

# Overview of Risk Based Consenting and Survey, Deploy and Monitor



**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.

## Marine Scotland's Role

Planning

marine scotland

Licensing

Science



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## Need for Survey, Deploy and Monitor

- 2 principle drivers:
  - The findings of the 2007 Strategic Environmental Assessment on marine renewables
  - To encourage and facilitate the timely development of the marine renewables sector in Scotland



## Survey, Deploy and Monitor

- Risk-based approach for taking forward wave and tidal energy proposals.
- Distinguishes between proposed developments for which:
  - there are sufficient grounds to seek determination on a consent application based on a minimum of 1 year of wildlife survey effort and analysis to develop site characterisation pre-application,
  - and those where a greater level of site characterisation is required



## Survey, Deploy and Monitor

The guidance is based upon 3 main factors:

1.Environmental Sensitivity (of the proposed development location)

2.Scale of Development; and

3.Device (or Technology) Classification.



## Scale of Development

Scale of development	Criteria	Assessment
Small	Up to 10 MW	L
Medium	More than 10MW, to 50MW	M
Large	More than 50MW	H



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## Device or Technology Risk

	Environmental hazards related to the device/technology	Assessment of environmental significance (H, M L)
1	Potential for harmful collision between marine mammals/basking sharks and offshore wave and tidal energy converters and associated moorings/support structures	
2	Potential for harmful collision between diving birds and with the moving turbine blades / hydrofoils of tidal energy converters.	



3	<p>Direct loss of protected or sensitive sub-littoral seabed communities due to the presence of wave and tidal energy converters and associated moorings/support structures on the seabed</p> <p>The potential wider/secondary effects on protected or sensitive sub-littoral seabed due to installation and operation of wave and tidal energy converters and associated moorings/support structures</p>	
4	<p>The potential for release of polluting substances to the sea</p>	
5	<p>Potential barrier to movement for marine mammals/basking sharks due to physical presence of wave and tidal energy converters and associated moorings/support structures</p> <p>The potential for cetaceans / basking sharks to become entangled in mooring lines</p> <p>Potential risk of entrapment of marine mammals (cetaceans/seals)/ basking sharks from wave and tidal energy converters and associated moorings/support structures</p>	





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Potential for direct loss of habitat used by seals/otters due to the installation of shoreline wave energy converters

Direct loss of breeding habitat used by coastal breeding birds due to the installation of shoreline wave energy converters

Direct loss of protected or sensitive littoral coastal communities due to the placement of shoreline/nearshore wave energy converters

The potential wider/secondary effects on protected or sensitive littoral coastal communities due to installation and/or operation of wave and tidal energy converters and associated moorings/support structures



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Operational noise: The potential effects on marine mammals and basking sharks from underwater noise generated by: device operation; and the presence of support structures.

The potential effects on marine mammals/basking sharks from shock/pressure waves generated by wave and tidal energy converters.

The potential effects on marine mammals from above surface noise generated by wave and tidal energy converters.

The potential effects on diving birds of underwater noise and vibration generated by wave and tidal energy converters

The potential effects on diving birds of above surface noise generated by wave and tidal energy converters with generators/air turbines housed in surface-piercing components



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Installation noise: The potential effects on marine mammals and basking sharks from underwater noise generated by: device installation  
The potential effects on diving birds of underwater noise and vibration generated by wave and tidal energy converters during drilling activities

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Potential displacement of essential activities of marine mammals/basking sharks due to the presence of wave and tidal energy converters and associated moorings/support structures  
Potential displacement of essential activities of marine birds due to the presence of wave and tidal energy converters and associated moorings/support structures  
Potential effects of changes in turbulence on foraging success of marine birds due to the presence of wave and tidal energy converters and associated moorings/support structures



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Potential for harmful collision or other interaction with migratory fish



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## Environmental Sensitivity (of the proposed development location)

### Considerations

Designated areas,  
protected species,  
protected habitats and  
other relevant environmental factors



## Environmental data layers, part 1

### Areas with environmental designations

Bird reserves and Important Bird Areas

Local nature reserves

Special Areas of Conservation

Special Protection Areas

Sites of Special Scientific Interest

Offshore candidate SACs and SPAs

Offshore draft SACs and SPAs

Offshore possible SACs and SPAs

RAMSAR sites



## Environmental data layers, part 2

### Areas with potential for designation

Possible sea haul out sites

Areas of importance to basking sharks

Areas of search for potential MPAs

Areas of search for seabird aggregations



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## Environmental data layers, part 3

