

# Protecting the Marine Environment and Biodiversity from Deep-Sea Mining

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# “The Future We Want”

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Outcome Document of the **United Nations Conference on Sustainable Development** (UNCSD/“Rio+20 Summit”; June 2012; Rio de Janeiro, Brazil)

- “[...] *We therefore commit to protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, and to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations, and to effectively apply an ecosystem approach and the precautionary approach in the management, in accordance with international law, of activities impacting on the marine environment, to deliver on all three dimensions of sustainable development.*“ (§ 158)

# “The Future We Want”

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Outcome Document of the ***United Nations Conference on Sustainable Development*** (UNCSD/“Rio+20 Summit”; June 2012; Rio de Janeiro, Brazil)

- “[...] *we commit to address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, [...]*” (§ 162)

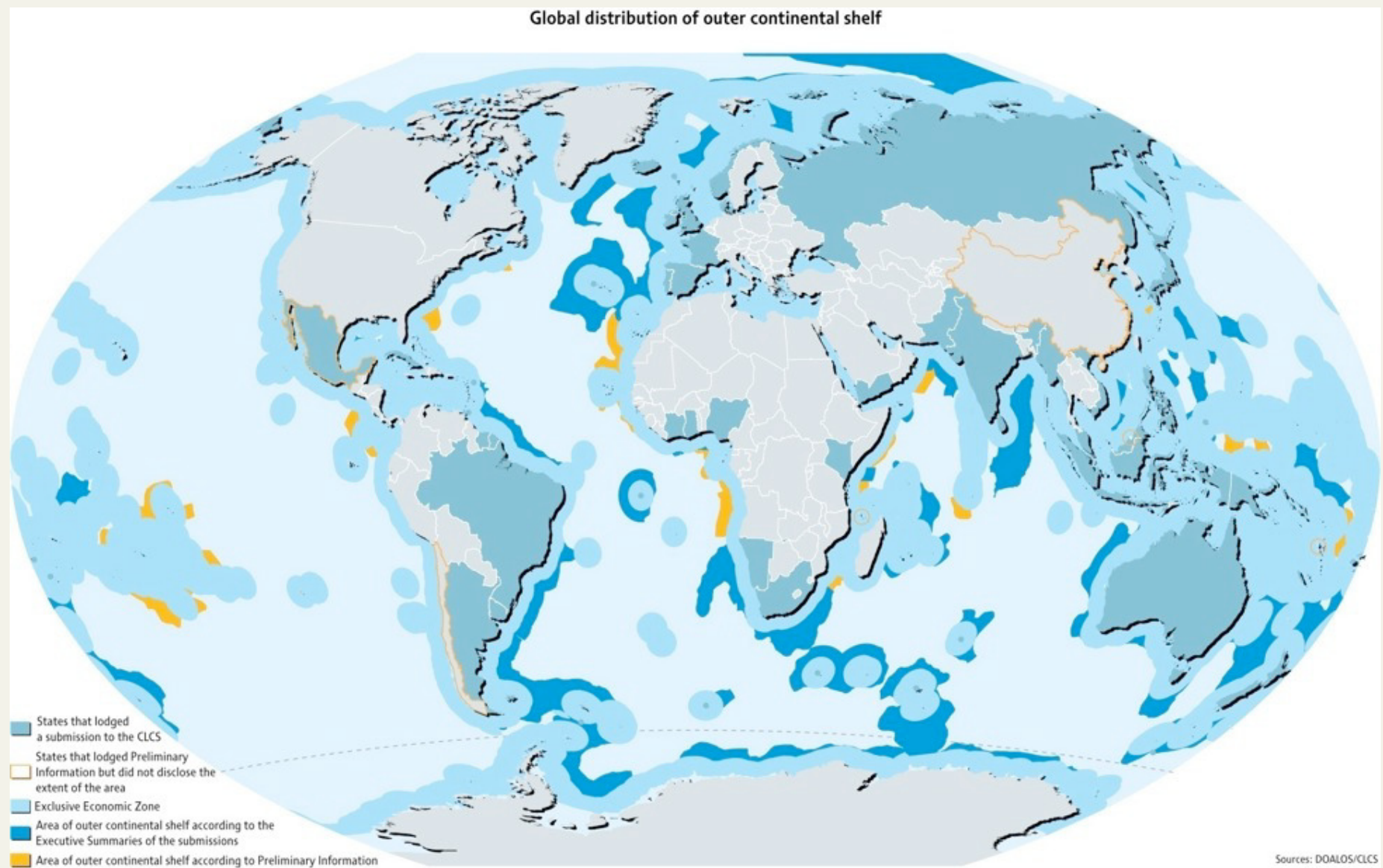


# Deep-Sea Mining

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- Exploitation of marine mineral resources in the deep sea has the potential to significantly disturb marine habitats and communities
- Biodiversity and functionality of deep-sea ecosystems remain largely unexplored
- It remains impossible to determine the environmental safety as well as the (esp. long-term) ecological effects of deep-sea mining operations
- UNCLOS; Part XI; Art. 145 „[...] *To this end the Authority shall adopt appropriate rules, regulations and procedures for inter alia [...]; (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.*“

# Marine Areas beyond National Jurisdiction (1)







# Marine Areas beyond National Jurisdiction (2)

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WWF recommends

