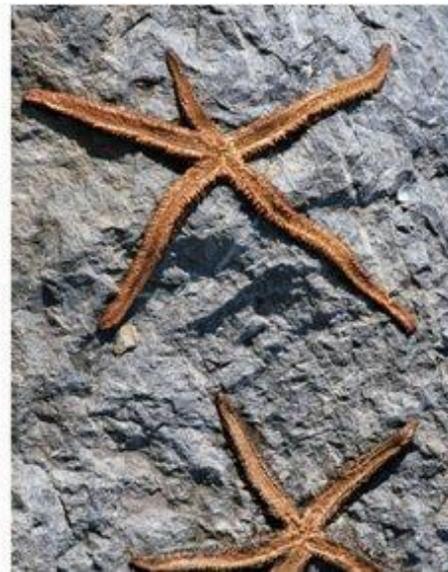


# Cumulative Impact Assessment in Pentland Firth and Orkney Waters

## Enabling Actions Report for The Crown Estate

John Pomfret, Technical Director, AMEC Environment & Infrastructure UK

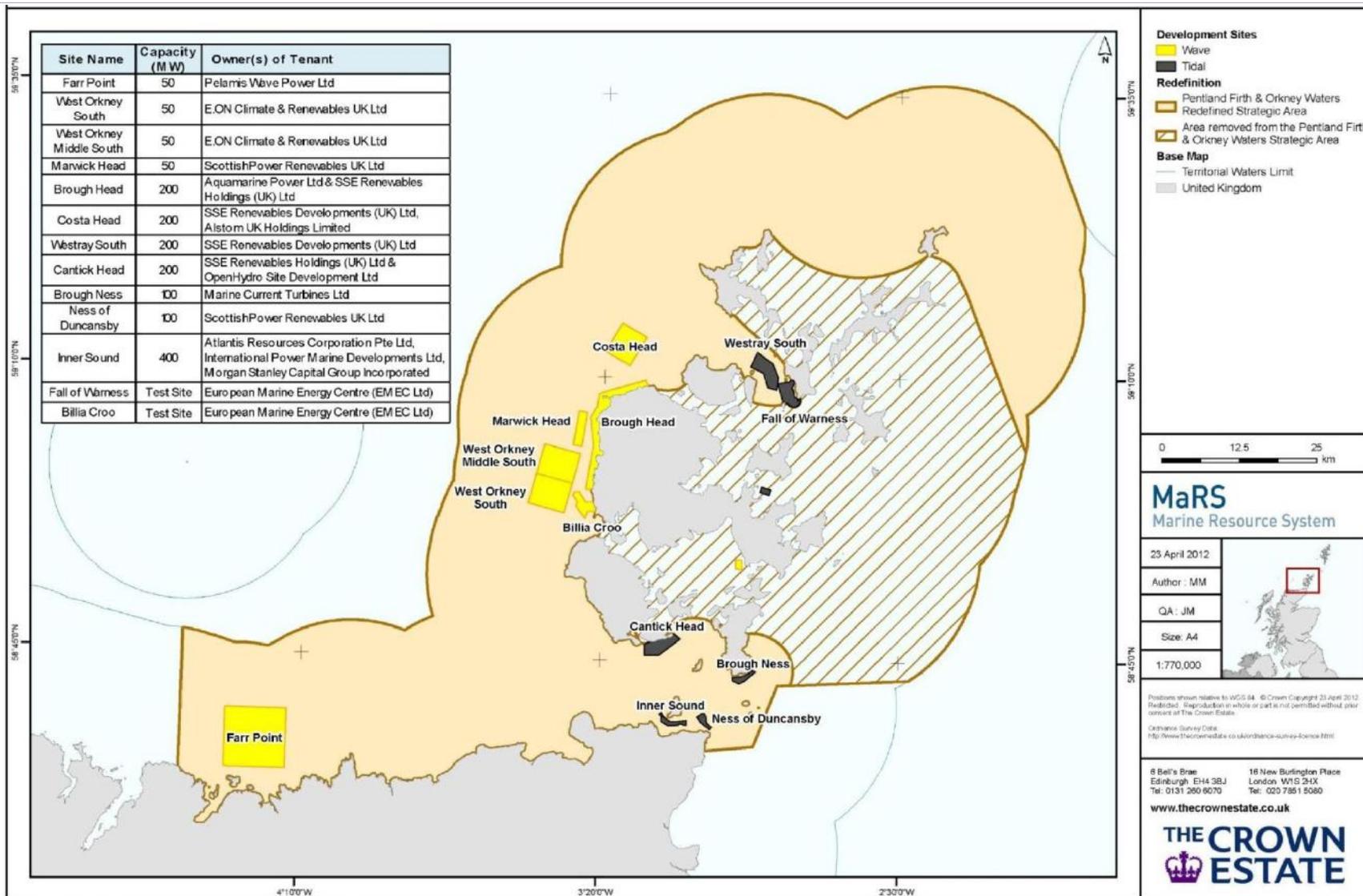


- Wave and tidal power leasing round in Pentland Firth & Orkney Waters (PFOW) strategic development area
- The Crown Estate (TCE) is undertaking 'Enabling Actions' work to accelerate and de-risk the development process
- One enabling actions topic was Cumulative Impact Assessment (CIA)
- Studies undertaken:
  - Cumulative Impact Assessment in PFOW – AMEC and Aquatera
