Welsh Government

Developing Strategic Resource Areas for Marine Planning

Derivation report for progressing potential SRAs

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Innovative Thinking - Sustainable Solutions

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Notice

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Summary

The Welsh National Marine Plan (WNMP, adopted 2019) provides a statutory policy framework to help guide the sustainable development of our seas. Decisions taken by public authorities need to be in accordance with the WNMP, unless relevant considerations indicate otherwise, while activities and proposals coming forward need to reflect WNMP policies.

In line with the Welsh National Marine Plan (WNMP), Welsh Government is progressing the identification of potential Strategic Resource Areas (SRAs) and the activation of the WNMP policy (SAF_02) to safeguard areas of resources upon which a sector is dependent from significant adverse impacts from any new proposals that are being considered by other sectors within these areas. The Welsh Government anticipates introducing SRAs and activating SAF_02 in relation to those SRAs in 2024 through Marine Planning Notices (MPNs).

Affording greater spatial prescription in marine planning involves complex interactions of social, cultural, economic and environmental policies and activities. As such, the process of identifying the Resource Areas (RA) upon which (certain) sectors are dependent, refining those RAs to account for technical and operational considerations (refined RAs) and spatially determining the strategic importance of resources (SRAs) is also complex. To address this complexity the Derivation Report for identifying potential SRAs (this document) provides detail on the approach used to support development of the potential SRAs, including the work done to deliver recommendations from ABPmer to Welsh Government on the refined RAs specific to each of the sectors under consideration. This includes a clear description of the methodology used to carry out spatial analyses mapping, along with detail on how stakeholder engagement was used throughout the process to inform and provide confidence in the outputs.

Spatial analyses mapping was carried out by applying a range of technical, hard and soft constraints (and considering opportunities) to refine existing initial Resource Area (RA) boundaries. These constraints were agreed with Welsh Government and stakeholders, acknowledging the best available evidence to draw upon for understanding socio-economic and sector to sector constraints.

Stakeholder input and 'buy-in' was key to supporting this work and identifying areas with the potential for future sustainable use by the focus sectors for this mapping work. Throughout the process, stakeholders were invited to feedback upon the proposed mapping methodology and discuss options for the refinement of the RAs. This was done through a combination of feedback requests, workshops and bespoke stakeholder events, ultimately resulting in an approach that evolved substantially over the course of the project. Specific attention was given to how consideration of environmental factors should be used to support SRA development.

Following stakeholder agreement, it was concluded that environmental considerations should not be used to refine RAs. This acknowledged discussions and recommendations from stakeholders in September 2022 and the conclusions of SEA and HRA screening exercises which determined there was no requirement to engage SEA or HRA Appropriate Assessment processes in relation to resource safeguarding through SRAs.

In January 2023, a stakeholder event was held to discuss how soft constraints were used within the SRA mapping project. Given the nature of SRAs and resource safeguarding through SAF_02, it was unanimously agreed by stakeholders that soft constraints should be presented as contextual and informative layers alongside any refined Resource Areas or SRAs through mapping on the Welsh Marine Planning Portal, rather than be used to refine RA boundaries.

In April 2023, a range of refined RAs for each of the differentiated focus sectors were presented to stakeholders. These mapping outputs represent completion of a key stage towards the development of potential SRAs. To progress with SRA development, additional work will be required by Welsh Government to further consider the outputs from a policy perspective against the SRA Design Principles.

Contents

Appendices

Tables

Figures

1 Developing SRAs

1.1 Introduction

The Marine and Coastal Access Act 2009 (MCAA) provides the framework for marine planning in the UK. It provides for production of a Marine Policy Statement (MPS) for the UK, sets Welsh Ministers as the marine planning authority for Wales and requires the production of marine plans where an MPS is in place.

The UK Marine Policy Statement 2011 (MPS) provides the framework for preparing marine plans and provides the high-level policy context within which marine planning in Wales has been developed.

The Welsh National Marine Plan (WNMP, adopted 2019) provides a statutory policy framework to help guide the sustainable development of Welsh seas over the next 20 years. Decisions taken by public authorities need to be in accordance with the WNMP, unless relevant considerations indicate otherwise, while activities and proposals coming forward need to reflect WNMP policies.