- a **systematic approach to biodiversity conservation and spatial planning** in all areas beyond national jurisdiction (ABNJ), including the seabed, to be adopted urgently before further contracts for exploration of areas for mining purposes are granted
- an **implementing agreement under UNCLOS for the conservation and sustainable use of marine biodiversity** in ABNJ that would *inter alia* set in place the necessary long-term mechanism for the establishment and management of marine protected areas and marine reserves and the conduct of environmental impact assessment and strategic environmental assessments of all human activities conducted in areas beyond national jurisdiction



# Marine Areas beyond National Jurisdiction (3)

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In the absence of such a legal framework, and consistent with the precautionary principle and the ecosystem approach, WWF calls on the International Seabed Authority (ISA) to immediately refrain from granting any new applications for exploration.

In any case, WWF has set out the following requirements to be guaranteed by any deep-sea mining operation:

# WWF Recommendations

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- **Adequate protection of “Vulnerable Marine Ecosystems”** (VMEs) as defined by the FAO and **“Ecologically or Biologically Significant Marine Areas”** (EBSAs) as defined by the CBD from future seabed mining activities

*Nota Bene:*

- UNGA Resolutions, esp.: 61/105 (2006); 64/72 (2009); 66/68 (2011)
- CBD Strategic Plan 2011-2020 – Aichi Target 11

- **Recognition of existing Marine Protected Areas in areas beyond national jurisdiction** (to date: Antarctic/CCAMLR; NE-Atlantic/OSPAR)



# Criteria for EBSAs vs. VMEs



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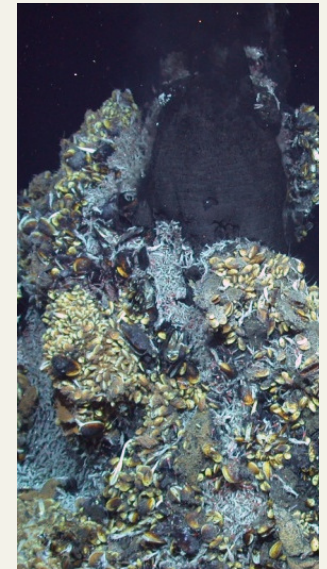
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## EBSA

