



Severn Estuary Commission  
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# STAKEHOLDER REPORT

## Appendix E





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# STAKEHOLDER REPORT

## Appendix E

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## 0 EXECUTIVE SUMMARY

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### 0.1 CONTEXT

- 0.1.1. The scope for this environmental review of the Severn Estuary required input from technical topic experts with an understanding of the science, the area of study, as well as the potential future evolution of the Estuary's environment. The Estuary is a large geographical area, with no one organisation responsible for its management or understanding all the physical, biological, and human interactions in it. It involves multi-agency and multi-country jurisdictions.
- 0.1.2. To support the building of a consensus around its future with respect to a potential tidal range project, stakeholder engagement was key to making sure this understanding draws on other expert knowledge and views, and that meaningful conclusions and actions can be made for it.

### 0.2 STAKEHOLDER ENGAGEMENT UNDERTAKEN

- 0.2.1. Stakeholder engagement was carried out in three different ways for this work:
- One-to-one engagement with key environmental stakeholders once topic leads had reviewed the baseline data, which included the 2010 SEA and more recent Call for Evidence. Questions raised at those meetings focussed on data and trends to confirm or reflect our developing thinking and gather views on emerging topics (such as data gaps, climate change policies, strategic mitigation, complexities of compensation and others depending on each organisation's particular remit). These meetings were purposely set out as informal and introductory. A total of eight meetings were held from October to December 2024.
  - Stakeholder survey (open from 19th November to 13<sup>th</sup> December 2024), with questions asked of stakeholders around the Severn Estuary and the six example tidal projects. 37 organisations responded, though not all answered each question. The full list of questions asked are in section 4 of this report. The aim of this survey was to broaden our understanding and to support the structure of the in-person workshop. Responses were anonymised and coded to reflect key themes raised for each question.
  - An in-person workshop in Cardiff was held on 16<sup>th</sup> January 2025, where 22 representatives from organisations attended. A full list of organisations and breakdown of the day is discussed in section 5 but broadly, the aim of the workshop was to bring together our findings to date, explore perceived and actual uncertainties both about the Severn Estuary and tidal power as well as draw up actions that could be enacted. Discussions on the day were interactive and anonymous to facilitate a freedom of expression not constrained to particular organisations or their responsibilities. For an environment as complex as the Severn Estuary, the day was organised to promote creative thinking about what we do know about it, what we don't and what, environmentally, its future holds.

### 0.3 CONCLUSIONS AND NEXT STEPS

- 0.3.1. From the stakeholder engagement undertaken as part of this scope, key themes have emerged that warrant further consideration and discussion. The engagement carried out for this strategic review should be developed further and to maintain dialogue. These are summarised, alongside key actions, in Table 1-1.



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**Table 0-1 – Key Sentiments, Conclusions and Recommendations**

	<b>Key Stakeholder Sentiments</b>	<b>Conclusions and Recommendations</b>
Understanding the Severn Estuary	<ul style="list-style-type: none"> <li>• The Estuary has enormous value and is an internationally important ecosystem with many different habitats and important legislation protects these spaces.</li> <li>• However, the estuary is not a pristine environment and is a product of millennia of human activity that has shaped the land and conditions within the estuary to some degree</li> <li>• Growing amount of development pressures in Estuary (fisheries, offshore wind, sand extraction, tourism, etc) is contributing to degradation of key habitats and estuarine conditions</li> <li>• Anxieties exist over the quality of the existing baseline environment, which means confidence is lacking in environmental modelling</li> <li>• Our understanding of the Estuary’s existing hydrology and geomorphology processes remain unclear (e.g. sediment transport and tidal flood risk modelling)</li> <li>• We need both qualitative and quantitative data of the Severn Estuary’s paleo-landscape and its historic character evaluation, and to understand its capacity for change</li> </ul>	<ul style="list-style-type: none"> <li>• A Whole-Estuary approach that factors in key development drivers needs to be undertaken</li> <li>• Develop consistent datasets for key areas and topics (e.g. marine climate modelling, intertidal habitats condition assessments, fish studies, bird counts, paleo archaeological research, hydrology and sedimentology studies). Agree methodologies and compromises to be made around those in a cross-border context to support no reasonable scientific doubt. Categorise and agree on key spatial areas of Estuary to study.</li> <li>• Develop better understanding of far-field impacts and effects as well as the interrelationships between riverine, estuarine and marine spaces, particularly on migratory species present in Estuary</li> </ul>



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	<ul style="list-style-type: none"> <li>• Migratory species in Estuary are being impacted by climate change – our understanding of that impact and severity is currently unclear</li> </ul>	
Data	<ul style="list-style-type: none"> <li>• Existing data is available on a project-by-project basis, and often not publicly accessible</li> <li>• Data is stored on different web portals – there is no single source of truth for the Estuary</li> <li>• Different data types (e.g. habitats) are recorded differently between devolved administrations</li> <li>• Longer term datasets are patchy across key topics, and methodologies of collection vary, which leads to caveats on usefulness</li> </ul>	<ul style="list-style-type: none"> <li>• Use existing partnerships and portals to create a Severn Estuary dataset that is consistent and available to all marine users – this could be Crown Estate or something like Marine Data Exchange</li> <li>• Open-source data and making this applicable to all developments or research projects creates a database that is useful to all and can enable decision-making. However, this may mean regulatory or other policy making processes need to be amended to enable this framework and governance.</li> </ul>
Strategic Planning and Policy	<ul style="list-style-type: none"> <li>• Devolved administration priorities are different and need to be considered at an Estuary scale</li> <li>• Marine policy planning is relatively new – work is ongoing (organisational and key policy drivers)</li> <li>• Adaptive pathway plans are needed for the whole Estuary</li> <li>• Policy, regulatory and development proposals do not consider future climate impacts in a meaningful way</li> </ul>	<ul style="list-style-type: none"> <li>• Make use of, and strengthen, existing partnerships and working groups to reinforce the cross-border needs and understanding of the Severn Estuary. This needs to be a devolved and democratically accountable regional planning structure. Incentivisation is likely needed to encourage buy-in</li> <li>• A greater steer is needed on Government priorities and the relative weighting and importance of nationally significant environmental action plans – the biodiversity crisis needs to be balanced against the climate crisis</li> <li>• Consider initiatives such River Severn Adaptation Partnership Pathway Project as examples of long-</li> </ul>