Welsh Government is progressing, in line with the WNMP, the identification of Strategic Resource Areas (SRAs) to safeguard the availability, from significant adverse impacts from any future new proposals, areas of resources upon which a sector is dependent. This has involved Welsh Government undertaking a mapping project to support with the identification of potential SRAs to which the relevant WNMP safeguarding policy (SAF_02) could be applied.

The process of identifying, refining and safeguarding areas of resource in line with WNMP policies is:

- Step 1: identifying, mapping and validating initial Resource Areas.
- Step 2: refining Resource Areas to take account of technical considerations and hard constraints.
- Step 3: applying SRA Design Criteria to refined RAs to identify potential SRAs for consultation.
- Step 4: following consultation, if appropriate, safeguarding SRAs via Marine Planning Notices spatially activating SAF_02.

Given the complexity of identifying the Resource Areas upon which (certain) sectors are dependent, refining these areas to account for technical and operational considerations and spatially determining the strategic importance of resources, the purpose of the Derivation Report (this document) has been to detail the approach taken to the development and mapping of refined Resource Areas (RAs) (Steps 1 and 2). This includes setting out how environmental, social and economic sustainability considerations (and solutions) associated with mapping of resources have been taken forward, including how stakeholder engagement has been incorporated throughout the process. This Derivation Report introduces, but does not set out in detail, the process for mapping final proposed SRAs (Steps 3 and 4), which will be progressed by Welsh Government. This work was carried out in line with the Sustainability Appraisal (SA) (ABPmer, 2023), which frames the mapping process against the policies and objectives of the WNMP, Well-Being of Future Generations (Wales) Act 2015 (WFGA) and Sustainable Management of Natural Resources (SMNR) and appraises the mapping methodology against the SRA design principles[1]. Following refinement of the RAs, Welsh Government will decide whether to progress with proposing any SRAs through consultation and thus whether a sector specific SRA should be defined.

[1] Welsh National Marine Plan Strategic Resource Area (SRA) identification: Design Principles (gov.wales)

1.1.1 Resource areas (Step 1)

The Sector Policy sections of the Welsh National Marine Plan (WNMP) include Resource Area (RA) maps describing the spatial distribution of natural resources upon which the specified sector is dependent (WNMP, paragraph 44 and Figure 2). RAs are broad areas that have been identified by a broad process of evidence collection and interpretation ; the latest version of the RA maps are displayed on the Wales Marine Planning Portal in the respective Sectors category[2]. The WNMP recognises that these broad areas will change as understanding improves, further evidence becomes available and/or sector technology develops.

1.1.2 Refined resource areas (Step 2)

A range of considerations affect the available spatial extent of the resource that has the potential to be used in the future within a RA. These considerations include technical considerations (e.g., water depth, distance to shore), hard constraints and soft constraints. Geospatial analyses of these parameters have been applied to refine the RA boundaries and/or to inform implementation guidance on how this data is interpreted and applied to inform future management. Refined RAs identify a more realistic spatial description of areas within which certain sectors have potential future interest.

1.1.3 Strategic resource areas (SRAs) and SAF 02 (Step 3)

The Minister for Climate Change has agreed that the SRA mapping process should be initiated with a view to identifying SRAs where appropriate. The Welsh Government anticipates consulting on any potential SRAs during Autumn 2023 and, as appropriate, introducing any identified SRAs during 2024.

The WNMP (paragraphs 46-61) makes provision for introducing, through the publication of Marine Planning Notices (MPNs), SRAs which activate and focus WNMP safeguarding policy SAF_02 for potential future sustainable resource use.[3]

SAF_02: Safeguarding Strategic Resources

Proposals which may have significant adverse impacts upon the prospects of any sector covered by this plan to engage in sustainable future strategic resource use (of resources identified by an SRA) must demonstrate how they will address compatibility issues with that potential resource use.

Proposals unable to demonstrate adequate compatibility must present a clear and convincing case for proceeding.

Compatibility should be demonstrated through, in order of preference:
- **Avoiding significant adverse impacts on this potential strategic resource use, and/or**
- **Minimising significant adverse impacts where these cannot be avoided; and/or**
- **Mitigating significant adverse impacts where they cannot be minimised**

SRAs, by identifying more targeted areas of resource of strategic importance to the sector, which could merit safeguarding through WNMP policy, would essentially form a further spatial refinement of the refined RAs mapped in Step 2.