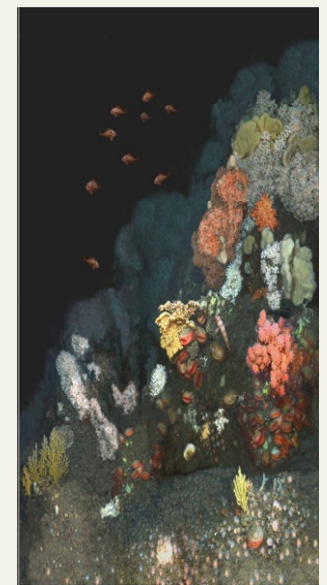
- Uniqueness or rarity
- Special importance for life history stages of species
- Importance for threatened, endangered or declining species and/or habitats
- Vulnerability, fragility, sensitivity or slow recovery
- Naturalness
- Biological productivity
- Biological diversity

## VME

- Uniqueness / rarity
- Functional significance of habitat
- Fragility
- Life history attributes of species
- Structural complexity

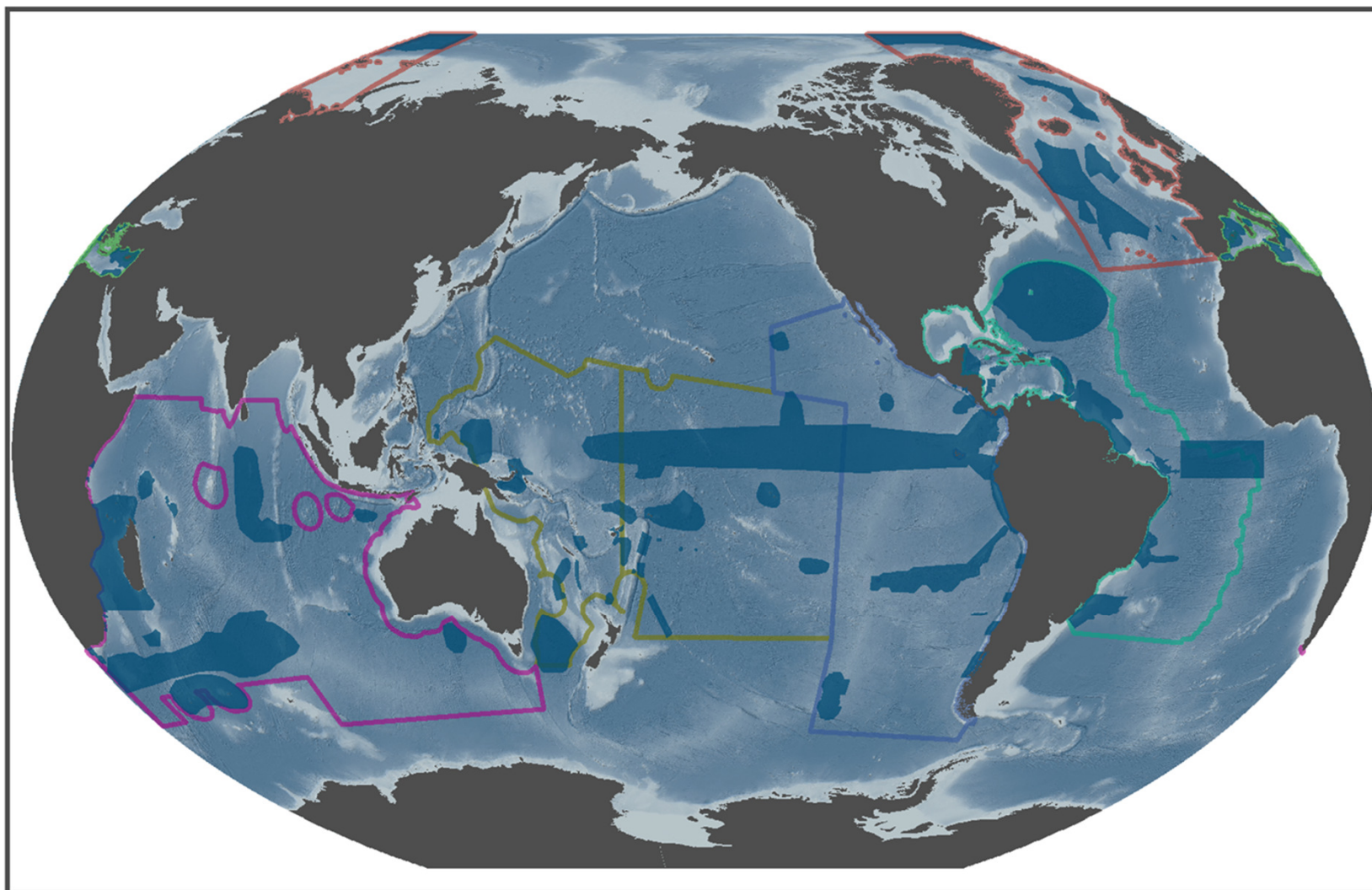


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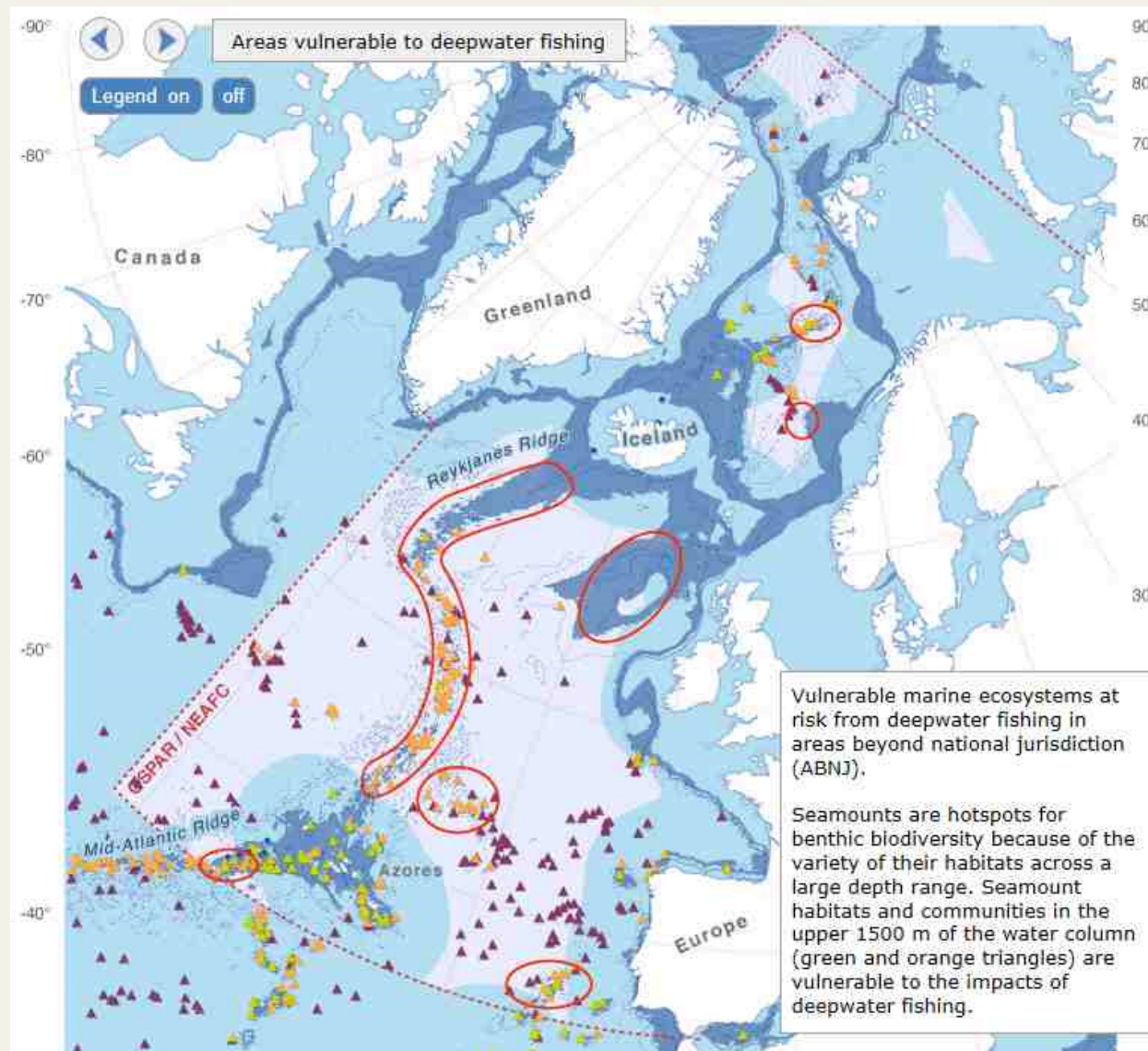
# CBD and EBSAs