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		<p>term, strategic planning needed but adapted for the Estuary</p> <ul style="list-style-type: none"> <li>Government should seek to enable future climate impacts and how they are to be considered in regulatory or policy decisions as soon as is practicable</li> </ul>
Perception	<ul style="list-style-type: none"> <li>Environmental protection is often seen as a blocker to development and statutory bodies typically take a strongly precautionary approach</li> <li>Tidal power projects require large amounts of mitigation and compensation of habitats and unclear where that would go so as to not lose function of the Estuary's ecosystem</li> <li>Tidal power may be more acceptable if there was commitment for comprehensive and strategic ecological regeneration elsewhere</li> <li>Tidal barrages should be removed from consideration in Severn Estuary</li> <li>Public perception is critical to these types of projects and needs proactive focus</li> </ul>	<ul style="list-style-type: none"> <li>Build up public confidence in understanding of the Severn Estuary and tidal power generation – science communication is key</li> <li>Work on the developing understanding of key barriers to tidal power in Severn Estuary – a targeted area, with targeted data gathering and analysis is needed to gain confidence in up-to-date data and likely impacts in real cost terms</li> <li>Develop community understanding and buy-in to tidal power in Severn Estuary – look to the community work undertaken with Nuclear Waste services in developing their Geological Disposal Facility in establishing links</li> <li>Look to other first-of-a-kind approaches across other sectors to distil best practice on approaches</li> </ul>
Stakeholder Involvement	<ul style="list-style-type: none"> <li>Organisations have a large amount of scientific expertise and should remain part of the conversation around the future of the Severn Estuary, particularly given both the biodiversity and climate crises</li> </ul>	<ul style="list-style-type: none"> <li>Fund and grow our scientific understanding of the Severn Estuary</li> <li>Use existing expertise and networks to develop pragmatic, evidence-based solutions for the Estuary that consider cross-border remits and promote strategy-led thinking.</li> </ul>



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- Organisations would like to do more but are limited by resources and funding
- Organisations have been involved in conversations about the Estuary and tidal power for a long time– there is a sense of wanting clear action and positions drawn up
- Scientific discourse is important, and the ability to compromise remains key for growing understanding and developing solutions. Such conversations need to remain apolitical.



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# 1 INTRODUCTION

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## 1.1 THE SEVERN ESTUARY COMMISSION

- 1.1.1. Stakeholders are vital to the successfully taking forward the work of the Severn Estuary Commission (hereafter referred to as Commission). They encompass a broad range of organisations, groups, and individuals, all of whom have an interest in the outcomes of the Commission's work. This Stakeholder Engagement Appendix has been drafted based on the framework set out by the Commission in identifying and engaging with stakeholders, and how to manage these relationships in the context of this environmental package delivered by WSP and associate consultants (APEM and Tresor Consulting).
- 1.1.2. It ensures that stakeholders are engaged appropriately, and their input is integrated into the updates and conclusions as contained in section 5.
- 1.1.3. This report does not consider the Commission's wider engagement and outcomes with stakeholders, but only the engagement carried out in order to update our understanding of the Severn Estuary's environment.

## 1.2 STAKEHOLDER ENGAGEMENT OBJECTIVES

- 1.2.1. From initial discussions with the Commission and its Secretariat, and in discussion with topic specialists, three engagement objectives centred the role and content of stakeholder engagement and the questions to be explored, namely:
- To gather a broad range of stakeholder views from organisations concerned with the Severn's Estuary's environment;
  - Consider whether those views had changed since the 2010 feasibility study and what else may have changed due to the Call for Evidence (CfE) request as issued in March 2024; and
  - Use those observations and discussions to deliver a stakeholder workshop for generating discussion and clear actions that those stakeholders wished to see.

## 1.3 METHODOLOGY

### STAKEHOLDER IDENTIFICATION

- 1.3.1. Key stakeholders were identified in collaboration with the Commission and Secretariat and regarding the environmental work scope. In pulling this list together, reference was made to the topic specific review of the baseline and technical understanding of the legislation that would apply to any development in the Severn Estuary, as well as what would specifically apply to a tidal energy project.
- Severn Estuary Partnership
  - Severn Estuary Coastal Group
  - Association of Severn Estuary Relevant Authorities
  - Wales Environment Link - Welsh eNGOs
  - Wildlife and Countryside Link - English eNGOs
  - Environment Agency
  - Natural Resources Wales
  - Natural England



