NRW's approach to assessing wave & tidal project 'riskiness'

Cyfoeth Naturiol Cymru
Natural Resources Wales

From:
Sparling C, Smith K, Benjamins S, Wilson B, Gordon J, Stringell T, Morris C, Hastie G, Thompson D & Pomeroy P (2015). Guidance to inform marine mammal site characterisation requirements at wave and tidal stream energy sites in Wales. NRW Evidence Report Number 82.

Available to download at:
http://www.naturalresources.wales/our-evidence-and-reports/guidance-to-inform-marine-mammal-site-characterisation-requirements-at-wave-and-tidal-stream-energy-sites-in-wales/?lang=en

Dr Kate Smith: kate.smith@naturalresourceswales.gov.uk

Staged matrix-based

- Classifies factors for **ecological sensitivity** and **technology risk**.
- Combines in 6 stage process to give overall project riskiness (H/M/L).

Receptor / location sensitivity + **technology risk** + **project duration** = **Overall project risk**

Stage	Details	Based on…
1	Population sensitivity (pre-determined)	Population size, distribution, status, demographics
2	Location sensitivity	Connectivity with protected sites, mammal distribution, functional importance of site
3	Combines stages 1 and 2 to give overall sensitivity	
4	Technology risk	Judgement based on guiding principles. Separate assessment for collision risk, disturbance and barrier effects
5	Combines Stage 4 with project duration	Categories of duration (≤3 years, 3-10 years, >10 years)
6	Combines Stages 3 and 5 to give overall project risk	

Survey

Mitigation

Monitoring

Feedback loop for additional evidence

Welsh staged matrix and Scottish survey, deploy & monitor

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Survey, Deploy & Monitor 	Staged matrix 
Single risk assessment for project covering all receptors	Tailored for receptor specific risk assessment
Single assessment for all impact pathways	Tailored for impact pathways of key concern
No explicit consideration for impact pathway / receptors of concern	Need to identify key receptors and impact pathways up front to allow assessment
Combines risk factors mathematically (geometric mean)	Combines risk factors using principles-based judgement
More transparent	More flexible?
Simpler, more straightforward?	More complicated, but informs decisions about survey needs and data collection