  - Ornithological CIA framework – MacArthur Green
  - Identification of cumulative effects in PFOW – Royal Haskoning
- This presentation summarises the outcomes of the AMEC project
- This produced guidance based on a review of existing guidance, circulation of a discussion paper and a stakeholder workshop, with the aim of avoiding each developer re-inventing the wheel on CIA

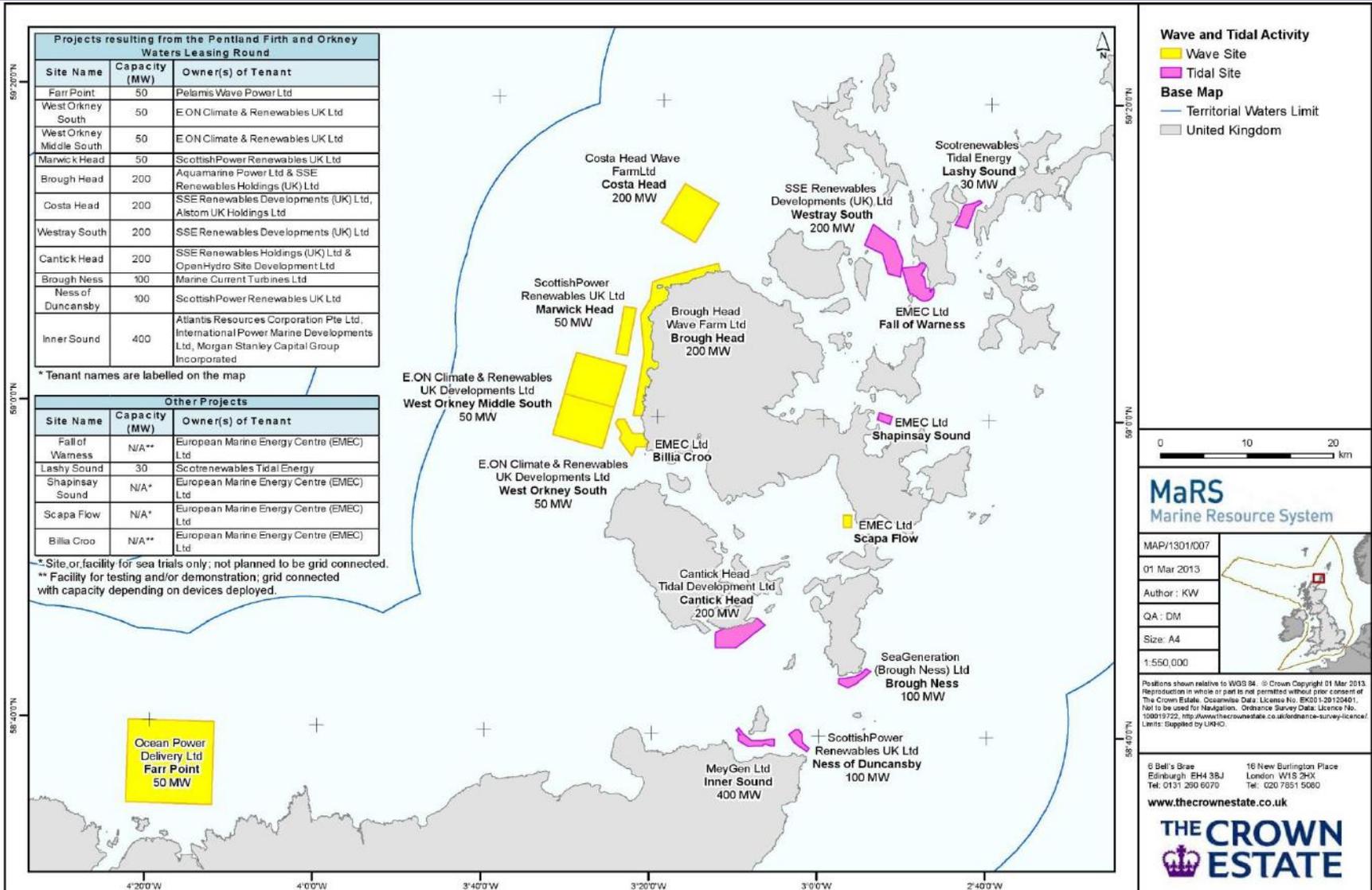
- Review of the discussion paper and participation in the workshop involved:
  - The Crown Estate
  - regulators
  - statutory advisors
  - local authorities
  - renewable energy developers
  - renewable energy test centres and fora
  - consultants