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- Welsh Government – (Marine and Fisheries Team)
- The Crown Estate
- Defra
- Wildlife Trusts (Wales and England)
- Wildlife Trusts (Local)
- Wildfowl & Wetlands Trust (WWT)
- Royal Society for Protection of Birds (RSPB)
- British Trust for Ornithology (BTO)
- Joint Nature Conservation Committee
- Wales Coast and Seas Partnership
- World Wide Fund for Nature (WWF)
- Cardiff University
- Swansea University
- Bangor University
- Bristol University
- Exeter University
- Plymouth University
- Marine Management Organisation (MMO)
- Centre for Environment, Fisheries & Aquaculture (CEFAS)
- Afonydd Cymru
- Wales Fisheries Forum
- The Rivers Trust
- Devon and Severn Inshore Fisheries & Conservation Authority (IFCA)
- Marine Conservation Society
- Angling Cymru
- Angling Trust
- Fish Legal
- Port Authorities
- National Trust
- Historic England
- Cadw
- Wessex Archaeology
- University of Bath (Severn Estuary Levels Research Committee SELRC)
- University of Reading (Severn Estuary Levels Research Committee SELRC)
- Heneb - the Welsh Archaeological Trusts
- The Royal Commission on the Ancient and Historical Monuments of Wales

1.3.2. As can be seen from the list, these organisations cover a range of organisational types, partnerships and devolved administrations, as well as statutory remits.

## STAKEHOLDER ENGAGEMENT

1.3.3. Initial stakeholder engagement was carried out in a one-to-one capacity with key environmentally focussed stakeholders, identifying key concerns of each of the stakeholders and focussing on stakeholder priorities from the previous work conducted, including the Call for Evidence (CfE) responses. This engagement was undertaken to pose key questions arising from reviewing the baseline information. Meetings were held over Teams, lasting 45 – 60 minutes.

1.3.4. From those discussions, it became clear that there needed to be an additional engagement step applied to gather evidence to support the objectives of this work and to support the aims of the in-person workshop. Therefore, an online stakeholder survey was developed consisting of 12 main questions. Further detail is discussed in section 4.

1.3.5. An in-person stakeholder engagement workshops ran in Cardiff on 16<sup>th</sup> January 2025. This workshop was organised to facilitate cross-agency discussions at a more strategic level and to



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understand where agreements and disagreements on the Severn Estuary's environment are, and what needs to be considered further to inform any recommendations to UK and Welsh Governments.

- 1.3.6. The outcomes of the workshop are discussed in section 5, to ensure that the final conclusions from WSP are well-informed and supported by discussions between key stakeholders.

## 2 ONE-TO-ONE STAKEHOLDER ENGAGEMENT

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### 2.1 PURPOSE

2.1.1. One-to-one meetings were set up for the purposes of:

- Introducing the Commission's work and more, specifically, the environment package aims to key identified stakeholders working within a broad environmental remit;
- Confirm our understanding of their work, any key topic-based perspectives and explore their approach to the Severn Estuary in terms of its likely climatic changes as well as their own approaches (current and future) to the Estuary; and
- Use these targeted focus groups to inform the in-person workshop sessions.

### 2.2 ENGAGEMENT PROCEDURE

2.2.1. A range of stakeholders (as identified within section 1.3.1) were identified as part of this engagement and key ones were contacted to pose high-level questions regarding topic areas and future environmental strategies. The following stakeholders met with the project team and specialists between October and December 2024:

- The Crown Estate (TCE);
- The Marine Management Organisation (MMO)
- The Centre for Fisheries and Aquaculture Science (Cefas)
- The Royal Society for the Protection of Birds (RSPB)
- Wildlife Trusts Wales (WTW)
- Environment Agency (EA)
- Natural England (NE)
- Natural Resources Wales (NRW)

2.2.2. Meetings were held over Microsoft Teams and lasted approximately an hour. Depending on the stakeholders' remit, questions were asked under the following broad headings:

- Existing evidence and methodologies available for the Estuary;
- Data and modelling ;
  - GIS and layers held by an organisation and whether those could be shared;
  - How confidence could be built in existing datasets to inform better understanding.
- Climate change – data available for marine environments and future scenario modelling and key gaps as they understand them to be;
- Tidal energy projects – what needs to be explored with regard to Severn Estuary;
- Habitat creation;
  - Any data/lessons that could be shared on coastal/intertidal habitat creation schemes;
  - Views on an estuary-wide approach to habitat creation;

- Views on efficacy of habitat creation and value created.
- Delivery and consenting risks;
  - Design maturity that needs to be considered for any tidal energy project ahead of a formal consenting application;
  - Views on what needs to be demonstrated and evidenced for a tidal project in the Estuary.

## 2.3 ENGAGEMENT FINDINGS

2.3.1. Key themes and discussions emerged out of these initial meetings, using the broad questions as above:

**Table 2-1 – Key 1-1 Discussion Points**

	Key Points Raised
Existing Evidence	<ul style="list-style-type: none"> <li>● From what we learn about the Estuary, the more we realise how special its ecosystem is (e.g. mudflats, species, impact of pollution on it, its interconnected spaces)</li> <li>● Better and more evidence gathering is key to inform better decision-making.</li> </ul>
Data and modelling	<ul style="list-style-type: none"> <li>● Data and modelling is heavily relied on and often comes from third parties in order to inform decision-making</li> <li>● Gaps in evidence need to be better filled and understood to develop an effective, strategic compensation programme.</li> <li>● Some research is not as easily accessible and this limits our understanding and ability to influence.</li> <li>● Would favour a more strategic approach to evidence-gathering over establishing a strategic organisation/partnership for the Estuary</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>● Growing understanding by a few organisations that existing policies need to be better climate-adapted, and that flexibility needs to be built into future policy making</li> <li>● Marine spatial planning is still an emerging field for many authorities and with growing recognition that this needs to be more spatially-oriented</li> </ul>
Tidal energy projects	<ul style="list-style-type: none"> <li>● A pilot project could be feasible but needs a clear scope, to consider appropriate mitigation/compensation methods and be best sited</li> <li>● Offshore wind is currently working on the principles of strategic mitigation rather than project mitigation – lessons learnt from this and other first-of-a-kind sectors/developments should be applied to other marine development, such as tidal energy</li> </ul>

