Sonar & Marine Mammals: future focus
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Summary

• US Settlement
• Research funding
• Spatial management
• Existing policy guidance
• Potential subtle injurious effects
• Future focus
US Settlement - background

• Previous cases led to:
  – US navy compliance
  – Increased funding for science
  – Awareness of need for adequate mitigation policy

• NGOs, NOAA, US Navy
  – Sonar and underwater detonations
  – Hawaii and Southern California
  – 2016 to 2018
US Settlement - Research Funding

- $3 M
  - Cuvier’s beaked whales off Southern California Range
    - Abundance, site fidelity, age-class distribution
    - Habitat use
    - Foraging ecology
    - Wider passive acoustic monitoring
- Total US Navy funding > $20 M
- EDA PoMM2 ~ 2.5 M Euro
- European navies spend & collaboration?
US Settlement - Spatial measures

Big Island, Hawaii

California
“NURC’s precautionary policy .. to reduce the temporal and spatial interactions of sounds and beaked whales”
ACCOBAMS Areas of Special Concern for Beaked Whales

Recommendation on the conservation of Cuvier’s Beaked Whales in the Mediterranean: “Areas of Special Concern for Beaked Whales” (ASC-BW) and mitigation protocols for anthropogenic activities using intense underwater sound sources: http://www.disciara.org/documents/Recommendation%2020130430.pdf
Existing policy guidance

- US Noise Strategy
- NURC MMRM R&P
- EDA PoMM
- EU MSFD indicators
- National guidance
  - All necessary, but piecemeal
  - Do they go far enough?
“Potential injurious effects that are subtle, hard to measure and hence overlooked”

“..marine mammals may .. suffer from noise-induced neurological disorders that go undetected, but which are potentially more problematic than TTS. This possibility sheds .. doubt on the idea that PTS is an appropriate general threshold for concern about physiological effects ...” (Tougaard et al., 2015)

(Aguilar de Soto., in press)
Some policy requirements

Absence of detectable reaction ≠ absence of impact

Protecting Europe's nature: more ambition needed to halt biodiversity loss by 2020 (EC, Oct 2015)

• Aim to reduce impacts towards zero
• Regulation for both disturbance & injury; risk of severe acute impacts
• Cumulative impacts of repeated exposure & other sectors (Judd et al 2015)
• Measure effectiveness of management
• Existing laws

Future Focus: Navies & Governments

1. **Funding for surveillance** - real-time, baseline, post mortem, long term fitness consequences
2. **Areas of exclusion & restriction** in important habitats
3. **Clear policy guidance** – wide and immediate application of adequate management
In conclusion

Specifically, European Navies should:
• Undertake SEAs/EIAs, inc. for future sonars
• Continue & increase coordination with MSFD indicator guidance and monitoring

European Commission should:
• Establish a noise impact descriptor
Thanks to conference organisers & thank you!

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