- Guidance was provided to assist developers with CIA in the areas of:
  - screening/scoping
  - communication and collaboration
  - identifying sources, pathways and receptors
  - projects to include in CIA
  - receptors to include in CIA
  - temporal scale of effects
  - common approach to data acquisition
- Developed for PFOW but recommendations are applicable more widely
- Details are in the report available at [www.thecrownestate.co.uk/media/420420/PFOW-cumulative-impact-assessment.pdf](http://www.thecrownestate.co.uk/media/420420/PFOW-cumulative-impact-assessment.pdf)
- On-line references to this and other reports are in the handout – so sit back and relax and forget about note-taking!

# Context – PFOW redefined area



# Context – PFOW projects



- Assessment of effects taking account of effects of other plans and projects – terminology varies in the legislation

## Environmental Impact Assessment

### EIA Directive

- Screening - 'cumulation with other projects'
- Describe likely significant effects - 'cumulative effects'

### EIA Regulations

- Screening - 'cumulation' or 'combined effect'
- Describe likely significant effects - 'cumulative effects'

## Habitats Directive Assessment

### Habitats Directive

- 'Screening' for likely significant effects (LSE) - 'in combination' with other plans & projects
- Appropriate assessment - implicit, not separately stated

### Habitats Regulations

- 'Screening' for LSE - effects 'in combination'
- Appropriate assessment - implicit, not separately stated

