



# What next for DSM, bringing the building blocks together?

ISA 22, Jamaica July 2016

Dr. Simon Walmsley  
Marine Manager WWF-International.

# Impacts of Deep Sea mining

- . **Loss of habitat;**
- . **Degradation of habitat quality;**
- . **Decreased seafloor and/or water column primary production;**
- . **Modification of trophic interactions;**
- . **Decreased diversity;**
- . **Local, regional, or global extinction of endemic or rare taxa.**



© ImagDOP / UIAC



© MARUM Bremen

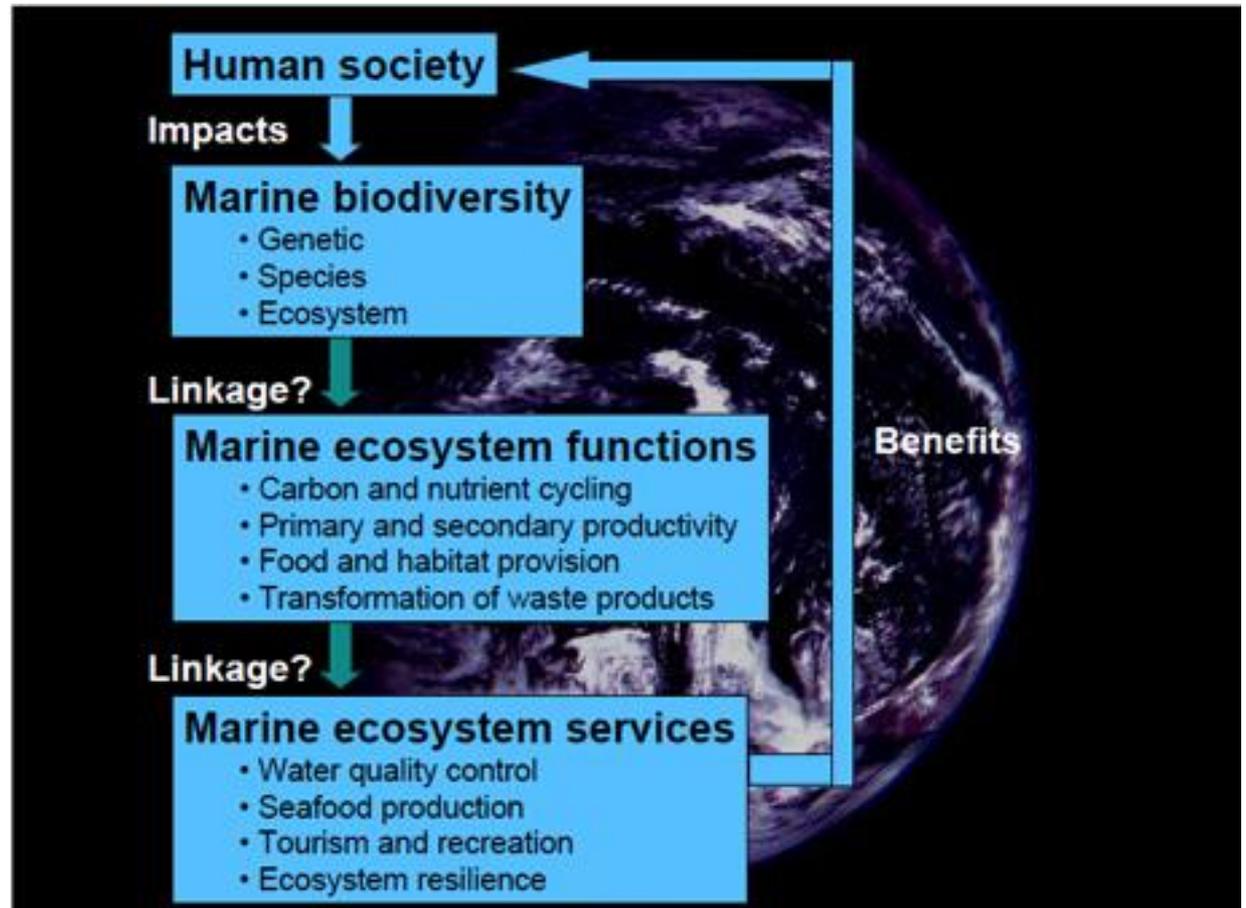


© ATOS / IFREMER



© P. B-Mortensen / IMR

# Deep-sea mining - more than losing biodiversity



# Next steps

The availability of good quality comparable baseline environmental data is paramount, the data management strategy needs to engender transparency and co-operation in this respect.

The data management system should operate to recognised standards and be user friendly allowing for large amounts of metadata to be subsumed and summarised with efficiency and accuracy.

Links with confidentiality/transparency guidelines re classification and in general specific policies and procedures on data handling.

The production and sharing of good quality comparable baseline environmental data could be a condition of the exploitation licence.

Investigate the possibility of stakeholders to have the ability to both input relevant data into the management system and also be able to access relevant data for independent analysis, transparency. Therefore links with stakeholder engagement strategy.