<p>Habitat creation</p>	<ul style="list-style-type: none"> <li>• Finding effective habitat compensation is key</li> <li>• Strategic consideration of the Estuary is important and should account for all development pressures</li> </ul>
<p>Delivery and consenting risks</p>	<ul style="list-style-type: none"> <li>• Ecological processes generally left too late in the consenting process, but which has far-reaching implications</li> <li>• Areas of the Estuary are protected with some of the strongest environmental legislation within this country, and there is good reason for that. Any project needs to consider these sensitivities and compensate/mitigate for on a case-by-case basis.</li> <li>• Adaptive mitigation management plan strategies could be a way forward for tidal power projects</li> </ul>

2.3.2. Several organisations cited that the expertise exists to support evidence collection but that resourcing and funding for organisations remains key to be more effective.

2.3.3. The discussions from these meetings informed the development of the questions for the survey as well as developing the in-person workshop sessions.



## 3 STAKEHOLDER SURVEY

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### 3.1 PURPOSE

- 3.1.1. The survey was developed following the initial one-to-one meetings to gain further evidence and feedback on stakeholder views, and to use the results in supporting the in-person workshop.

### 3.2 ENGAGEMENT PROCEDURE

- 3.2.1. Survey questions were developed in collaboration with the Commissioners reflecting the conversations already held in one-to-one capacities. They also came from our review of the existing baseline information and our knowledge of the current legislation and policy that the Severn Estuary sits in. It also introduced the six example projects that had been agreed with the Commissioners to stakeholders. The survey consisted of 12 main questions, as follows:

- What Severn Estuary environmental characteristics does your organisation value most? Can you outline the three most important?
- To achieve net zero by 2050, even with a reduction in consumption through energy efficiency measures, the Climate Change Committee identified that a two to three times increase in electricity generation will be required. National Grid's Future Energy Scenarios have identified a similar requirement and consider tidal power would be needed in the 2040s to improve diversity of generation mix and provide predictable renewable energy. Does your organisation consider the tidal range of the Severn Estuary could contribute to the UK's long term, low carbon, energy needs, and does it have an existing strategic policy position on tidal energy projects in the Severn Estuary? If so, could you briefly summarise this position.
- Having consideration to implementation of tidal range projects in Severn Estuary generally, and based on the evidence collected to date and your knowledge of the Estuary's environmental conditions please provide a ranking from 1 (least significant) to 5 (most significant) that will be key elements for a tidal energy project to overcome:
  - Ability to compensate for lost inter-tidal habitats. Please explain your reasoning for above.
  - The potential for safe fish passage upstream and downstream. Please explain your reasoning for above.
  - The potential for continued displacement of bird populations. Please explain your reasoning for above.
  - Effects on geomorphology and flood risk or benefit. Please explain your reasoning for above.
  - Impact on heritage sites. Please explain your reasoning for above.
  - Broader impacts across the ecology of the estuary. Please explain your reasoning for above.
- We have attached a brief overview of the 6 example projects we are considering in this study, and which has been chosen based on a range of project types and sizes and engineering information being available. Considering those 6 examples, please identify specific considerations and sensitivities in terms of the ranking you have assigned above and why.
- Any tidal energy project in the Estuary would need to provide habitat mitigation and compensation as part of their proposals. There are also many other development pressures

within the Severn Estuary. Based on the provided example projects, do you consider the scale of likely mitigation is feasible?

- Would your organisation be supportive of an Estuary-wide/bioregional strategic approach to Estuary management which could ensure Estuary-appropriate mitigation types and scales? Please explain your reasoning.

3.2.2. The survey was live between 19<sup>th</sup> November and 13<sup>th</sup> December 2024, with some responses received after this date. Responses were anonymised and coded into themes.

### 3.3 ENGAGEMENT FINDINGS

3.3.1. 81 organisations were emailed a link to the online survey, with 37 organisations responding. Several organisations were unable to respond within the tight timescales, which is acknowledged but there were still meaningful insights gleaned from respondents against the questions asked. Not all organisations responded to every question, either because it didn't apply to their organisational remit or they felt that the question could not be responded to in some way.

