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RiCORE

Risk Based Consenting of Offshore Renewable Energy Projects

RiCORE

RISK BASED CONSENTING FOR OFFSHORE RENEWABLES



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646436.

- Challenges facing development of Offshore Renewable Energy* Projects
 - Technology costs
 - Transmission grid infrastructure
 - Consenting procedures
 - Environmental impacts
 - Grant and revenue support
- *defined as offshore wind, wave and tidal



RiC*RE



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- To ensure the successful development of ORE in the EU Member States by **reducing** the **cost** and **time** taken to consent projects through the development of a **risk based approach** to consent



Relevant EU legislation includes:

- Renewable Energy Directive (2009/28/EC)
- Marine Strategy Framework Directive (MSFD 2008/28/EC)
- Strategic Environmental Assessment, (2001/42/EC)
- Environmental Impact Assessment Directive (2014/52/EU)
- Water Framework Directive (2000/60/EC)
- Birds Directive (2009/147/EC) SPA's
- Habitats Directives (92/43/EEC) SAC's



- Legislation aims to address climate change, promote low-carbon energy whilst maintaining biodiversity, protecting endangered species and habitats, minimising adverse impacts of development and protecting the marine resource base
- Uncertainty about the appropriate application of environmental legislation, which can further prolong consenting processes
- Environmental Impact Assessment (EIA) varies considerably in scope and intensity both within and across MS
- Different methodologies and timeframes are utilised
- Costly and time consuming surveys are required even for perceived **lower risk** technologies in sites which may have a **lower environmental sensitivity**



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I. Understanding what actually happens in different Member States:

- The consenting process
- Application of legislation
- Legal and legislative barriers to ‘standard’ approaches...
- ...what is required to overcome those barriers



2. Look at potential for developing and using *risk profiles* to speed up the consenting of offshore wind, wave and tide:

- Small arrays...
- ...of known technology...
- ...in areas of low environmental sensitivity



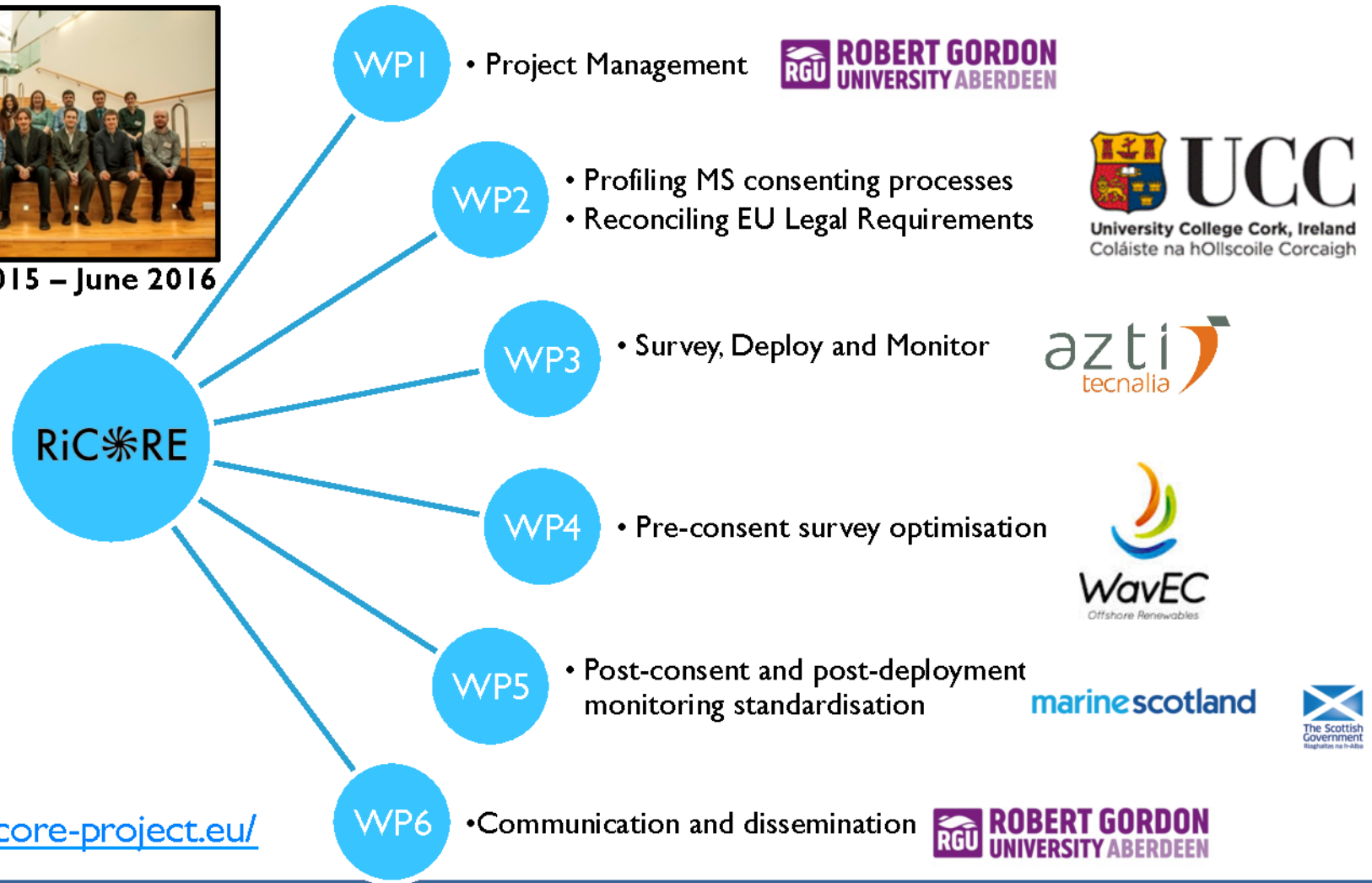
3. Seeking more standardisation in post deployment environmental impact monitoring:

