Understanding environmental impacts of offshore wind development

Recommendations from the European experience

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- Senior Marine Ornithologist
- JNCC = Joint Nature Conservation Committee
- Funded by UK Government to advise on nature conservation
- Advise on effects of offshore wind development on marine birds
- Also industry-funded strategic research and coordination
Uncertainty around environmental impacts increases consent risk

- Good evidence facilitates offshore wind development
- Increases risk of consent being denied
- Causes projects to be cancelled
- Results in delays and uncertainty over consent decisions
- Increases costs to developers and consumers
15 years of offshore wind development

• First offshore wind farm constructed in 2003 in UK
• Now 34 operational OWF
• But…
• …still uncertainty about impacts
• Recommendations to avoid the same for New York State

https://www.thecrownestate.co.uk/en-gb/our-places/asset-map/#tab-2
Recommendations

• Personal observations, not necessarily the view of others
• Information sharing
• Issues around project-specific vs strategic monitoring/research
• Adequate funding
• Better science
• Collaborative working
Recommendations: Information Sharing

- Centralise information storage and dissemination
  - Single database holding all data
  - Consistent monitoring standards
  - Hold and disseminate relevant research
Recommendations: Information Sharing

• Improve knowledge exchange
  – Who doing what, where, when and how?
  – Coordination of monitoring and research
  – Facilitate collaborations
Recommendations: Project-specific vs strategic research

• Project-specific funding: does this OWF have an impact?
• Strategic R&D funding: what will reduce consent risk?
• Industry scarce R&D funds

Russell et al. 2014
Recommendations: Adequate funding

• Relying on project-specific funding to address strategic evidence needs doesn’t work

• Obligatory levy/strategic fund (Dutch approach)

• State/Government role in funding strategic research?
Recommendations: Better science

• Quality of monitoring:
  – Assess power to detect an effect
  – Monitor at adequate spatial and temporal scales (loons)
  – Pragmatism

• Scientifically-robust survey design
  – BAG (before-after-gradient) not BACI (before-after-control-impact)

• Use statistics for assessing impact

MRSea tool
https://www2.gov.scot/Topics/marine/Publications/publicationslatest/Science/MSSR/2014/0414
Recommendations: Better science

- Prioritise strategic knowledge gaps by consent risk
- Improve baseline data
- Adaptive management approach
- Publish findings in peer-reviewed literature
Recommendations: Collaborative working

• Collaborative working is essential
  – Everyone benefits
  – Necessary for cumulative impact assessment
  – UK: moves towards collaboration on strategic research
  – Challenging!

• Examples of collaborative working
  – ORJIP (Offshore Renewables Joint Industry Programme)
  – European CEAF (Cumulative Effects Assessment Framework)
ORJIP Offshore Wind

• Research to understand effects of offshore wind on the environment
• Set up by UK and Scottish governments, The Crown Estate and 11 developers
• E.g. Bird Collision Avoidance study
European Cumulative Effects Framework

• Cumulative impacts: biggest challenge for OWF development in Europe
• Mobile species: collaboration across political boundaries
• CEAF: tool for cumulative impacts at European scale
• To inform marine spatial planning
• Governmental collaboration
• Data limitations

Red-throated loon tracking: www.divertracking.com
http://northseaportal.eu/project-information/objectives-and-goals/
Obtaining a good understanding of environmental impacts of offshore wind is challenging!

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