Other areas of environmental importance

Nursery areas for commercial fish species

Spawning areas for commercial fish species

Areas of importance to breeding sea birds

Areas of importance to seabirds in winter

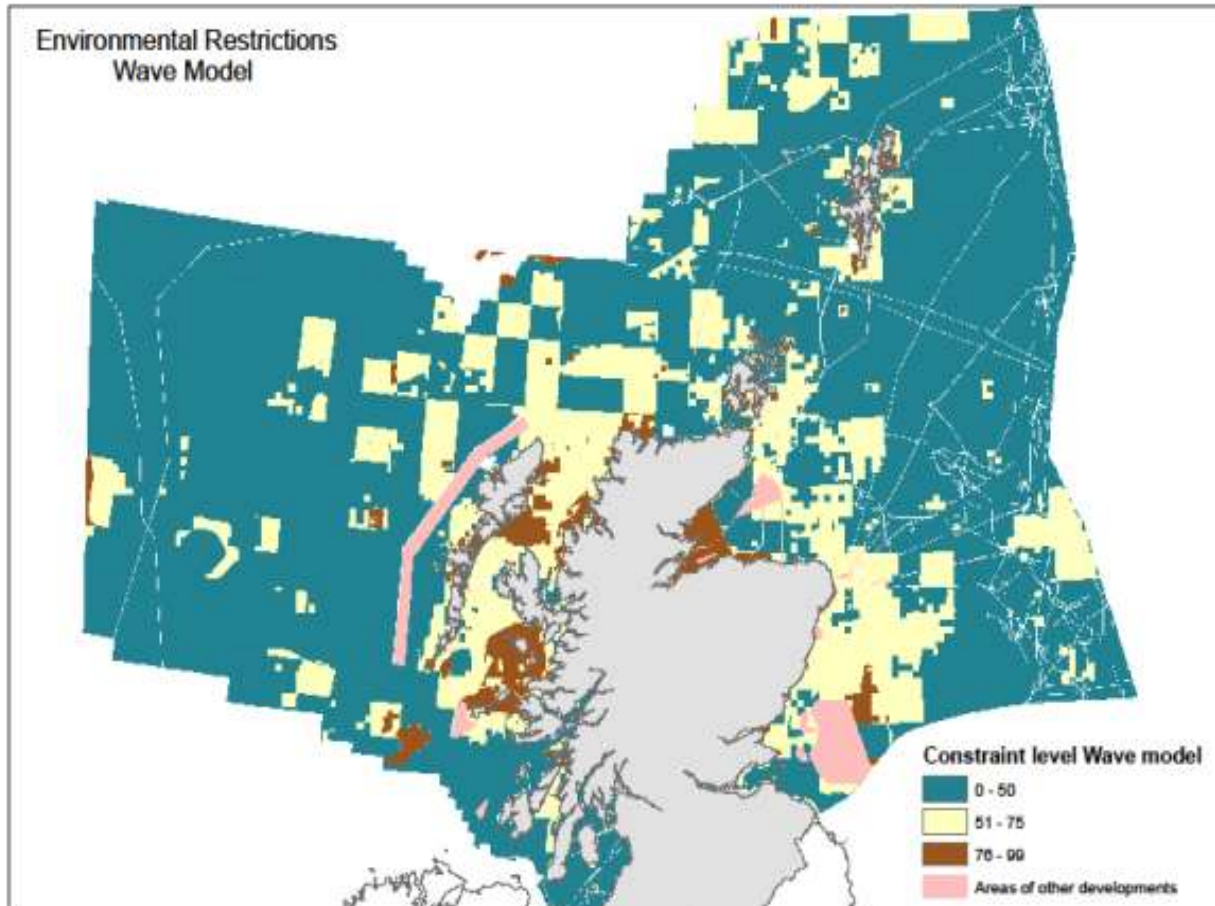
Areas of importance to marine mammals

**Layers are weighted according to their importance as impact receptors in the licensing process.**

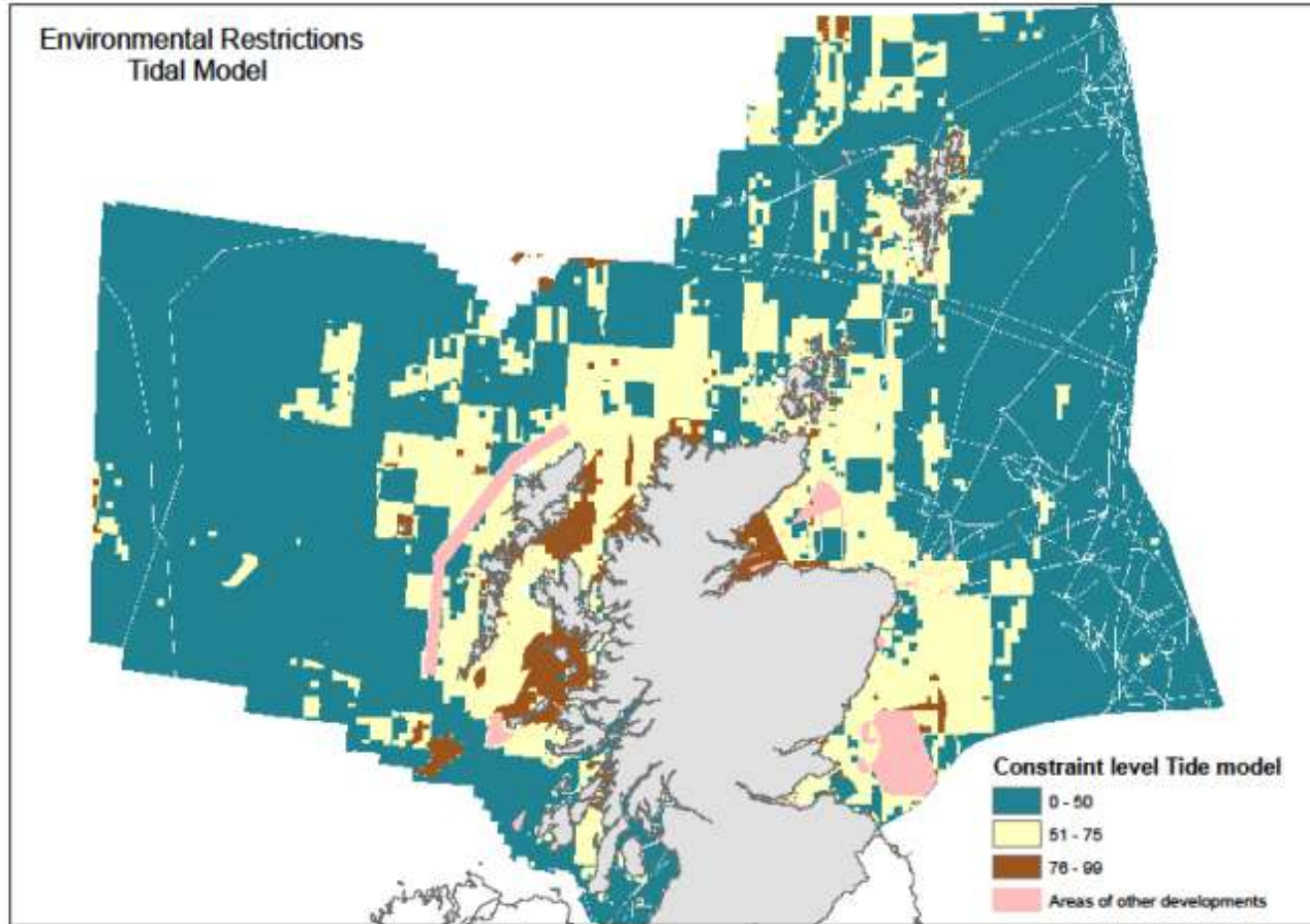


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## Summarising Overall Project Risk

<b>Geometric mean score</b>	<b>Overall risk</b>
1 – 1.60	Low
1.61 – 2.20	Medium
2.21 – 3.0	High



## Proposals Assessed As Low Risk or Uncertainty



- If the environmental risk information is considered robust or underpinned by strategic survey information we might consider fast tracking the application.
- 1 year of site characterisation data (or equivalent) requested to inform an EIA, HRA (if this is required) and licence application.
- Should further data be required, the EIA and licence application may go forward in parallel with the additional survey work



## Proposals Assessed As Medium Risk or Uncertainty



- Initial presumption that 2 years of site characterisation data would be required.
- However, if Marine Scotland considers after one year that the environmental risk is less than anticipated, or that the data gathered to date have been adequate to inform both the EIA and HRA processes, then they would be prepared to discuss relaxation of the requirements for further site characterisation, on receptor-specific or hazard-specific bases.



## Proposals Assessed As High Risk or Uncertainty

- A large development proposed for an area of higher environmental sensitivity and device risk could have an overall project environmental risk assessment of High.
- Little scope to apply a fast-tracking approach.
  - minimum of 2 years site characterisation data would be necessary to support an application.
- In addition, the developer would normally be expected to undertake testing and impact monitoring of a test device or demonstration array elsewhere, providing the results of studies on wildlife interactions with their device(s) in support of their application.



## Impact Monitoring Requirements

- Impact monitoring, post-construction, of test devices or arrays is likely to be a condition on most consents granted
- This will provide information necessary to support subsequent applications
- The nature and duration of this will, however, be project specific and only determined and agreed once (or if) consent has been secured.



## More Information

- Marine Scotland's Marine Renewables Licensing Manual
- <http://www.gov.scot/Resource/0040/00405806pdf>
- Draft guidance on options for survey and monitoring is available via the SNH website at:
- <http://www.snh.gov.uk/docs/B925810.pdf>