- SEA legislation for plans has similar requirements to those for EIA

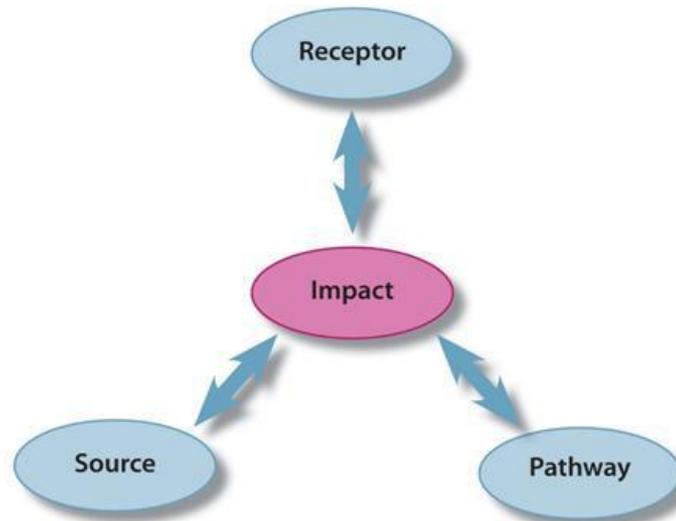
# CIA – one or two processes?

- Both EIA/SEA and HRA processes require consideration of LSE
  - Both require examination of effects of other plans or projects acting together with the project that is the subject of the assessment
  - There is no basis in law or EU guidance for assigning different meanings to the terms ‘cumulative’ and ‘in combination’
  - There are differences between EIA and HRA in that:
    - EIA considers all receptors and ‘likely’ is typically defined on a ‘balance of probabilities’ basis
    - HRA considers only interest features of European sites (and their support systems) and ‘likely’ is determined using the precautionary principle (from case law based on the Rio Declaration)
  - The processes by which other plans and projects can produce cumulative/in combination effects are the same in both cases
- Thus strategic guidance for CIA can be developed to apply to both

- Legislation requires that CIA must be considered at the screening stage for both EIA and HRA – not always the case
- Scoping report stage
  - agreed consideration of CIA at scoping is beneficial in principle
  - often lack of data makes for a very wide and non-specific report
  - important to revisit regularly as project evolves - iterative process
- Recommendations
  - CIA scoping as early as practicable
  - May allow some effects to be scoped-out at early stage
  - Marine Scotland will maintain a catalogue of projects for consideration
  - Keep CIA scope under review as project develops
  - Cut off point to be agreed with regulator for each project – typically 3-6 months before submission

- Benefits of developer collaboration through organised fora (e.g. TCE's PFOW Developer Forum and FTOWDG) on common approaches to:
    - baseline data sets
    - projects to include in CIA
    - CIA process
    - receptor issues
  - Wider collaboration between developers, regulators and other stakeholders requires a strong facilitator (e.g. Marine Scotland)
  - Little incentive to share info - Wave & Tidal Knowledge Network may help
- Recommendations
    - Maintain current avenues such as the PFOW Developer Forum
    - Marine Scotland continue to work closely with developers, statutory advisors and local authorities

- Source – pathway – receptor model
  - Source = project being assessed and other projects included in the CIA
  - Receptor = all physical, human activity and biological receptors
  - Pathway = mechanism by which a source can affect a receptor
  - Think of as a triangle – if any element is missing an effect will not occur