Marine Geospatial Ecology Lab, Duke University (2012)

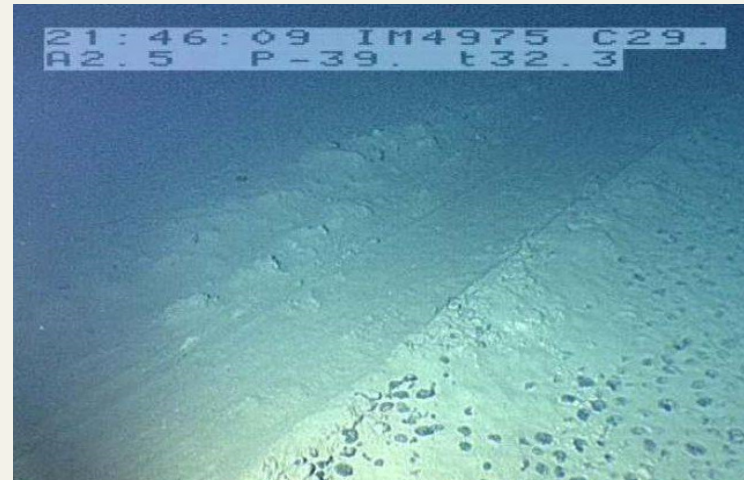


# VMEs in the NE Atlantic: seamounts



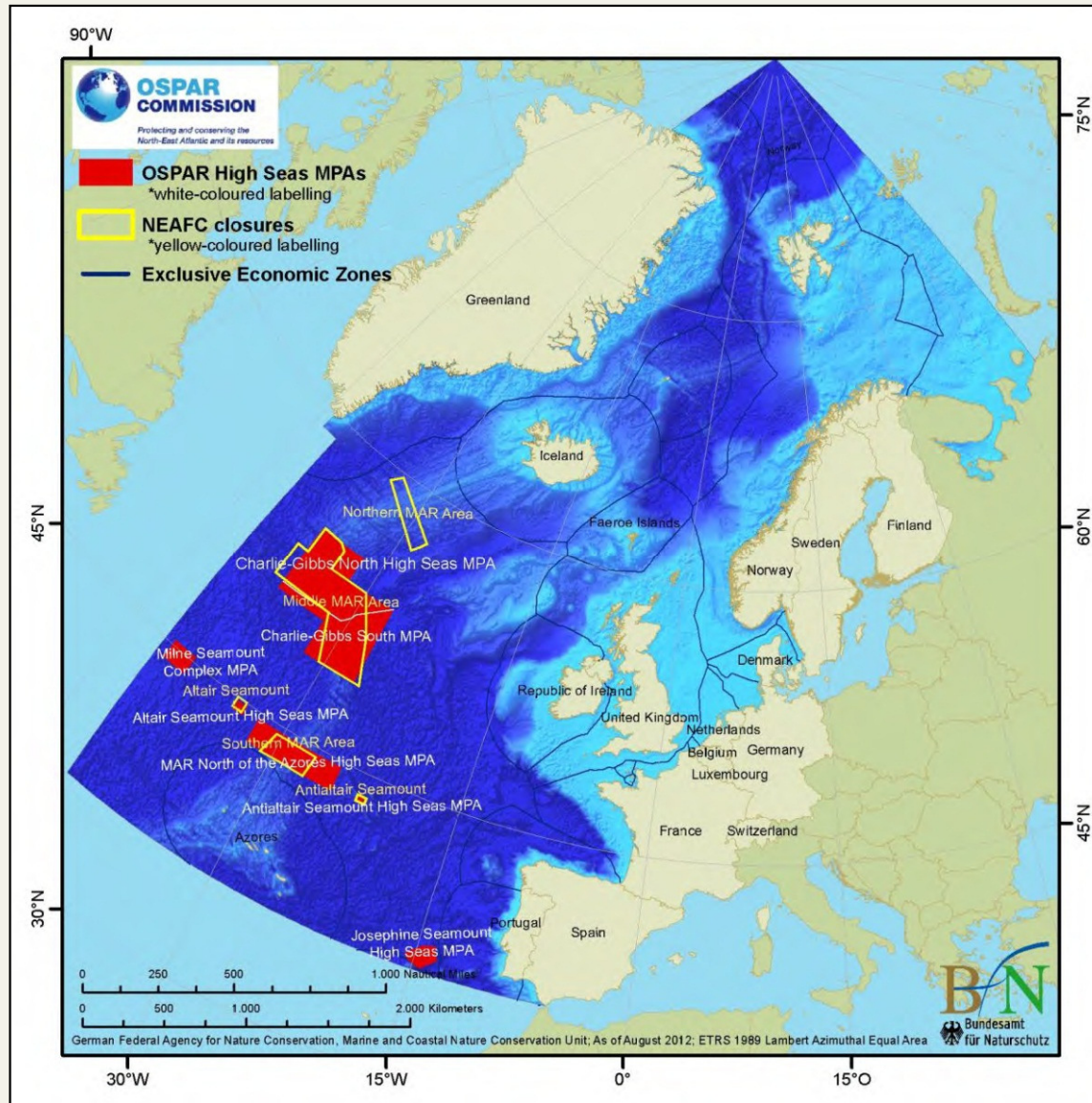
# WWF Recommendations

- **Full and transparent co-operation and co-ordination with other competent international organizations**, both regional and global, for the development of a comprehensive system of MPAs and marine reserves both within and beyond national jurisdiction, in order to effectively protect the full range of marine habitats, biodiversity and ecosystem processes, and to ensure that goods and services provided by the marine environment are used sustainably.