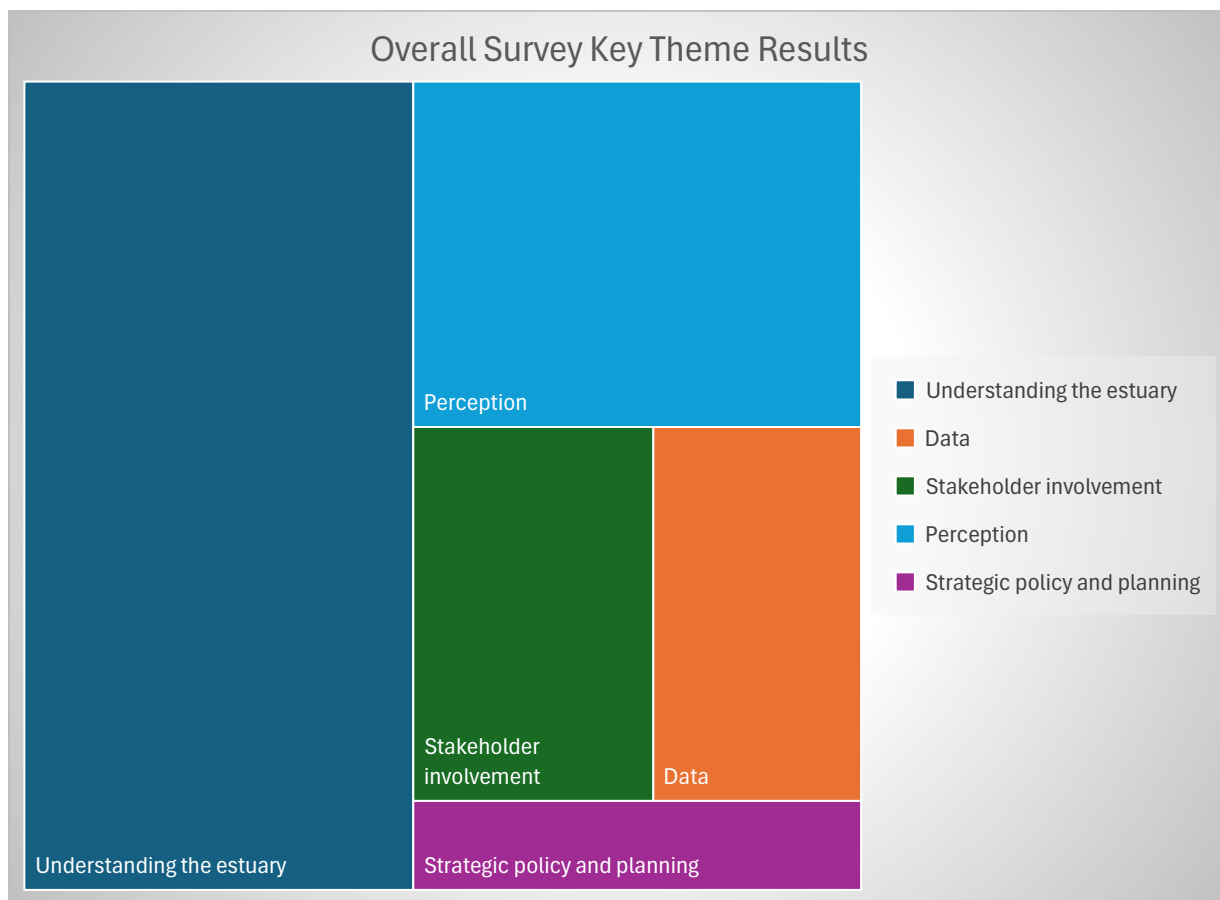
3.3.2. Organisations contacted were a range of stakeholders – those with statutory commitments to planning, environment and heritage, government authorities, environmental and heritage NGOs and pan-regional partnerships. Organisations were identified to reflect both Welsh and English administrations and understanding. These were all chosen to better understand the evolving environmental picture of the Severn Estuary, its current development pressures and what its future could entail.

3.3.3. Responses were anonymised and then coded per question to draw out key themes under set keywords, as follows:

- Understanding the Severn Estuary
- Data
- Strategic Planning and Policy
- Perception
- Stakeholder Involvement

3.3.4. The following figure gives a clear overview of how respondents felt, and under which key themes. The larger the box, the more responses were coded under one of those themes. The overall view doesn't give detailed responses that fell under each of those headings, but still serves as a useful indicator of the importance that stakeholder placed on those particular elements.

Figure 3-1 - Overall Survey Themes



3.3.5. More detailed points under each banner received from respondents are captured in Table 3-1.

Table 3-1 – Survey Responses Detail

	Key Points Raised
Understanding the Estuary	<ul style="list-style-type: none"> <li>• Its tidal range creates a unique environment and one we've not studied enough, particularly how it is all interlinked as a system</li> <li>• Concerns on the Estuary's designated and internationally important species – their behaviours, lifecycles etc</li> <li>• Concern of loss (intertidal/habitat loss, increased erosion risks, loss of unknown heritage and impact on known archaeology) whether with or without tidal development</li> <li>• Climate modelling lacking for both marine and estuarine systems</li> </ul>

<p>Data</p>	<ul style="list-style-type: none"> <li>• Need for updated baseline for the Estuary (e.g. condition assessments, detailed hydrology modelling, paleo-landscape surveys) as datasets often old</li> <li>• Gaps need to be addressed for fish, bird species and their movements and use of the Estuary</li> <li>• Concerns around likely impact of a tidal power project based on current evidence</li> </ul>
<p>Strategic policy and planning</p>	<ul style="list-style-type: none"> <li>• Need to understand the impact from wider Government initiatives/commitments on Estuary – how to balance biodiversity recovery with net zero targets</li> <li>• Existing legislation is fit for purpose but that responsible bodies have power, resource and evidence to enforce</li> <li>• Strategic policies and plans need to be developed further but broadly supportive of an Estuary-wide approach to mitigation and policy making as it would benefit knowledge-sharing and would be an effective use of resources and funding</li> <li>• Regulatory compensation measures need to be applied to a tidal power project</li> <li>• Many organisations do not have current strategic policy positions for tidal energy projects</li> <li>• Development of mandatory Marine Net Gain should be progressed</li> </ul>
<p>Perception</p>	<ul style="list-style-type: none"> <li>• Generally supportive of Severn Estuary as a location for tidal power project but depends on where, its design and impacts to be mitigated/compensated for</li> <li>• Tidal barrage is not suitable for the Estuary</li> <li>• Concerns that tidal energy is expensive</li> <li>• Applications for tidal project need to be considered as they come forward for approval and under relevant legislation</li> <li>• Environmental net gain must be demonstrated</li> </ul>
<p>Stakeholder Involvement</p>	<ul style="list-style-type: none"> <li>• Concern about impact on other users of Estuary (e.g. shipping, fishing, local communities, tourism)</li> <li>• Generally supportive of an Estuary-wide, bioregional approach and organisations keen to remain involved but need to detailed governance arrangements</li> <li>• Cross-border considerations need to be embedded into Estuary future</li> </ul>



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- 3.3.6. It is important to recognise that the survey was open for a relatively short period of time, and with detailed questions posed across many technical specialisms. Many organisations felt this meant they couldn't provide as detailed a response as they would have liked. Not all organisations responded to all questions, which may have skewed results.
- 3.3.7. On reviewing all coded responses, some general trends emerged around the lack of climate responsiveness of organisations, future strategic thinking, need for more data and continued engagement. These elements informed the development of the in-person stakeholder workshop and development of discussions and sessions for that day.

