UNCLOS ICP-19, June 2018

Best Practice.

Regional, technical and capacity building approaches.

A way forward.

Nicolas Entrup, OceanCare

Best Practice.
Regional, technical and capacity building approaches

Core elements of decisions (incl. Resolutions) at Multilateral and/or Regional Environmental Agreements addressing "anthropogenic noise"

1. **Take measures** to avoid, minimise & mitigate adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity
2. Conducting **Environmental Impact Assessments (EIAs)**
3. Specific consideration for **management plans** of **protected areas** and critical habitat
4. Promote further **research**
5. Develop and apply Best Available Techniques (**BAT**) and Best Environmental Practice (**BEP**)

Overview

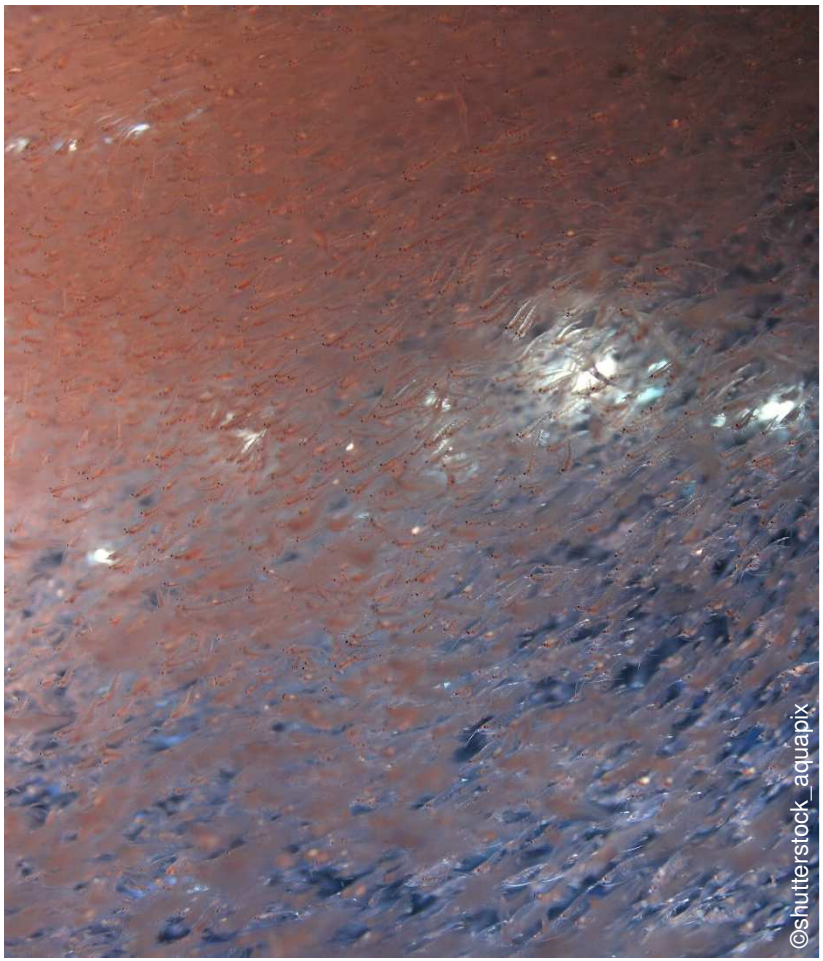
- Marine Mammal Observers (MMOs), Safety Zones, Ramp-Up/Soft Start and their weaknesses
- Time-area closures & Protected Areas
- Quieting Technologies & Measures
    - Seismic Surveys
    - Pile Driving
    - Shipping
- Recommendations

Weakness of Marine Mammal Observers, Safety Zones, Ramp-Ups

- Poor visibility (night, sea state, rain, fog)
- Submerged, deep divers, require longer shutdowns
- Poor MMO training or overwork
- Safety zones not based on field-verified noise levels

Weakness of Marine Mammal Observers, Safety Zones, Ramp-Ups

- Eggs, larvae, plankton, or benthic organisms cannot avoid the noise by swimming away
- Impacts, including masking, extend to areas beyond not just immediate safety zone
- Ramp-up largely untested, may even attract animals