- standardising data collection ...
- ...would allow policymakers to compare and better understand the environmental effects of different devices





January 2015 – June 2016



<http://ricore-project.eu/>



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- 1. To identify the environmental requirements regarding pre- and post-consenting of marine renewable energy projects in EU countries to date;
- 2. To discuss suitable monitoring needs incorporating varying levels of environmental risk
 - Several receptors: socio-economic, benthos and habitats, marine mammals and noise, birds, fish and shellfish, physical environment
 - Representatives from several Member States (UK, Spain, France, Ireland, Portugal, Germany, Netherlands)

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- **What effective methodologies and practices would meet the one year site characterisation survey for pre-consenting?**
- *“A consensus...from all groups regarding the need to have more than one year data for the pre-consenting phase of MRE projects. However, concerns from developers should be taken into account regarding the length and costs of the monitoring activities since they can strongly affect project feasibility”*
- *“Important to focus monitoring activities, limiting them to what is really necessary to understand project impacts”*
- *“In some Member States, there is an established requirement for the developers to present at least two years of baseline data. Although for some sites this amount of data may not be enough”*

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1. Identify commonalities and transferability of pre-consent surveying between renewable technologies. Are there issues/ methodologies specific to device type or location?
2. Examine existing long-term datasets to see how interpretation changes over time (confidence intervals, sub-sampling, power analysis)
3. Develop advice on the scope and intensity of monitoring (or data collation) consistent with a one year site characterization under Survey Deploy Monitor



