FUTURE MONITORING

Steven Degraer &

LEARNING FROM THE PAST TO OPTIMISE
FUTURE MONITORING
FUTURE MONITORING

CAREFUL ATTENTION NEEDED!

• Rationalisation of basic monitoring programme needed
  • Likelihood of impact detection
  • Meaningfulness of impact size
  • Representativeness of findings

• Continued investment in targeted monitoring needed

• Increased attention for cumulative impacts needed

• International scientific collaboration: the key the cost/benefit efficiency!
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LIKELIHOOD OF IMPACT DETECTION

• Not detecting an impact ≠ impact not being present!
  • Dependent on internalities and externalities
    • Internalities: research effort and sampling-induced variability
      • technical means to analyse, quantify and optimise
    • Externalities: natural variability and impact size
      • Informed selections to be made
MEANINGFULNESS OF IMPACT SIZE

• Not all impacts are socio-ecologically meaningful!
• Example: “How big is big enough?”
MEANINGFULNESS OF IMPACT SIZE

- Not all impacts are socio-ecologically meaningful!
- Example: “How big is big enough?”

- Socio-ecological relevance
- Thresholds for sustainability
  - Inspiration from implementation of EU regulations
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REPRESENTATIVENESS

- Not all study results can be extrapolated just like that!

- Natural gradients

- Foundation type
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RATIONALISING BASIC MONITORING

• Resources restricted well-deliberated decisions needed!
• Workshop to be organised in 2014 to be implemented in 2015…
CONTINUING TARGETED MONITORING

- Understanding-focused to foster environment-friendly future wind farms
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SELECTION OF TARGETED MONITORING

• Artificial reef effect
  • Local organic enrichment effects
  • Attraction-production for commercial species
  • Trophic interactions
  • Increased attention to the pelagic environment

• Operational noise effects
  • Harbour porpoise attraction
  • Fish larvae development
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CUMULATIVE AND LARGE SCALE EFFECTS

• Cumulative effects
  • 109 turbines  530 turbines  14000 turbines
• Context setting
  • Other human activities and their impacts…
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INTERNATIONAL COLLABORATION!
The key the cost/benefit efficiency!

- A lot of work and lots of choices to be made: Let us work together!

- Avoid unnecessary repetition of basic monitoring
  - Similar types of habitat or foundation types, similar impacts
  - Single wind farm versus impacts at population level
  - Etcetera...

- Coordinated monitoring needed
  - Cross-border coordinative initiatives needed
VIEWPOINT FROM EXTERNAL SCIENTIFIC COMMITTEE BOARD...

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Dan Wilhelmsson, Stockholm University, SE
Andrew Gill, Cranfield University, UK
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