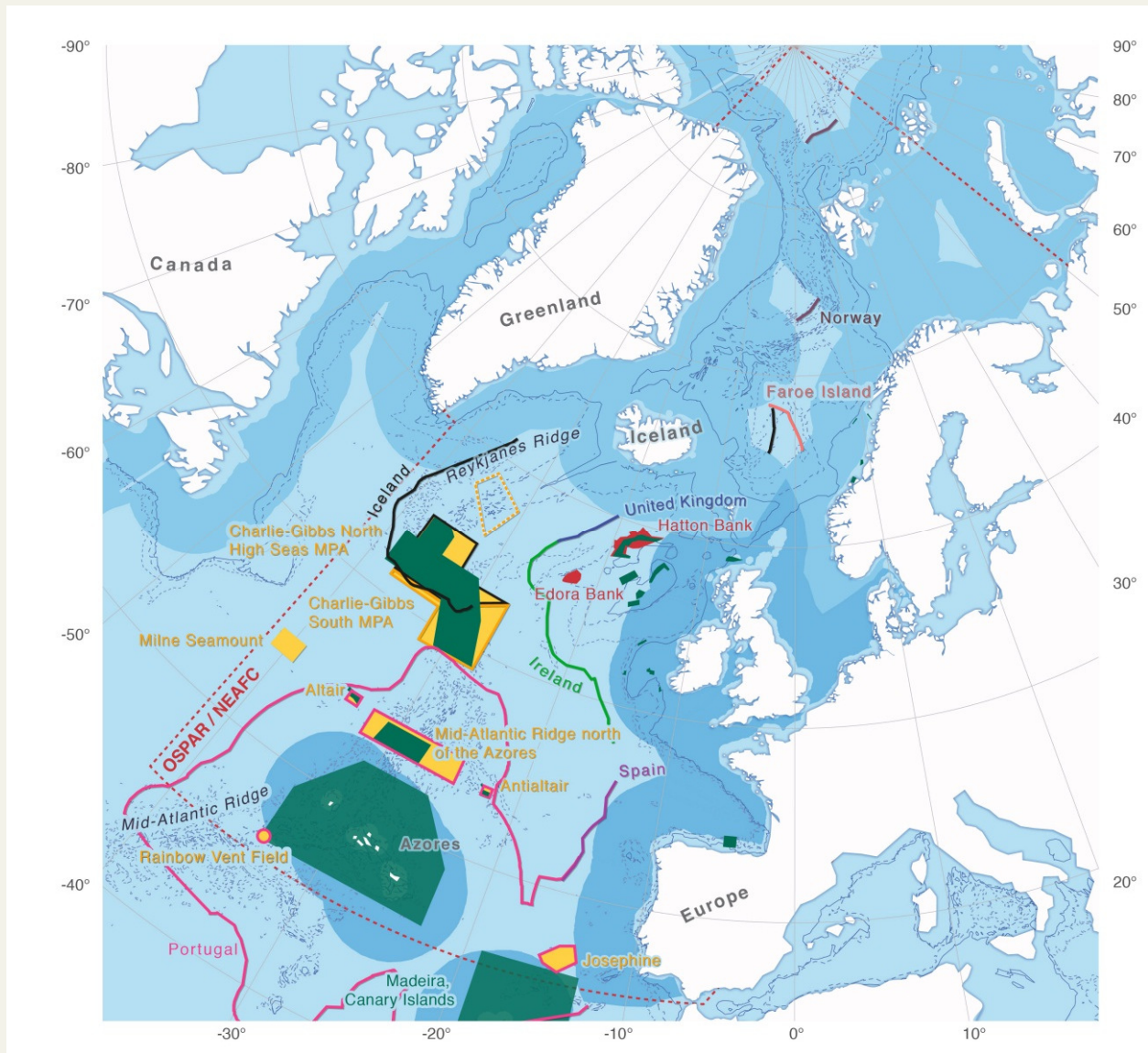


# North-East Atlantic Case Study (1)



- Designation of the world ocean's first **seven** marine protected areas in areas beyond national jurisdiction by OSPAR in 2010/2012
- Bottom trawling closures of VMEs adopted by NEAFC (2009 – to date)
- Draft collective arrangement of competent authorities
- Multilateral negotiations about further sectoral conservation measures between competent authorities: OSPAR, NEAFC, ISA, IMO, ICCAT

# North-East Atlantic Case Study (2)



OSPAR Marine Protected Areas in Areas Beyond National Jurisdiction

Bottom trawling closures in the NE Atlantic (jurisdiction of NEAFC, EU, Norway, Iceland)

Recent extension of NEAFC bottom trawling closures

Coloured lines: boundaries of extended continental shelves as claimed by coastal states

**Why no protection of the seabed and/or VMEs from mining activities?**





# WWF Recommendations

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- Open and transparent **consideration of alternatives to exploiting deep-sea mineral resources**, taking into account ecological, social and economic criteria
- **Collation of adequate baseline information on the deep-sea environment**, in particular on sensitive habitats and communities
- **Recognition of the precautionary principle**, assuming that deep-sea mining will have negative ecological effects until evidence is provided by the applicants for the contrary
- **Definition of environmental standards** for the areas adjacent to mining sites



# WWF Recommendations

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- Full, independent and transparent prior **environmental impact assessments** and **strategic environmental assessments** assessing the cumulative impacts (including fisheries, climate change and other impacts), publicly evaluated and reviewed

and on that basis

- Identification and implementation of **measures and regulations** to avoid significant adverse effects on the marine environment within and beyond the contracted area (incl. BEP/BAT)