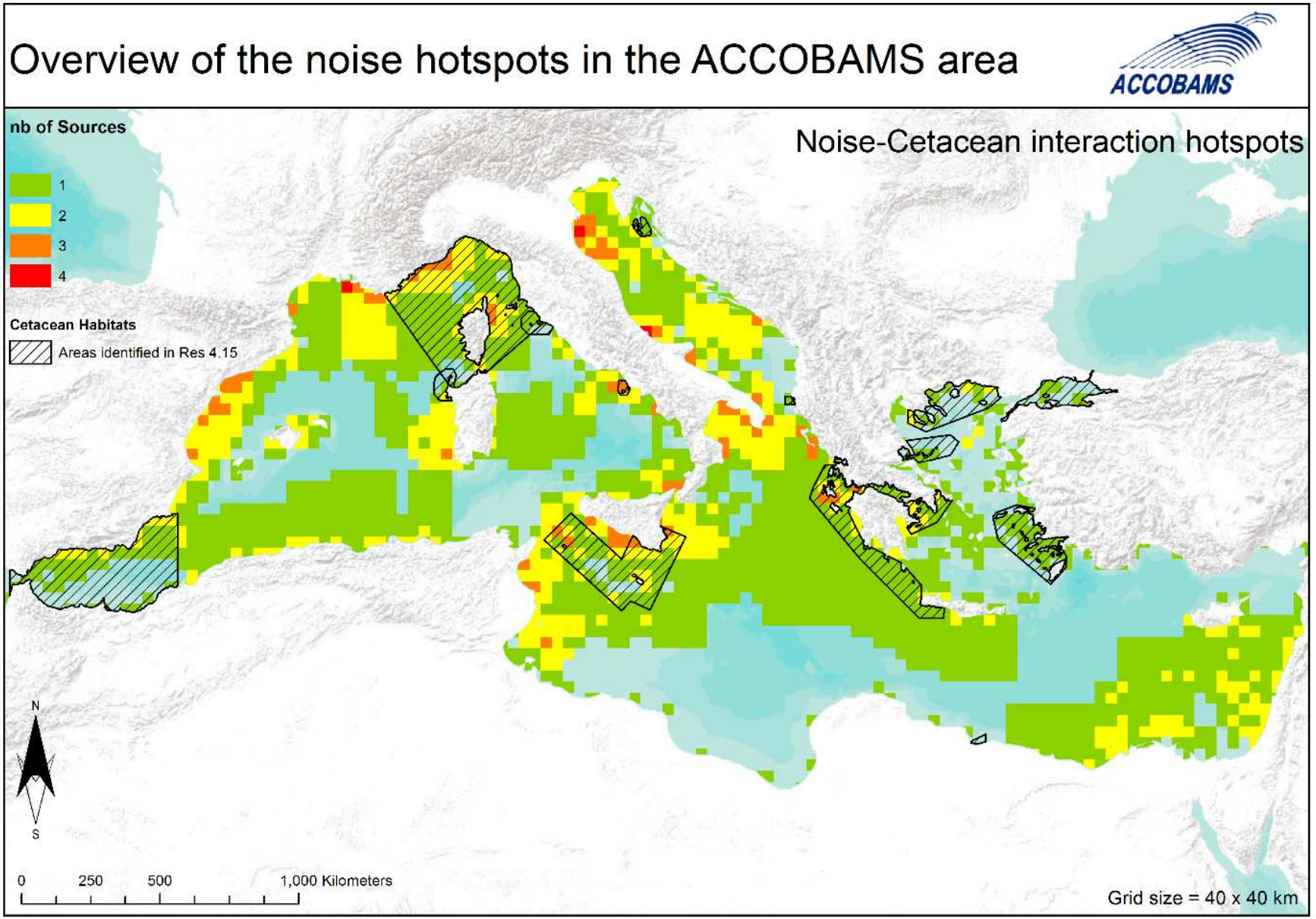
Time-Area Closures

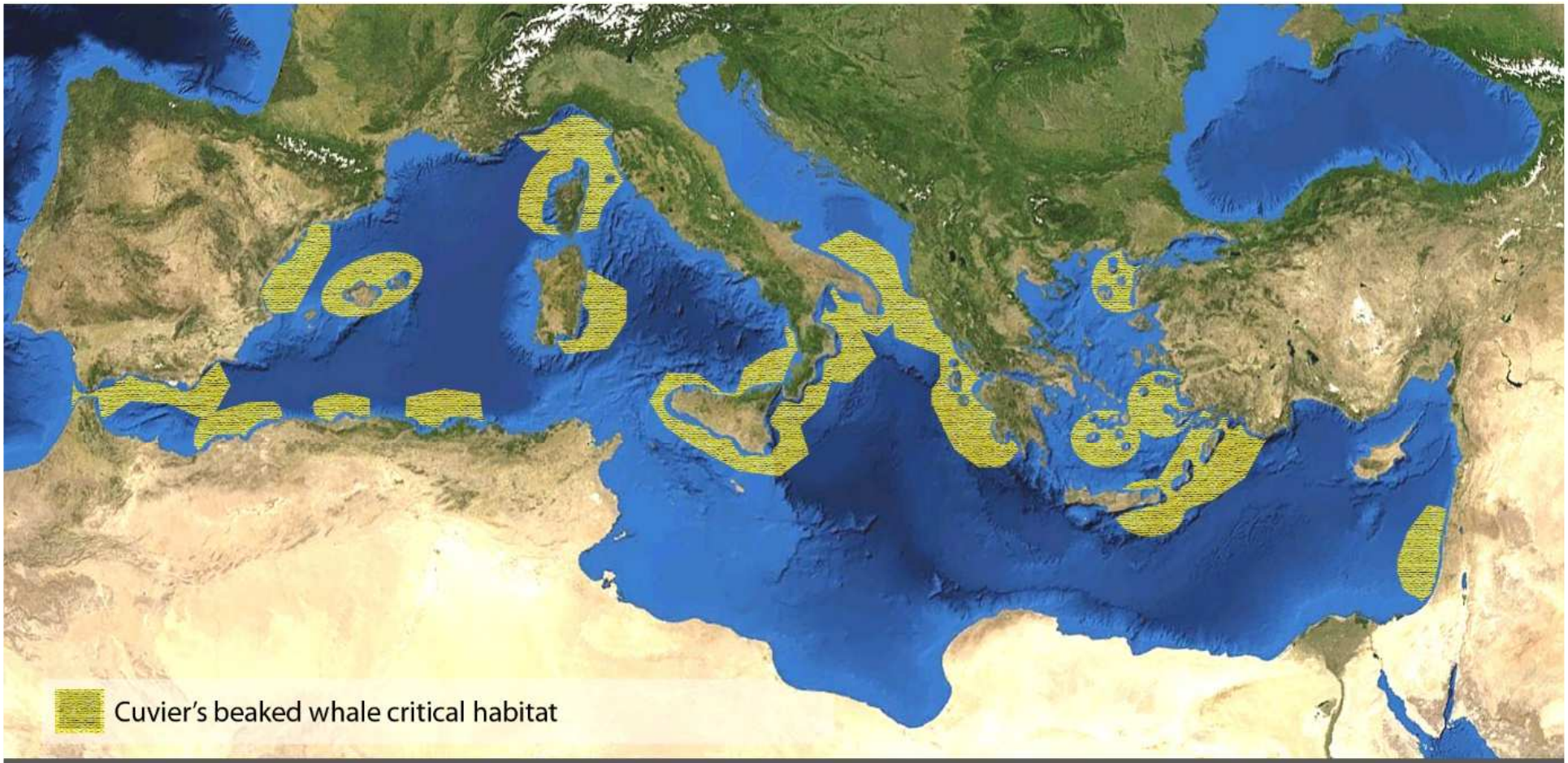
- Separate & protect sensitive animals from noise source
- Avoid protected/sensitive areas
- Noise buffer zones
- Ecosystem-based MPAs can be effective to protect habitat from cumulative or synergistic impacts
- Works best for migratory animals & seismic surveys