Commonalities and differences in approaches to pre-consent survey

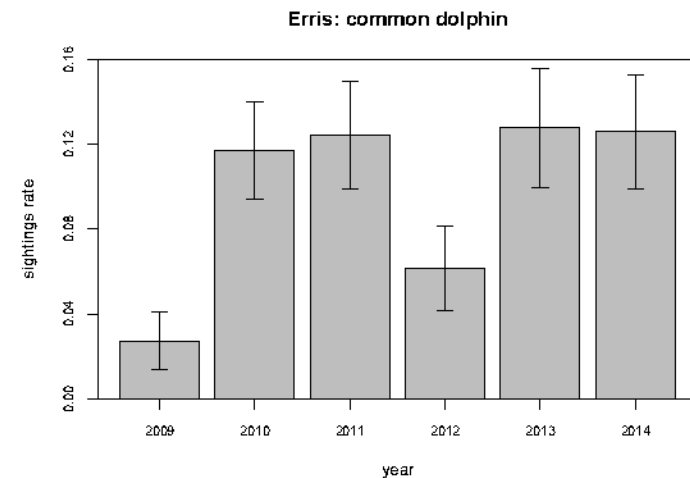
- Denmark, France, Ireland, Germany, Netherlands, Portugal, Spain, UK (Scotland, England, Wales, Northern Ireland)
- Physical Environment, Marine Mammals, Fish & Shellfish, Benthos & Seabed Habitats, Seabirds, Bats, Socio-economic
- Period, Parameters, Methods, Spatial Coverage



Marine Mammal Monitoring in Broadhaven Bay, Ireland

Land-based vantage point surveys

Year-round surveys (maximum survey effort)



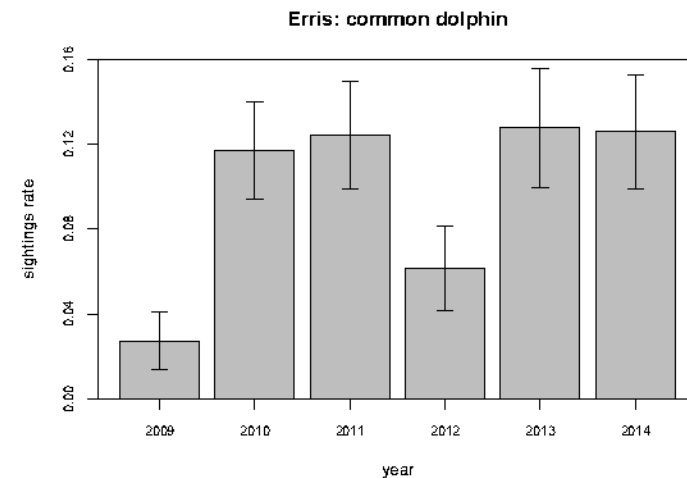
Marine Mammal Monitoring in Broadhaven Bay, Ireland

Land-based vantage point surveys

Year-round surveys (maximum survey effort)

Statistical power:

1. Sightings rate
2. Coefficient of Variation
3. Duration of monitoring
4. Significance level



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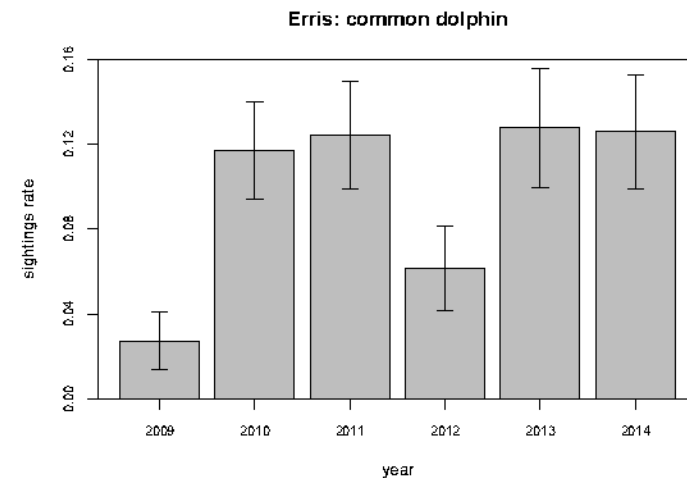
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marine mammals: should achieve $\geq 80\%$

power and consideration should be given to the use of a significance level of 0.2 (ICES, WGMME)