# WWF Recommendations

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- **Liability of owners or operators of exploration or exploitation facilities** for the costs associated with the containment or cleanup of any unauthorized discharges of materials and/or waste and any damages resulting from such discharges (“polluter pays”)
- **Independent monitoring of mining operations**
- **A comprehensive and adequately-funded mechanism** to cover clean-up costs, damages to affected parties, and the restoration of the environment associated with unauthorized discharges of materials and/or waste where the responsible party is unknown, unable or refuses to pay

# WWF Recommendations

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- A fully **transparent and accountable process for the participation of civil society and scientists** throughout deliberations at the International Seabed Authority (ISA), including in the Legal and Technical Commission, where most proceedings are currently closed to such participation



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# Further Reading



**BRIEFING**  
JANUARY 2013

**Marine**

## Ecologically or Biologically Significant Marine Areas (EBSA)



**A WWF PRIORITY FOR OCEAN LIFE**

At the 10th Conference of the Parties to the Convention on Biological Diversity (CBD COP 10), governments agreed to a process for describing areas that meet the criteria for ecologically or biologically significant marine areas (EBSAs), and then notifying the United Nations General Assembly (UNGA), governments, and relevant international organizations and bodies of these areas and their need for stewardship. This was a great first step, especially for ocean areas beyond national jurisdiction, and the elimination of some years of work by the CBD.

Since 2010, a number of scientific expert workshops describing areas that meet the EBSA criteria have taken place in various regions, encouraged and supported by the CBD.

The information contained in the workshop reports can be used as the scientific basis for establishing a globally comprehensive, adequate and representative system of EBSAs under effective protection and management in accordance with international law, including the UN Convention on the Law of the Sea.

Now, the process needs to be developed all the way – to assess the value through to protection as designated marine protected areas (MPAs) with management plans or other appropriate measures taken by competent bodies.

**WHICH ORGANIZATIONS DO WHAT?**

The role of the CBD is to facilitate the organization of scientific workshops to describe the areas that meet the EBSA criteria, and to maintain a Repository of agreed workshop reports and a complementary information sharing mechanism to pass these reports on to the UNGA and other relevant international bodies.

The actual designation of MPAs and the development of appropriate management plans or adoption of equally effective measures is the responsibility of those competent bodies. In the exclusive economic zone this is the role of the coastal state. In areas beyond national jurisdiction (the high seas and the

*It is important that the roles of the UNGA and sectoral bodies in dealing with EBSA reports from the CBD are established and agreed.*


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**WWF**  
**POSITION PAPER**  
**MAY 2011**

## DEEP-SEA MINING

An increasing demand for metals has led to a resurgence of interest in deep-sea mining. The exploration for, and exploitation of minerals from deep-sea deposits in water depths greater than 300 m will increase the human footprint on previously largely untouched, unknown and vulnerable ecosystems.

WWF believes that deep-sea mining activities should not commence before measures are in place to protect deep-sea ecosystems from adverse impacts, and then only overseen by an equitable governance system that have completed a series of steps outlined in this document.

### Context

The main deep-sea mineral resources are:

1. Polymetallic nodules (nickel, copper, cobalt, and manganese) on the abyssal plains at depths of 4,000 – 6,000 m;
2. Manganese crusts (cobalt, some vanadium, molybdenum and platinum) particularly on the upper flanks of guyot-type seamounts at depths of 300 – 2,400 m;
3. Polymetallic sulphide deposits (copper, lead and zinc, gold and silver); hydrothermal vents of mid-ocean ridges and back-arc spreading centers at depths of 1,400 – 3,700m.

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Distinct ecosystems are or can be associated with these minerals and will be affected in different ways by different types of mining. Dredging for nodules is likely to damage large areas of the seabed and disperse large clouds of sediment. Polymetallic sulphide mining may destroy active and inactive hydrothermal vents (black smokers) and their associated communities and disperse toxic materials. The extraction of cobalt-rich crusts may destroy the benthic seamount communities and dependent fauna.

# Any Questions?

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