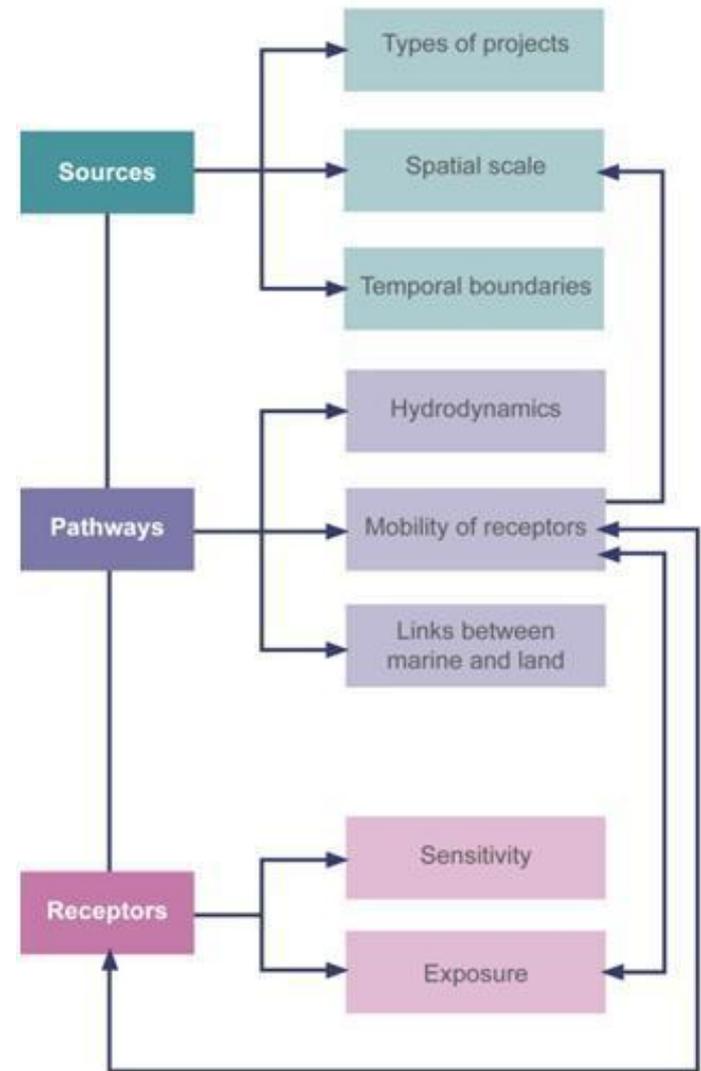
- Agreed beneficial to think in these terms

# CIA – sources, pathways, receptors

- Iterative process – e.g. mobility of receptors may affect geographic envelope for projects to be included
- Noted that technologies for wave and tidal vary greatly so pathways and receptors may also differ

## ■ Recommendations

- S-P-R concept is useful
- Effects triangle useful in scoping CIA
- Identifying pathways will define spatial extent of CIA
- Use Royal Haskoning report for advice on identifying receptors