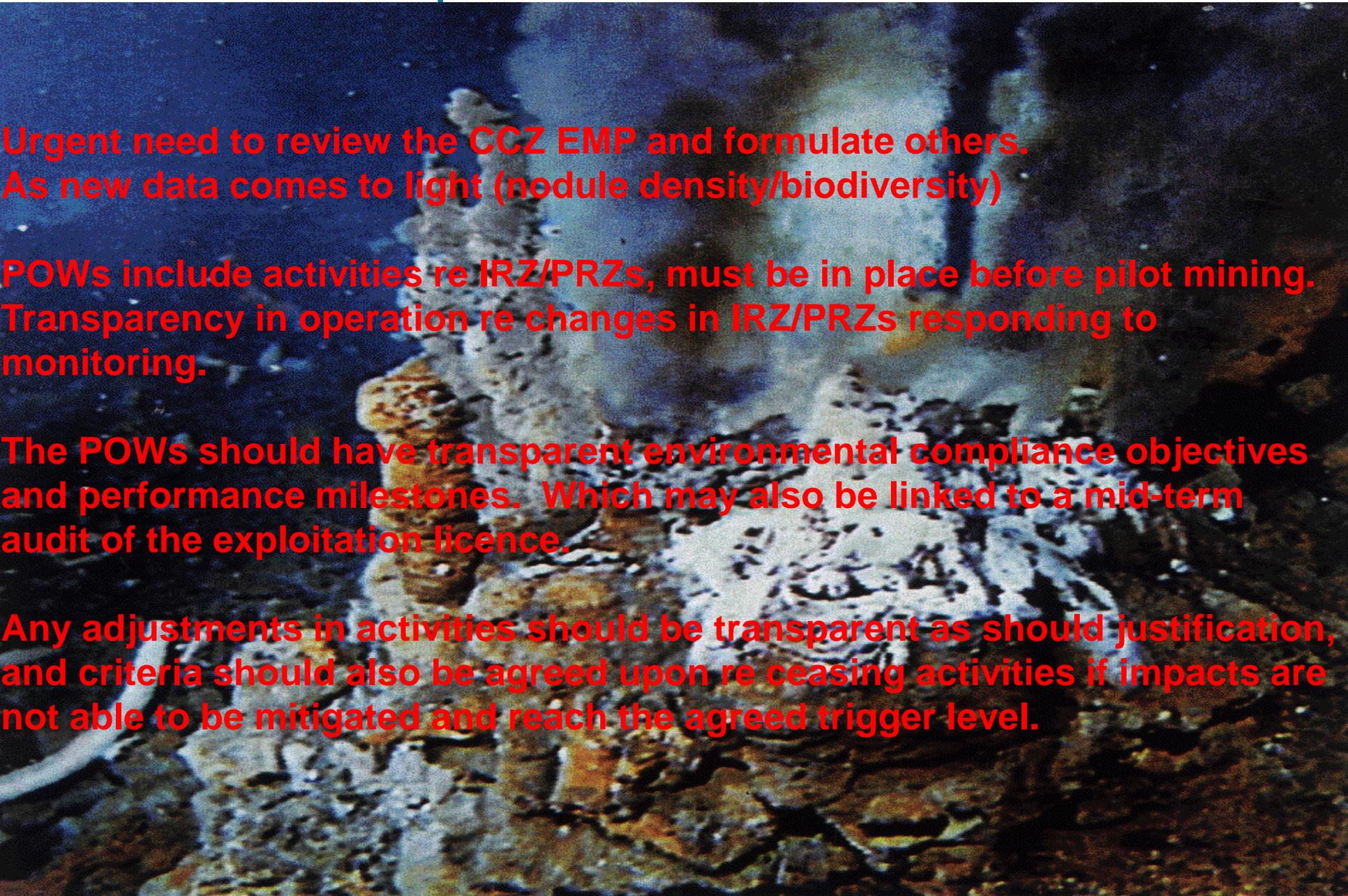
# Next steps

**Urgent need to review the CCZ EMP and formulate others.  
As new data comes to light (nodule density/biodiversity)**

**POWs include activities re IRZ/PRZs, must be in place before pilot mining.  
Transparency in operation re changes in IRZ/PRZs responding to monitoring.**

**The POWs should have transparent environmental compliance objectives and performance milestones. Which may also be linked to a mid-term audit of the exploitation licence.**

**Any adjustments in activities should be transparent as should justification, and criteria should also be agreed upon re ceasing activities if impacts are not able to be mitigated and reach the agreed trigger level.**



# Further discussion points.

---

Need standardisation (quality and quantity) of monitoring and assessment methods and coverage. This is a basic requirement as without this it will be difficult to establish EMP's or any common environmental thresholds and comparative controls across licensed areas.

Research on Pelagic/water-column impacts, in particular from return waste plumes.

Bioavailability, Ecotox in particular early life stage/larval dispersion

Cumulative impacts per se and Synergies of all the above with temp/PH changes.



A large sea turtle swimming in clear blue water, viewed from above. The turtle's shell is dark with lighter, mottled patterns. Its flippers are extended, and it is moving towards the upper left of the frame.

Question  
and Thanks!

Please visit

[www.panda.org/marine](http://www.panda.org/marine)