[2] Wales Marine Planning Portal (gov.wales)

[3] An MPN will set out the scope and extent of the SRA(s), including details of the safeguarded area(s) of natural resource and the rationale for introducing resource safeguarding for those areas.

SRAs are intended to safeguard spatially defined areas of natural resource and facilitate proactive dialogue between sectors when planning future activities, ensuring any plans to expand resource use do not unnecessarily constrain either sector, while safeguarding the availability of key areas of strategic resource. As defined in the WNMP (paragraph 47) SRAs are **"...a tool to improve the management of marine activities, space and resources, helping to support the management of sector-sector interactions and providing a focus for further strategic planning"**. They are discrete, delineated areas of natural resource with the potential to support future sustainable use by a specific sector.

SRAs are intended to operate with SAF_02 in order to identify sector specific resource areas for safeguarding for potential future use with no inference regarding the acceptability or unacceptability of specific developments. Paragraph 48 of the WNMP sets out the purpose of SRAs: "**SRAs, where introduced, will guide related sector safeguarding policy. SRAs do not necessarily confer development suitability nor do they sterilise an area from development by other activities. Unless specified, SRAs do not imply any particular scale or rate of development or resource use and certain human activity may not be appropriate in an SRA because of the requirement to protect MPA features. Areas safeguarded by an SRA may reflect the long-term potential for a sector over the lifetime of this Plan or beyond."**

SRAs are simply intended to safeguard resources and facilitate proactive dialogue between sectors when planning future activities.

The WNMP specifies that, in deciding whether to propose the introduction of an SRA, the Welsh Government (as the marine planning authority) should have regard to the overall need for and benefit of the approach, together with the extent to which technical considerations allow identification of a realistic, focussed and meaningful SRA (WNMP, paragraph 51). Table 4 of the WNMP describes the role of SRAs in underpinning the sustainable development of natural resources in terms of:

- Societal benefit;
- Resource distribution, including technical constraints;
- Sectoral ambition, capability and direction;
- Resource use constraints (environmental, economic and societal); and
- Resource value (environmental, economic and societal).

1.1.4 Marine planning notice and activation of SAF_02 (Step 4)

SAF_02 safeguards strategic resources for future potential use enabled by the spatial mapping of the relevant natural resources. The supporting text to the policy (WNMP, paragraph 250) states the "**policy will apply to an SRA from the point at which it is introduced through the publication of an MPN**". This is aligned to earlier text in the WNMP (paragraph 50) which states "...**the marine planning authority may introduce SRAs through the publication of an MPN**". In other words, the MPN formally activates WNMP policy SAF_02 with regards to the relevant SRAs for the identified sector of interest. Thus, there will be a specific MPN for each SRA (sector) progressed.

The structure and content of the MPN is likely to include, but is not limited to, the following:

- A clear statement of the role and status of the MPN in decision making (referring back to the relevant provisions in the WNMP);
- The date from which this comes into force and the actions required from the different parties from this date i.e. all decision makers to apply WNMP policy SAF_02 in relation to the relevant sectors;
- The provisions under which the SRA has been identified and WNMP policy SAF_02 is activated;
- The rationale / justification for taking this action;

- A summary of the process by which the SRA has been identified and developed;
- The scope / extent of the activation of WNMP policy SAF_02 and the details of the SRA (the sector, the safeguarded area(s) of natural resource);
- Statement that SRAs do not guide development and all proposals coming forward within the SRA will need to follow normal authorisation and consenting procedures;
- Map(s) of the SRA safeguarded area(s) of natural resource –signposting to the Welsh Marine Planning Portal (WMPP) for 'live' detailed mapping;
- The provisions/arrangements for updating, reviewing and withdrawing an MPN / SRA; and
- Signposting to the underpinning evidence pack (maps, spatial evidence, impact assessments, Sector Locational Guidance, consultation responses etc.) and sources of further guidance e.g. the Implementation Guidance.

2 Refined RA (and SRA) Mapping Project

The Refined RA (and SRA) mapping project has been carried out to support the identification of potential SRAs to which WNMP safeguarding policy SAF_02 could be applied.

