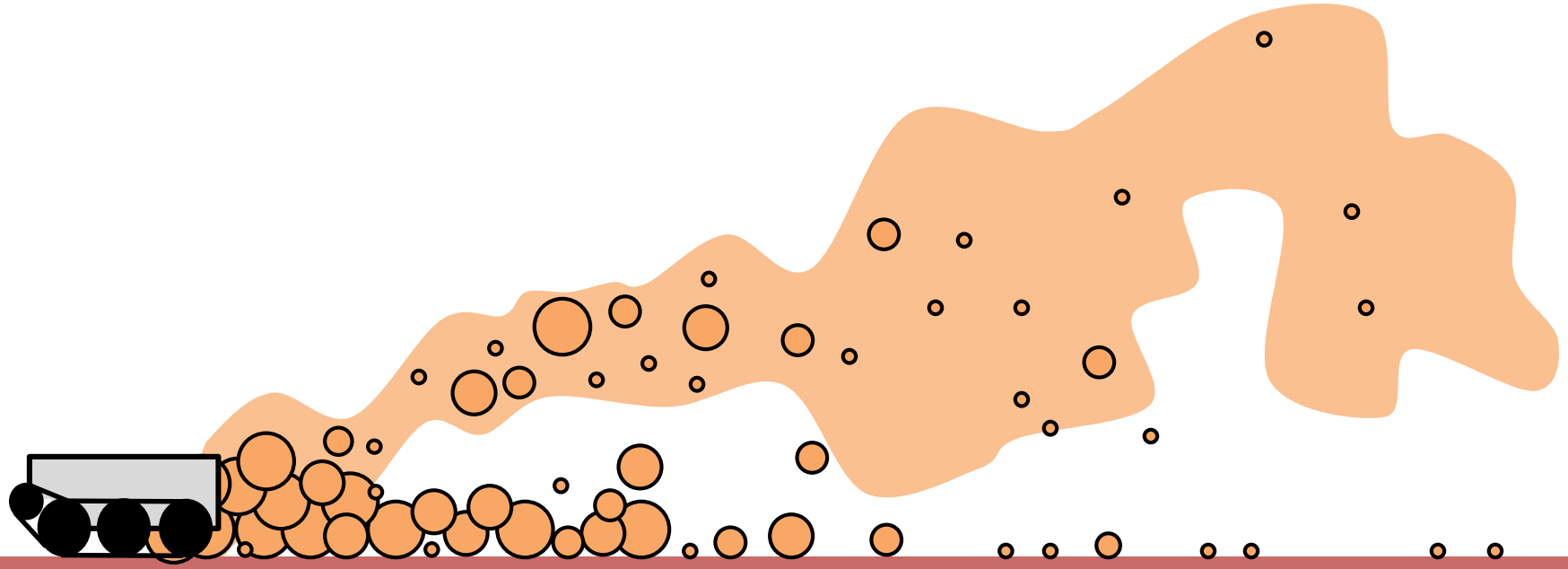
Courtesy Kevin Murphy, ERM

Biological recovery in areas of manganese nodules subsequent to mining

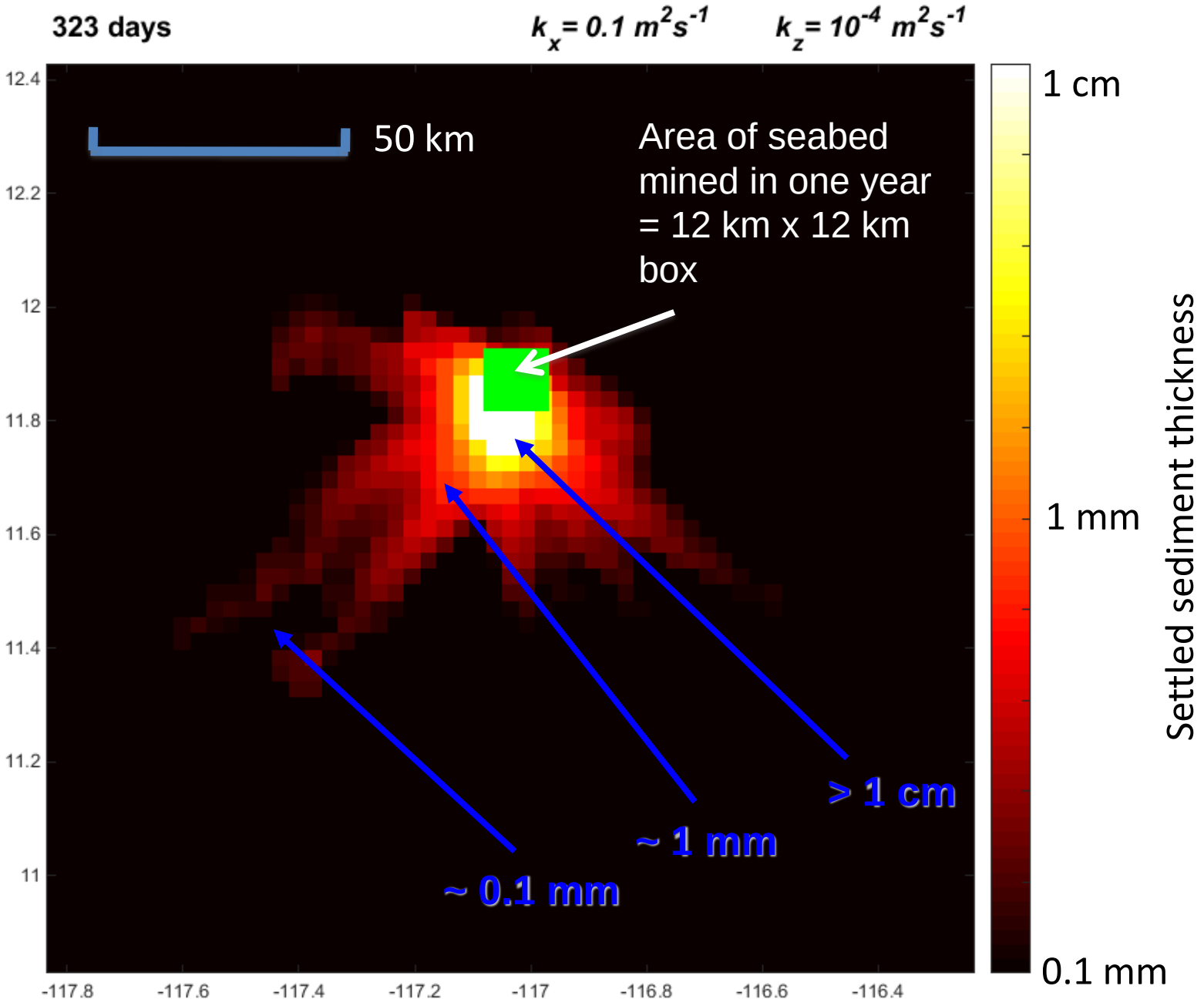


Impact of Plumes

- Clouds of sediment laden water generated by the collector vehicle
- Dewatering of ores on the ship will also generate a plume that will be added to the ocean
- Will contain particulates and may contain toxic chemicals