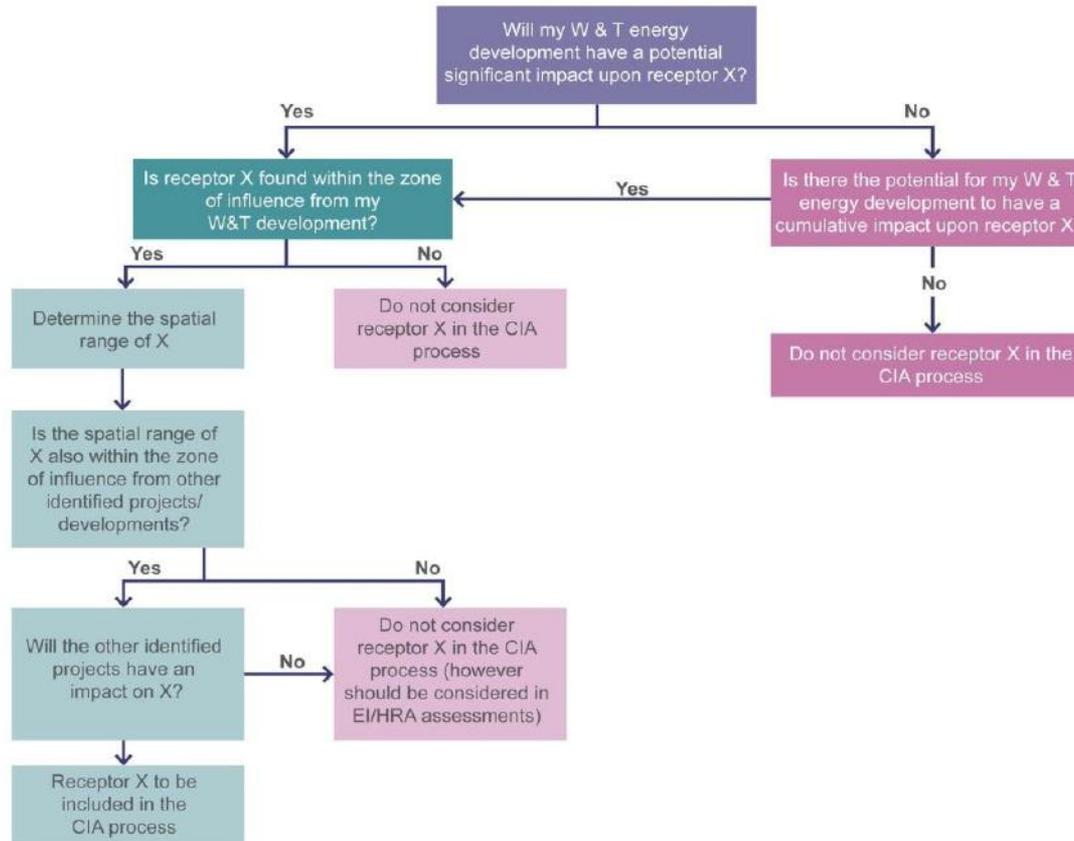


- Questions around:
  - types of project to include in CIA
  - stage in their permitting/consenting process
  - scale of project
- Existing CIA guidance varies on the stage of the consenting process

## ■ Recommendations

- Completed construction projects are part of the baseline (identify clearly)
- CIA should include:
  - projects which are the subject of a submitted application for consent
  - projects consented but yet to be constructed/completed
  - in some cases, additional projects as advised by Marine Scotland (e.g. projects awaiting scoping opinion)
- Use matrix tool for identifying potential effects of different types of project
- Include small scale projects in CIA, no minimum size criterion, with appropriate level of detail - although many will be scoped-out rapidly

- Mobile receptors are the most problematic, both ecological (e.g. marine mammals, fish, bats and birds) and non-ecological (e.g. shipping)
- Matrix tool will help to identify receptors likely to be affected
- Flow chart developed to assist
- Despite mobility of some receptors, trans-boundary effects not likely to be of concern for non-ornithological ecological receptors



## ■ Recommendations

- Application of the S-P-R approach may be assisted by this flow chart
- This will also assist in finalising the list of projects to include in CIA

- Temporal scale of effects may be relevant in some cases (e.g. concurrent piling) but is clearly not in others (e.g. archaeological effects)
  - Temporal considerations may include duration of the pressure (source term) and longevity of the effect caused (e.g. receptor life cycles)
  - Changing timeframes due to project delays cause difficulties in CIA
- 
- Recommendations
    - CIA should cover construction, operation and decommissioning of the PFOW project being assessed
    - To allow consideration of the potential for multiple short-term effects occurring concurrently, Marine Scotland wish to be updated regularly on project timeframes

- CIA is often hindered by:
    - the limited information available for the marine area
    - different collection methods making data non-comparable and unsuitable for analysis without significant pre-processing
    - commercial sensitivity about sharing data before submission of applications
  - The methodology issue can be addressed without divulging sensitive project information
  - TCE's Marine Data Exchange and the TCE/DECC Knowledge Network initiatives will assist
- Recommendations
    - Encourage developers to follow standardised models and templates for data collection
    - Encourage developer cooperation and involvement of regulators to agree on data collection methods and potentially cost sharing at a strategic level

- The TCE Enabling Actions Report: **Cumulative Impact Assessment in Pentland Firth and Orkney Waters** provides guidance on CIA for PFOW projects in the areas of:
  - screening/scoping
  - communication and collaboration
  - identifying sources, pathways and receptors
  - projects to include in CIA
  - receptors to include in CIA
  - temporal scale of effects
  - common approach to data acquisition
- Some conclusions simply reinforce and clarify existing guidance
- Details are in the report available at [www.thecrownestate.co.uk/media/420420/PFOW-cumulative-impact-assessment.pdf](http://www.thecrownestate.co.uk/media/420420/PFOW-cumulative-impact-assessment.pdf)

END