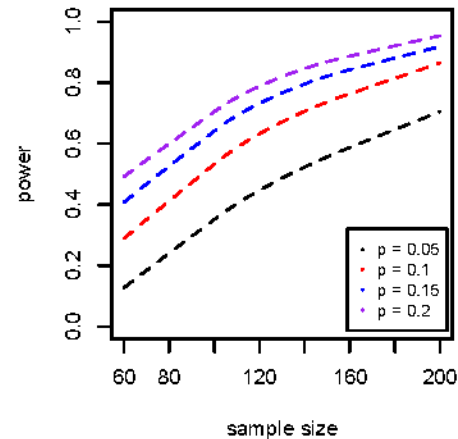
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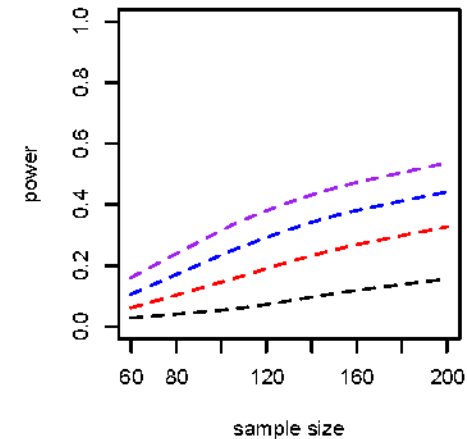
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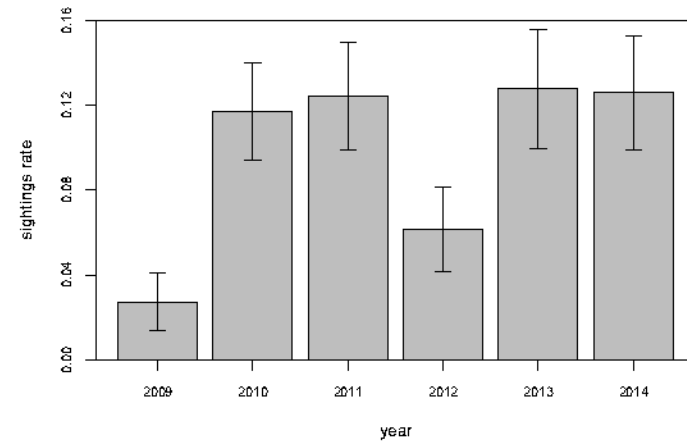
2009 v. 2010 = 4.29