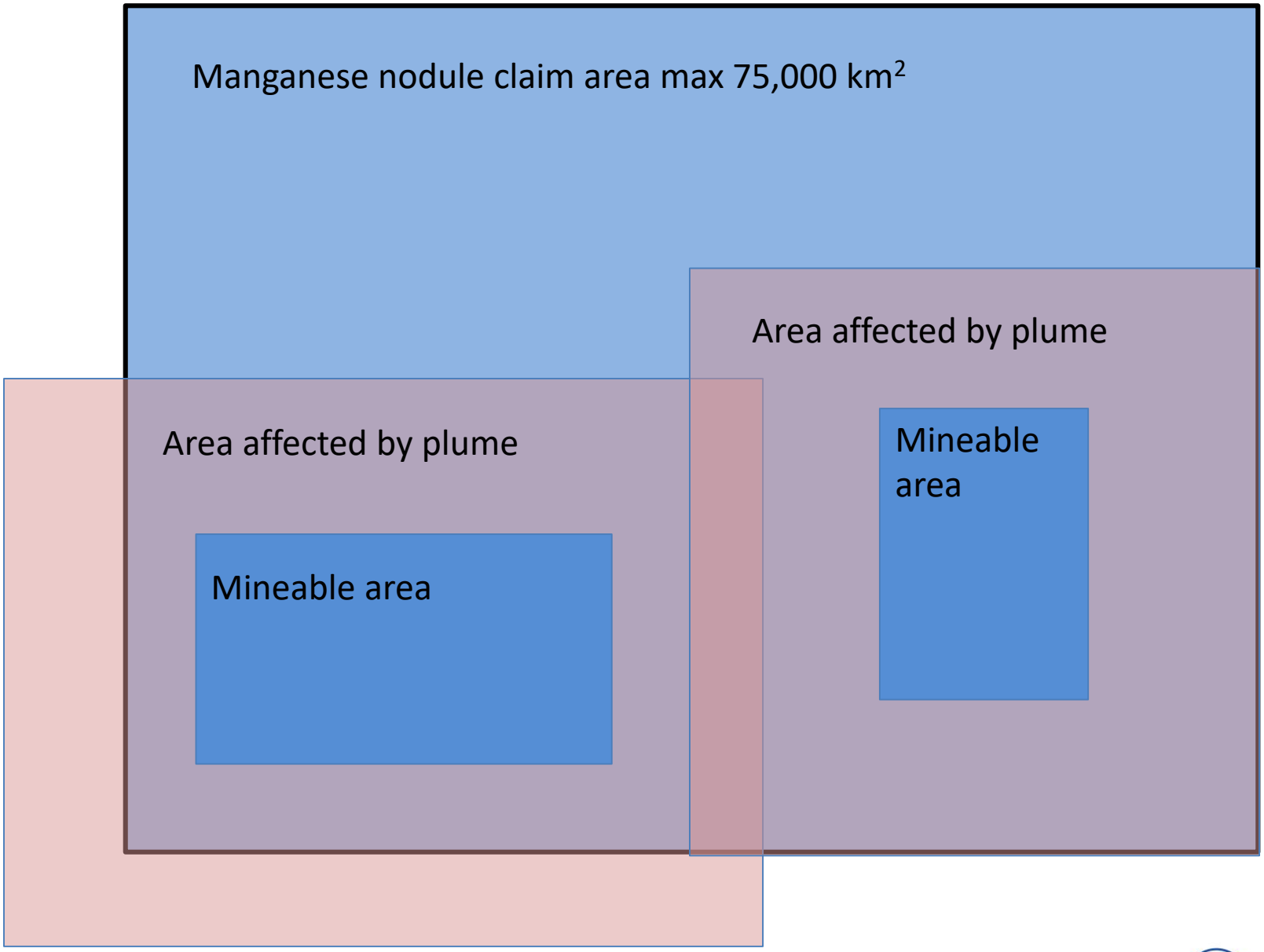


Courtesy Andy Dale SAMS, UK



Courtesy Andy Dale SAMS, UK

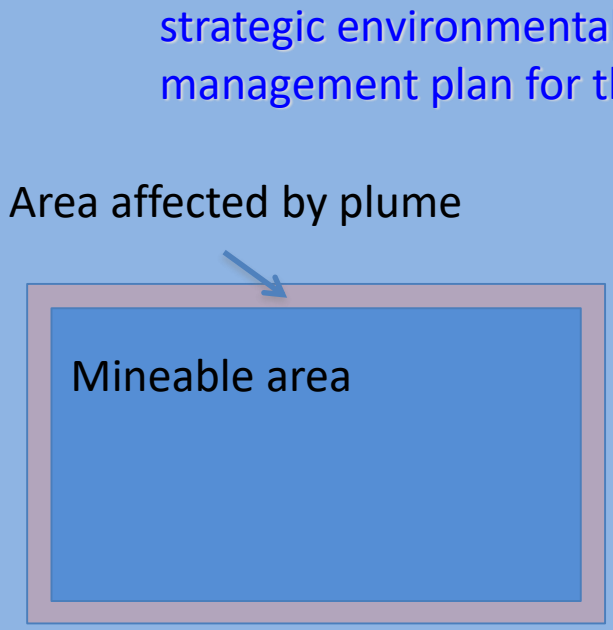
Potential aerial impact of plumes on the seabed