The Refined RA (and SRA) mapping project has been undertaken in line with the principles of Sustainable Management of Natural Resources (SMNR)[4] and the criteria set out in the WNMP (paragraph 55), namely:

- Apply technical criteria to best represent the resource most likely to be sustainably and economically viable given current technologies;
- Apply other sectoral spatial needs to refine the extent of the SRA, seeking to minimise or avoid conflict and encourage coexistence;
- Identify areas where consideration may need to be given to alternative options for resource use;
- Identify environmental constraints and opportunities relevant to the SRA;
- Identify social constraints and opportunities relevant to the SRA; and
- Consider the relationship between the SRA and the objectives and relevant general and sector policies of the WNMP.

In mapping and developing refinements to RAs and potential SRAs, Welsh Government will have taken account of the following SRA Design Principles[5]:

- Be guided by relevant WNMP objectives and policies;
- Apply the best available evidence throughout the process;
- Apply technical criteria relating to sector-specific practical and economic considerations in order to understand the potential technical viability of resource use;
- Identify and exclude areas of sector-specific 'hard' constraints [for example, in relation to SAF_01a[6]];
- Take account of 'soft' constraints and amend potential SRAs as appropriate [for example, considering existing activity (SAF_01b); environmental considerations (policies ENV_01, 02, 07); social/cultural considerations (policies SOC_05, 06, 07)];
- Seek to minimise conflict between sectoral opportunities;
- Seek to promote coexistence[7] and optimise spatial planning for resource safeguarding;
- Incorporate 'adequacy of scale' considerations with respect to a sector's scale of operation and potential growth rate[8] etc.;
- Avoid SRAs overlapping each other where coexistence between activities may not be possible; and
- Ensure clarity of safeguarding through avoiding disproportionately complex boundaries and disjointed or fragmented areas, where possible, in the final proposed SRAs.

4 See Table 3 in the WNMP.

5 https://www.gov.wales/welsh-national-marine-plan-strategic-resource-area-identification-design-principles

6 SAF_01a and SAF_01b apply to the safeguarding of existing non-defence related activities (depending on whether the activity requires a formal authorisation (01a) or not (01b))

7 The WNMP defines coexistence as when multiple developments, activities or uses can exist alongside or close to each other in the same place and/or at the same time. Co-location is a subset of coexistence and is where multiple developments, activities or uses coexist in the same place by sharing the same footprint or area. (WNMP paragraph 98).

8 Incorporating consideration of factors such as, for example, maturity of the sector and proximity to market, potential demand/markets, government policy, supporting infrastructure and supply chains.

Stakeholder input has been, and will continue to be, integral to the SRA mapping project and key to identifying areas with the potential for future sustainable use. Thus, the application of evidence and mapping of refined RAs to support derivation of potential SRAs has been shaped extensively by the feedback of stakeholders throughout the process. Furthermore, discussions with stakeholders have included, but not been limited to, discussions around positive sustainability outcomes, and assurance as to the absence of significant negative effects on sustainability from the implementation of SRAs.

2.1 Aims and objectives

To identify and map refined RAs (the baseline areas informing the derivation and delineation of potential SRAs), the project carried out spatial analyses, which involved identifying and considering environmental, social and economic opportunities and constraints in line with the principles of SMNR.

This Derivation Report sets out a broad description of the methodology used, before providing more detailed step-by-step information of the approach to mapping refined RAs (and ultimately SRAs).

The aim of this Derivation Report is to provide:

- A process and methodology which will allow Welsh Government to support identification of refinements to RAs and potential SRAs to which WNMP safeguarding policy SAF_02 could be applied; and
- A range of recommended mapping outputs indicating the potential location for SRAs (based upon refinement of RAs) informed through the consideration of relevant constraints and opportunities, spatial analysis, evidence review and stakeholder input.

Although the sustainability implications of SRA development fall outside the scope of this document, some consideration has been given due to overlapping criteria, as detailed within the aligned SA report (ABPmer, 2023).

3 Scope and Assumptions

The scope of the Mapping Project covers the following focus sectors:

- Aggregates
- Aquaculture
- FOW
- Tidal Range
- Tidal Stream
- Wave Energy

Within the WNMP each of these sectors has a defined Resource Area (RA). However, similar to the approach within the SMMNR Ecological Constraints and Opportunities project (ABPmer, 2020), it was necessary to further differentiate certain sectors dependent on where they occur within the water column i.e. seabed, mid-water and surface; and/or their specific technology/activity (e.g. seabed aquaculture vs. surface (suspended) aquaculture) (see Section 5.1).