## 4 IN-PERSON STAKEHOLDER WORKSHOP

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### 4.1 PURPOSE

- 4.1.1. The in-person workshop was to ensure that the work studied to date and findings thus far could be reflected back to stakeholders, and for the Commission to listen to stakeholders discuss and debate findings, challenge and add their perspectives as well as agree next steps that they wanted to see.

### 4.2 ENGAGEMENT PROCEDURE

- 4.2.1. 35 representatives from 33 organisations were emailed regarding attending an in-person workshop, as follows:

- The Crown Estate (TCE);
- The Marine Management Organisation (MMO)
- The Centre for Fisheries and Aquaculture Science (Cefas)
- The Royal Society for the Protection of Birds (RSPB) – both Cymru and National
- Wildlife Trust Cymru
- Wildlife Trusts
- Environment Agency (EA)
- Natural England (NE)
- Natural Resources Wales (NRW)
- Welsh Government
- Defra
- Severn Estuary Partnership
- Severn Estuary Coastal Group
- Association of Severn Estuary Relevant Authorities (ASERA)
- Wildfowl & Wetlands Trust
- National Trust
- British Trust for Ornithology (BTO)
- Joint Nature Conservation Committee
- Wales Coast and Seas Partnership
- Institute of Fisheries Management
- Angling Trust
- Afonydd Cymru
- Rivers Trust
- Devon and Severn IFCA
- Marine Conservation Society
- Historic England
- Cadw
- Wales Environment Link
- Wildlife and Countryside Link
- Heneb



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4.2.2. Of those, 22 organisation representatives attended on 16<sup>th</sup> January 2025, alongside Severn Estuary Commissioners, the Secretariat and facilitators and topic experts from WSP and APEM. The day was split into three breakout sessions alongside an initial reporting of our key findings to date. The overarching aims of the day was to:

1. Reflect back to the stakeholders our reviews and research findings to highlight agreements and disagreements of our collective Estuary understanding
2. An opportunity for stakeholders to listen to others and challenge thinking and views on what could be possible
3. An opportunity for creative thinking and to develop actions for the Estuary's future

4.2.3. Alongside the agenda, attendees were sent some pre-reading material around the six example projects, how tidal power works and what makes the Estuary suitable for this type of technology. Chatham House rules were in place during the day, and beyond identifying which organisations attended, discussion in the room is anonymous.

### **SESSION 1**

4.2.4. This was a whole room session to discuss the for and against positions of tidal power, whether this was within the Severn Estuary, or more broadly as a concept for the UK. This was captured on post-it notes from all attendees in the room and then broadly coded during the session to create discussion. The broad coding was done by colour coding post-it notes against the following headings:

- Water (flood risk, quality, geomorphology etc)
- Species (fish, birds, other)
- Designations (environmental, heritage, other protections)
- Mitigation (habitats, compensation, etc)
- Policy/legislation/data

### **SESSION 2**

4.2.5. This was a table session where five questions were asked based on the survey findings as detailed in section 3. Each table discussed one of the following questions and then fed back to the room on key points raised:

- What do you believe the key threats facing the Severn Estuary environment to be by 2050 (UK's net zero date)?
- Survey responses highlighted that the key challenges for a project in Estuary was around loss of intertidal habitats, impact on fish/birds and impact on designated sites (environmental and heritage). Considering the climate change graphic on potential changes to the Estuary (without development), could a tidal project be designed to limit some of these changes?
- What projects and/or research do you think has contributed to a better understanding of the Severn Estuary? Was it the methodology/its approach to environmental sensitivities/other?
- A key point raised in the survey responses related to the lack of updated data for the Severn Estuary, though some studies are underway to close this gap. What steps can be taken to close

this gap in a meaningful way, acknowledging that compromises may be needed on methodologies/data sources?

- Survey responses expressed general support for considering the Estuary at a strategic developmental scale, particularly around mitigation and compensation, and to use existing partnerships – what would be your top 3 recommendations on how to make this most effective and why?

### SESSION 3

- 4.2.6. The final session of the day was a whole room discussion to reflect on what had been shared with the room, the discussions in tables and wider question and answer sessions to develop some clear actions and next steps for the Severn Estuary and tidal power. Attendees were asked provide suggestions on post-it notes under three keywords that had arisen throughout the day: Data, Holistic/Strategic, Perception.

## 4.3 ENGAGEMENT FINDINGS

- 4.3.1. The workshop aided in cross-referencing the different aspects and concerns from each stakeholder group to identify common themes, conflicts, and synergies, to inform the conclusions of this environmental scope.

### SESSION 1

- 4.3.2. 117 post-it notes were recorded for this session, 84 under the Against heading for tidal power, and 33 under the For heading, though several attendees reflected that the concept of tidal power wasn't such a black and white one as the headings portrayed. Colour coding was used to encourage discussion in the room and to visually pick up on recurring themes and topics.