Protected Areas

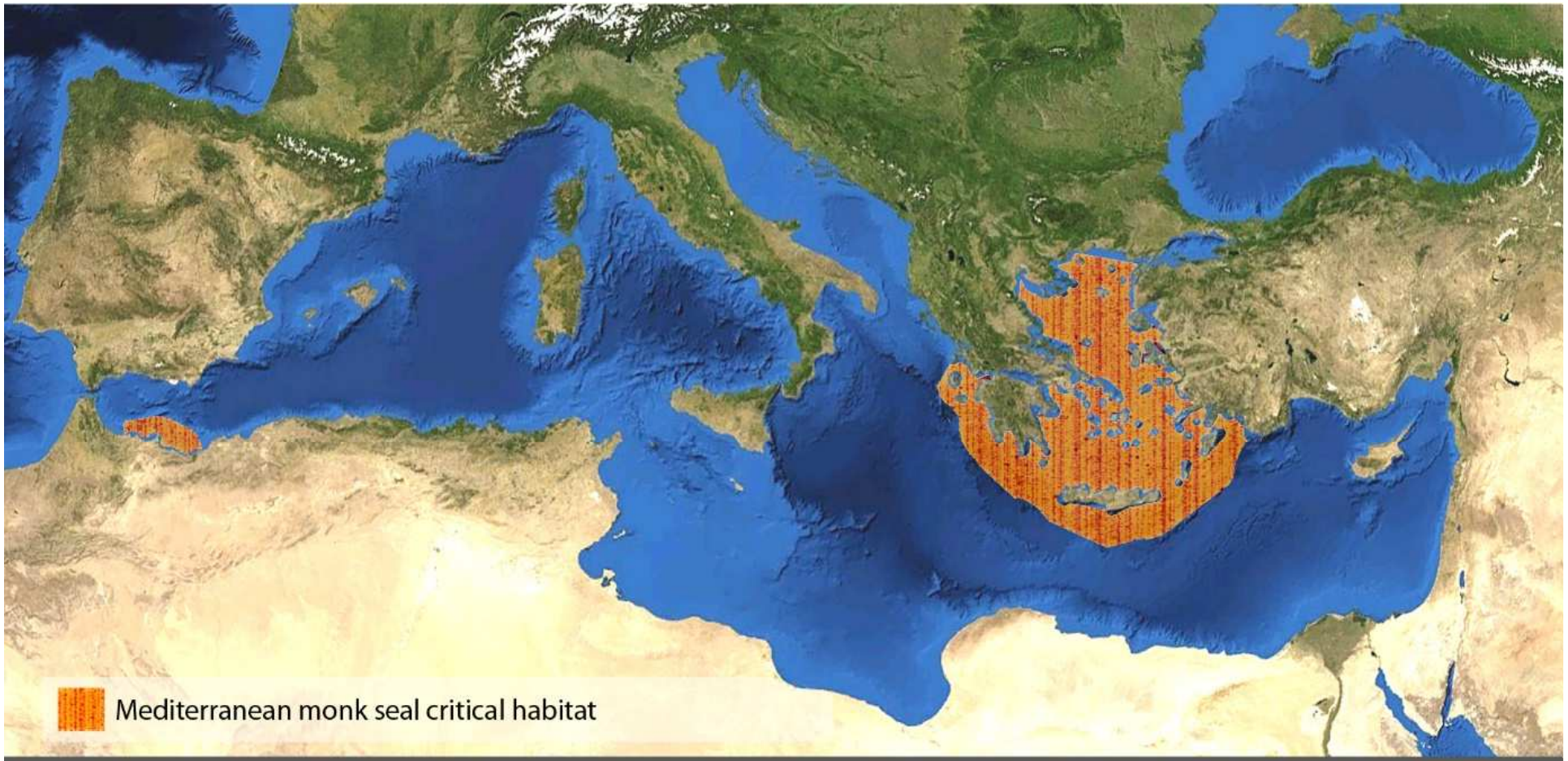
Diversity of "protection status of species and habitats"

- Different criteria and scientific concepts
- Areas with different "protection status" by MEAs, regional or national decisions & legislation
- Range of different conservation measures within MPA Management Plans
- Prohibition of certain activities e.g. impulsive noise activities propagating into protected areas
- Exclusion Zones & Buffer Zones