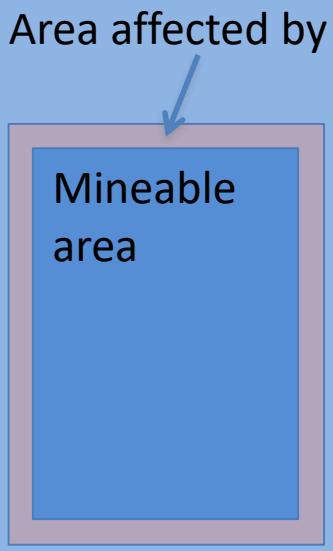


Potential aerial impact of plumes on the seabed

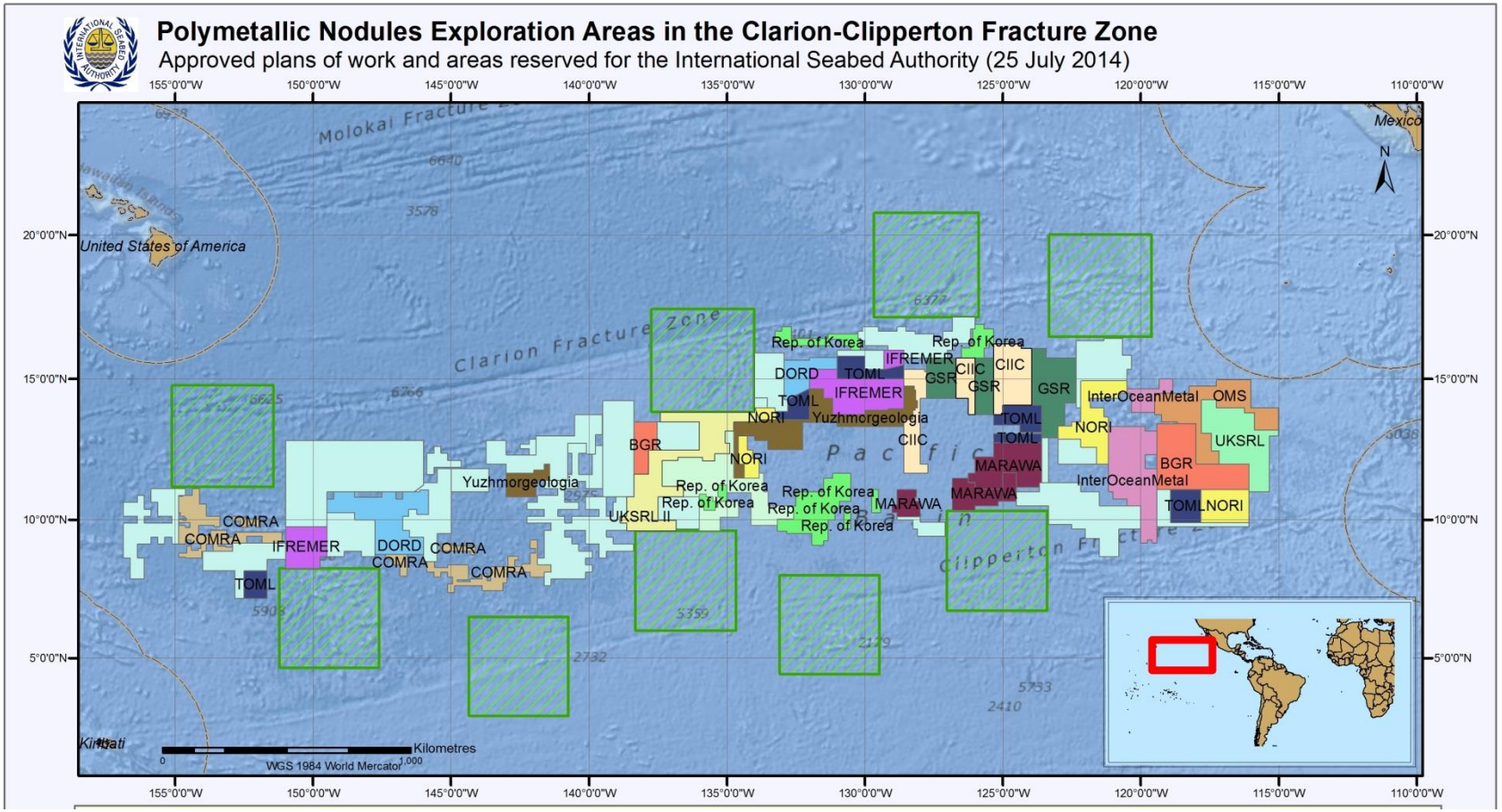
Manganese nodule claim area max 75,000 km^2

Could the uneconomic parts of the claim be identified for all contractors and included in the strategic environmental management plan for the CCZ?





Licence blocks and APEIs in the Clarion Clipperton Zone



15 signed contracts in the Clarion Clipperton Zone (1 waiting signature)
Total area for exploration 1.1 million km^2

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