- 4.3.3. Key elements focused on:

#### For

- Tidal power would provide energy security and reliable power source and contribute to net zero.
- Tidal power projects could provide additional survey and research opportunities (e.g. paleo-landscape)
- Projects could provide incidental benefits for flood risk or coastal erosion or provide opportunities for migration.
- We have to understand trade-offs and find the best suitable site against a number of balanced environmental criteria.

#### Against

- Tidal power projects have a number of near-field effects and far-field effects that need further study, with methodologies on how those need to be studied and mitigated for unclear.
- There will be a significant impact on already threatened fish/bird species, as well as impacts to water levels, sedimentation and sediment transport, archaeological materials and on protected sites.
- There are significant challenges around environmental legislation and policy for a tidal project to overcome





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- It is unclear whether the amount of compensation and mitigation required for a tidal project can be delivered, and which may be prohibitive.
- Barrages are not appropriate for the Severn Estuary
- Complexity of cross border engagement and consenting risk makes it more difficult
- A view that we should consider design insulation of homes, individual changes and community generation before considering large scale energy development like tidal power.

## SESSION 2

4.3.4. The discussions on each table were summarised by facilitators on each table, with each question's key discussion as follows:

- What do you believe the key threats facing the Severn Estuary environment to be by 2050 (UK's net zero date)?
  - Participants considered that population growth and other economic development pressures, as well as rising sea levels and storm surges for the Estuary environment to be key future threats.
  - Lack of resources and long-term planning makes it very challenging to maintain and enhance the Severn Estuary. One cross-border marine plan would be very beneficial.
  - A particular point in time (2050) will only give us a rough idea of the climate changes, and we would do better to develop and maintain a healthy functional ecosystem.
  - Public engagement and perception of climate change creates difficulties and inertia – there's a lack of understanding and communication around the forthcoming risks.
- Survey responses highlighted that the key challenges for a project in Estuary were around loss of intertidal habitats, impact on fish/birds and impact on designated sites (environmental and heritage). Considering the climate change graphic on potential changes to the Estuary (without development), could a tidal project be designed to limit some of these changes?
  - Participants expressed significant concerns around whether we understand the true value of the Estuary as it stands, and how climate change will alter this value (e.g. sedimentation / erosion, ability to provide effective mitigation, changes to intertidal habitats, changes to species).
  - The uncertainty of what we know, or don't, may ultimately be the reason we are disagreeing and taking a precautionary approach to how we want the Estuary's future to look with regards to tidal power.
  - We should be putting our considerations towards improving environmental conditions, not just into mitigating and compensating for a tidal project.
  - Any pathfinder project needs to be clearly outlined, and which reflects concerns, limitations of stakeholders and recognises the need to implement something ahead of discussing whether a tidal project could limit some potential climatic effect, such as flood risk.
- What projects and/or research do you think has contributed to a better understanding of the Severn Estuary? Was it the methodology/its approach to environmental sensitivities/other?
  - There is a lot of research and recording of information out there, numerous studies and data collections that need to be knitted together in a single place.

- Charities have a lot of data but not the resourcing or funding to help others understand it or make best of it themselves.
- Wildfowl and Wetlands Trust have data on carbon sequestration rates and how to make wetlands work
- Point data can only tell us so much – we need to understand migration data and interlinkages of the Estuary as a whole
- The mapping displayed only uses publicly available data – which although a good starting point – needs to be broadened and strengthened for any future work.
- A key point raised in the survey responses related to the lack of updated data for the Severn Estuary, though some studies are underway to close this gap. What steps can be taken to close this gap in a meaningful way, acknowledging that compromises may be needed on methodologies/data sources?
  - There isn't just a gap in the data, but also a gap in the interrelationships and interactions between designated features (and the interaction between non-designated features as well as designated features).
  - There will be a challenge of assessing combined effects and cumulative effects for such a large study area and multiple development pressures within the Estuary.
  - Mitigation and compensation success is a gap in terms of what works and what doesn't. There is limited data on the success of mitigation and the ratios of compensation.
  - A national/regional bank of compensatory habitats across the Estuary would be invaluable to developers in terms of selecting their own compensatory sites and mitigations which complement each other.
  - Ideally, the data gaps are filled by non-developers and those that are independent to development in the Estuary
- Survey responses expressed general support for considering the Estuary at a strategic developmental scale, particularly around mitigation and compensation, and to use existing partnerships – what would be your top 3 recommendations on how to make this most effective? Why?
  - Strategic data collection and logging: Participants felt that there needed to be an easier and more collaborative approach to data gathering and knowledge sharing between any organisations looking to undertake work in and around the Severn Estuary. This could consist of a central database, where the findings of any environmental studies have to be reported. The feeling is that this would mitigate against unnecessary expenditure, as well as loss of expertise.

As part of this, participants suggested that local authorities and organisations, who are responsible for the Severn Estuary, should be proactive in identifying and executing data gathering that is needed to support the delivery of contemporary and future projects.
  - Compensatory habitats should be the focus of strategic funding: Participants suggested that there also needs to be a strategic understanding of what compensatory habitats are being delivered across the Severn Estuary and that this should be the priority for the strategic delivery of funding in the area.
  - Commissioning of data gathering assessments should make use of local partnerships and interested stakeholders: By way of using existing partnerships, participants discussed that

data gathering should be given to local organisations, such as the Severn Estuary Partnership (SEP). The purpose of this is to support learning opportunities, as well as create more local ownership of any project.

### SESSION 3

- 4.3.5. The following table highlights the key sentiments gathered from each of the three keyword headings that had arisen during the workshop. The aim was to find clear actions and conclusions on the day that could be developed further from this scope of work, as outlined in the table.