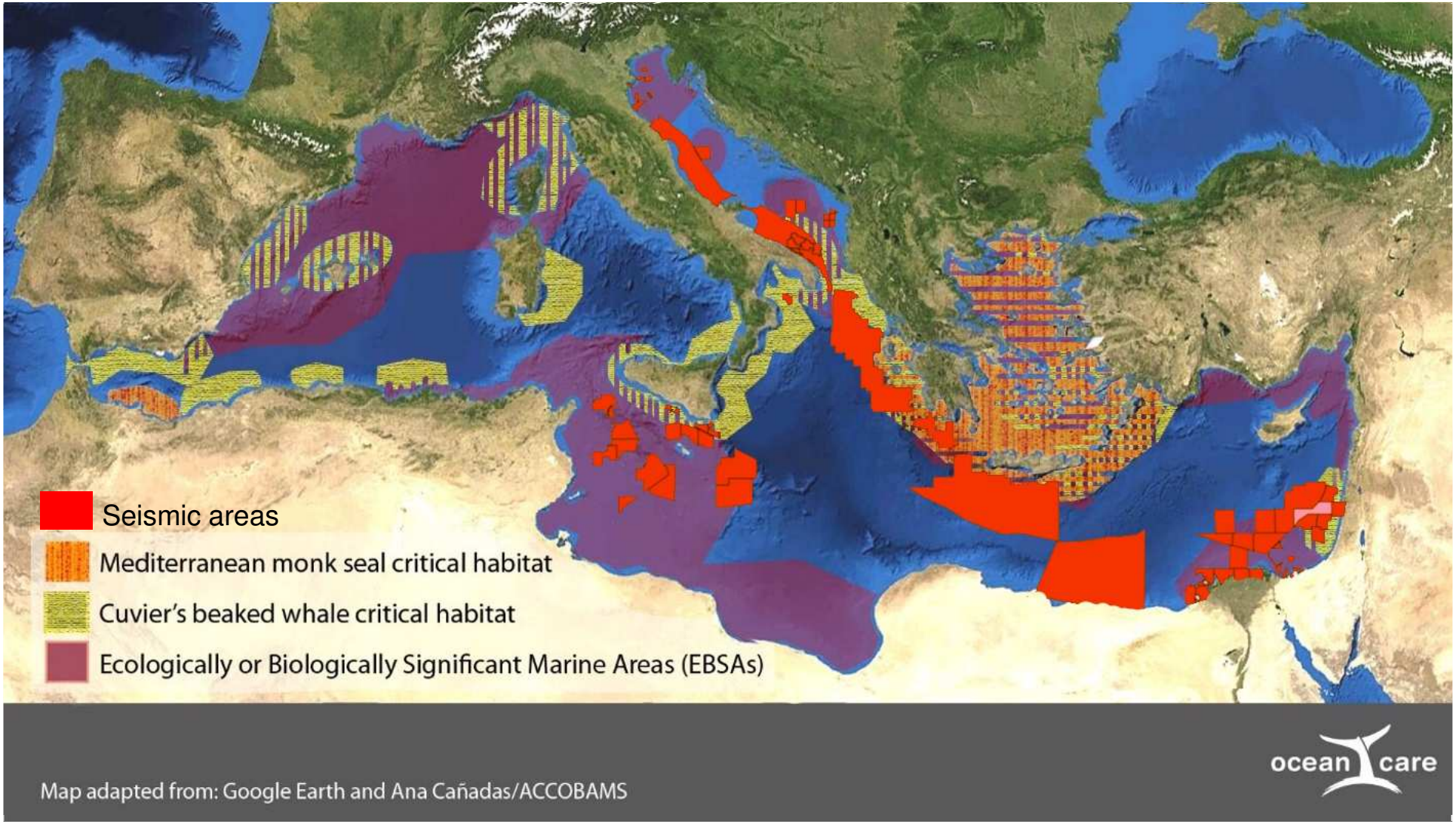

Overview of the noise hotspots in the ACCOBAMS area
ACCOBAMS
nb of Sources
1
2
3
4
Cetacean Habitats
Areas identified in Res 4.15
Noise-Cetacean interaction hotspots
N
S
0
250
500
1,000 Kilometers
Grid size = 40 x 40 km



Map adapted from: Google Earth and Ana Cañadas/ACCOBAMS



Map adapted from: Google Earth and Matthias Schnellmann/ The Monachus Guardian, 2006


Seismic areas
Mediterranean monk seal critical habitat
Cuvier's beaked whale critical habitat
Ecologically or Biologically Significant Marine Areas (EBSAs)
Map adapted from: Google Earth and Ana Cañadas/ACCOBAMS

CAPACITY BUILDING WORKSHOP
November 22-23, 2017 in Split, Croatia

16 Recommendations, including 8.

Promote the development and mandate the use of best-available quieting technologies, such as *Marine Vibroseis*, **by means of regulatory pressure** and requiring operators to demonstrate they are not using sources that are more powerful than necessary and at unnecessary frequencies. This should be a **component of each EIA** … as detailed in the CMS Noise EIA Guidelines.

Quieting techniques & Measures: Seismic surveys

- Reduce source level better than any visual mitigation
- Apply time area closures
- Marine Vibroseis (MV) likely best alternative to seismic airgun

Pile driving

E.g. Germany‘s noise reduction concept

Approach:

→ Imposing noise reduction & mitigation measures: e.g. bubble curtains, soft-start, etc.

→ Setting threshold value (160 dB / 190 dB peak)

→ Imposing requirement to apply best available technology

→ Weakness: cumulative impact due to multiple hammering

Quieting techniques and technologies (BAT): Shipping

- Speed reduction & Slow steaming (18 knots)
- New or retrofit propellers & improve ship (hull) design
- Follow IMO Guidelines (2014)
- Port programmes: speed & noise reduction incentives

RECOMMENDATIONS

- Adopt a precautionary approach, by carefully assessing all future ocean noise generated activities and legislation for best available technology & best environmental practice to be used for any activities given approval.

- Apply and consequently transpose CMS EIA Noise Guidelines & IMO Ship Quieting Guidelines into domestic legislation

RECOMMENDATIONS

- Promote the development & mandate the use of best available technologies by means of regulatory pressure and requiring operators to demonstrate they are not using sources that are more powerful than necessary and at unnecessary frequencies.

- Establish Quiet Zones & apply Time Area closures as appropriate

- Prepare a global Report on BAT & BEP

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