2009 v. 2012 = 2.27



Erris: common dolphin



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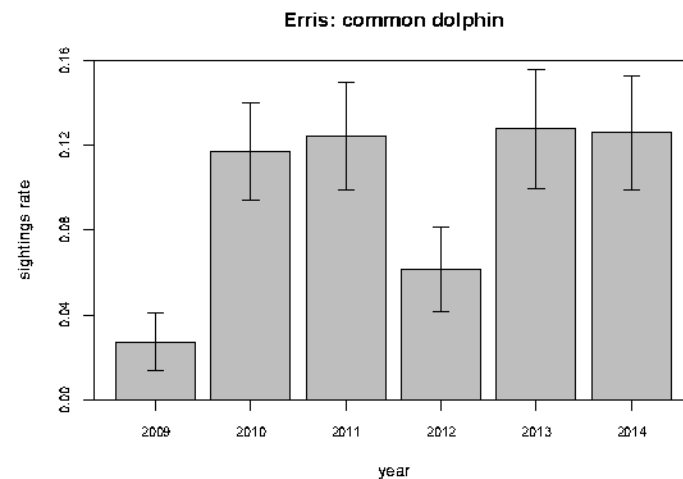
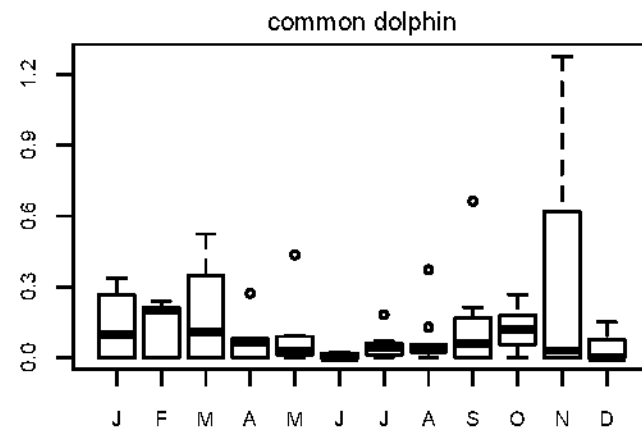
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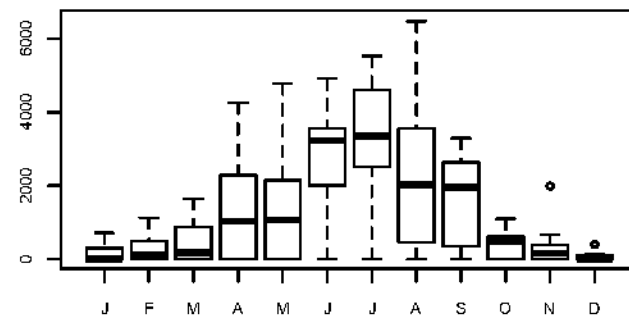
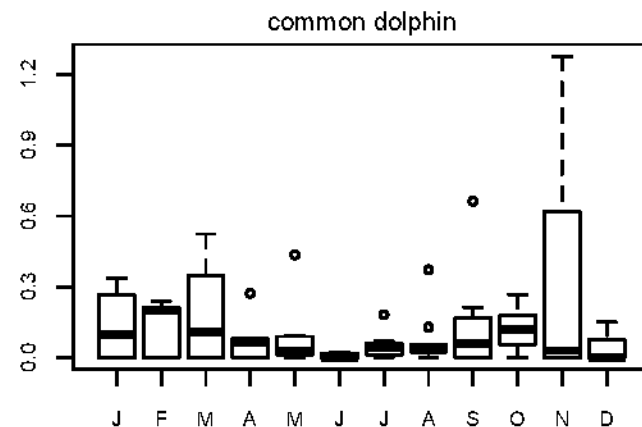
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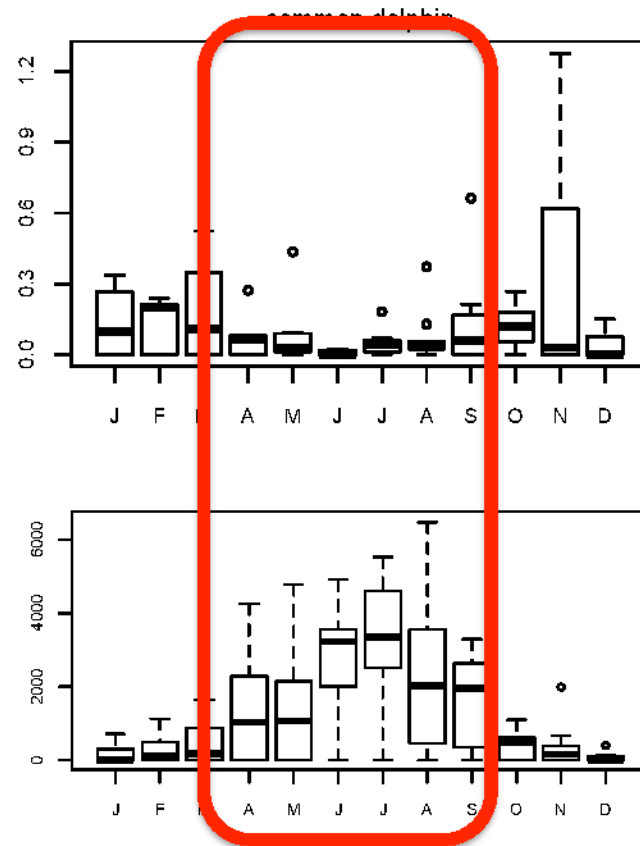
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- **Baseline:**
 - Inform monitoring programmes
 - Low sightings and high variation = Low Risk?
 - Money and time better spent in post-consent monitoring?



RiC*RE

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