**Table 4-1 – Key Workshop Actions**

	<b>Key Actions to Progress</b>
<b>Data</b>	<p><b>Need for updated baseline for the Estuary (e.g. condition assessments, detailed hydrology modelling, paleo-landscape surveys, sediment transports) as datasets often old. Datasets need to be long-term and reliable</b></p> <p><b>Gaps need to be addressed for fish, bird species and their movements and use of the Estuary and with those immediate gaps identified, a clear and collaborative approach applied to commission studies</b></p> <p><b>Estuary data should be stored centrally in both technical and non-technical formats, and be regularly updated. This should be available to all Estuary users, and potentially be a paid-for service for developers working in Estuary</b></p> <p><b>Stakeholders need to be involved in Estuary modelling to agree principles and methodologies</b></p>
<b>Holistic/ Strategic</b>	<p><b>There needs to be a strategic spatial plan for the Estuary that allows for its economic, environmental and social benefits to be realised</b></p> <p><b>Future climate impacts need to be taken into account in policy and regulatory frameworks.</b></p> <p><b>Incentivisation needs to be considered in order to encourage this joined-up thinking for planning what is best for the Estuary</b></p> <p><b>Democratically accountable regional and strategic planning structures are needed for the Estuary to facilitate development decisions for it.</b></p>



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APEMGroup

**Perception**

**Nature restoration should be the central premise for any Estuary development.**

**Need to grow public understanding of future climate change risks and need for renewable energy, such as tidal. Communities need to be shown how they can influence, and developers need to engage earlier to get buy-in**

**A visualisation exercise of what the Severn Estuary would look like based on 2-4C climate change scenarios could help grow that understanding**

**Environmental groups may be more prepared for trade-offs if there was strategic and widespread ecological regeneration elsewhere.**

## 5 CONCLUSIONS

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- 5.1.1. The stakeholder engagement carried out for this study has served to update, and deepen, the understanding of the complexities of the Severn Estuary and its environment. Given the strategic nature of this environmental review, it is known that stakeholder sentiments and the analysis of those may not be wholly representative of all stakeholder views working within the study area, and within their particular remits. However, the three engagement opportunities have broadly raised similar concerns on which these conclusions have been drawn.

### UNDERSTANDING THE SEVERN ESTUARY

- 5.1.2. From the discussions, survey and workshop it is clear that there is a broad understanding and acceptance of the Estuary's unique environmental characteristics, and its importance to human occupation which has changed it over the course of millennia.
- 5.1.3. However, it is also clear that there is much we still don't know about it: its species, habitats, and processes, and particularly the interlinkages between these elements. We should continue to grow and deepen that knowledge, and understand how climate changes may impact on these characteristics.
- 5.1.4. That understanding needs to be developed at an Estuary-wide scale, with better modelling underpinned by up-to-date datasets and condition assessments. It is recognised that the study area is large, and how we grow that expertise needs to be reflective of resourcing and funding constraints.

### DATA

- 5.1.5. Data often exists on an individual project basis, is not readily accessible to other organisations with an interest in the Estuary, and there are multiple platforms to access due to devolved administrations' focus, or other organisational remits. The view from stakeholders was that although there are likely data gaps to fill in terms of our understanding of the Estuary, this is amplified by a lack of a central resourced/portal that can meaningfully show what data exists, its age, its consistency and collection methods. This in turn hampers our spatial and strategic understanding and work on how we ensure what's best for the Estuary and achieve a balance between its environmental, economic and social needs.

### STRATEGIC PLANNING AND POLICY

- 5.1.6. Many organisations engaged with did not have a strategic policy position on tidal energy. This is unsurprising and to be expected considering that marine policy planning is a relatively new area of policy making. Stakeholders are aware and recognise the additional complexity of cross-border priorities and aims in an area that by its very nature, fluid.
- 5.1.7. Stakeholders expressed recommendations for considering the Estuary at a regional and strategic scale, using existing partnerships and working groups. Such an organisation needs to be democratically accountable and need likely incentivisation for buy-in by stakeholders.
- 5.1.8. Adaptive pathways and plans that consider the Estuary over the long-term will encourage better decision-making for all projects brought forward in the Estuary, and which could consider mitigation needs for development at an Estuary-wide scale.



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## PERCEPTION

- 5.1.9. Stakeholders are very aware that the “environment” is perceived as a blocker to development and growth within the country, with statutory organisations taking a precautionary approach to consenting projects. However, this approach stems from a lack of detailed and consistent data that can be used to make better decisions as well as a lack of understanding from public and others of key scientific principles.
- 5.1.10. Building up such confidence and encouraging proactive community buy-in would not only be helpful for tidal power projects, but development in the Estuary in general.
- 5.1.11. Stakeholders were keen to remove barrages from consideration in Estuary at all on basis of not knowing enough of long-term impacts on its unique characteristics. They are broadly supportive of a pilot project to test out impacts on the Estuary’s tidal environment, recognising that the location and specifics of a tidal project will be critical to this.

## STAKEHOLDER INVOLVEMENT

- 5.1.12. It has become very clear through the stakeholder engagement that although stakeholders want to remain involved, they would also like to see clear progress on the topic of tidal power. It is a conversation that has been revisited multiple times since 2010, but with no firm decision or progress made on either the suitability of the Severn Estuary from a Government point of view, or progress made on closing the gaps and growing the evidence base for the Estuary. Stakeholders also feel limited in their involvement due to resourcing and funding, and there is a risk of stakeholder fatigue that could arise on the question of tidal power.
- 5.1.13. Making use of existing networks, knowledge and expertise, as well as funding organisations in a meaningful way could be a way to ensure continued stakeholder engagement. Technical working groups could be an option to deliver on this understanding, but the question on funding, leadership, governance and accountability for such groups needs to be assessed and evaluated further.