Within the context of mapping refined RAs (and SRAs) and applying constraints, it was not possible to define anticipated individual project scales other than to assume that the development of the focus sectors would be at a commercial scale. Clearly, small scale research and demonstration level projects would experience different environmental, social and economic constraints and opportunities than those occurring at a full commercial scale.

The specifics of a particular project, including the precise location, will lead to quite varied construction and installation methodologies inter and intra-sector. While the choice of construction methodology may have a significant bearing on constraints, in most cases the construction phase will be significantly shorter (<2 years) than operational timescales for a given focus sector. Furthermore, the socio-economic implications from the construction phase are likely to be temporary in contrast to the long-term implications of the operational phase. Thus, the mapping work considered the constraints primarily in the context of the operational phase of each sector.

Constraints and opportunities relevant to the installation and construction of each sector, as appropriate, were considered within the context of the associated technical limitations. The decommissioning phase of the focus sectors was not encompassed by this study.

Given that aggregate operation does not result in any marine infrastructure at the point of resource utilisation, unlike the other sectors, the effects upon other sectors associated with aggregates are not considered permanent; however, it is assumed that operation will occur at any time of the year.

This project did not consider the installation or routeing of export cables, supporting terrestrial infrastructure or constraints posed by ancillary activities directly connected to sector operation. It is noted that, with the exception of FOW, the renewable energy RAs do not acknowledge cabling and grid connection availability or limitations. The potential alignments and requirements of cabling are dependent upon many variables such as the proximity of existing high voltage power lines, subsea cables and suitable onshore infrastructure. Whilst export cables were not part of the project scope, in terms of constraints, consideration was given to the potential inter-array cabling requirements for renewable energy, in particular the dynamic inter-array cables that traverse through the water column which are associated with FOW.

Other programmes of work, distinct from the mapping project but which are being progressed to support marine sectoral planning in Wales, have also been acknowledged. These included NRW's Assessing Welsh Aquaculture Activities (AWAA) Project funded by the European and Maritime Fisheries Fund (EMFF), FOW development exclusions and risks analyses work being carried out by The Crown Estate (TCE), environmental considerations mapping work being progressed by NRW (see Section 4.1.1) and the Tidal Lagoon Challenge (TLC). These programmes are relevant to one or more of the focus sectors.

Where appropriate and feasible, the Mapping Project has collaborated and co-ordinated between these other relevant programmes of work to allow data sharing and align approaches as relevant.

4 Broad Approach

4.1 Refined RA mapping

The project mapped refined Resource Areas (RAs) for each focus sector. The refined RA boundary for each of the focus sectors was attained through the identification and consideration of technical, hard and soft constraints. This was done in accordance with the SRA Design Principles and involved taking account of **environmental, socio-economic and sector-sector** opportunities and constraints, as per the principles of SMNR.

While this document is primarily concerned with the mapping methodology used to derive refined RAs, the wider elements of the project essentially incorporated several core activities running in parallel:

- **Sustainability Appraisal** - to frame the mapping work against the relevant policies that underpin the WNMP and wider relevant legislation;
- **Spatial Analyses** - to identify, consider and as required, apply suitable spatial data to refine existing Resource Areas; and
- **Stakeholder Engagement** - to shape the approach in accordance with stakeholder feedback, as appropriate.
-

These activities are presented in Figure 1.

The derivation report (this document) details the work carried out specifically to inform **spatial analyses** and the corresponding **stakeholder engagement** to support and shape the mapping work.

4.1.1 Complementary spatial initiatives

As noted in Section 3 the project progressed in dialogue with other related work, drawing upon a range of spatial evidence describing environmental and social constraints and opportunities, including from The Crown Estate and environmental constraints mapping work by NRW. In addition, updates to existing datasets have been, where possible, captured during the progress of the mapping project.

As part of a discrete programme of work, NRW has produced spatial evidence to describe the relative spatial sensitivity of interests/risks from an environmental perspective for each of the focus sectors (as differentiated). The NRW environmental evidence outputs complement and build upon the mapping of environmental constraints and opportunities produced in the Sustainable Management of Marine Natural Resources (SMMNR) project (ABPmer, 2020). A key consideration for the mapping project was how best to incorporate consideration of environmental aspects into the overall refinement of RAs and development of the SRAs. A focused stakeholder workshop was held in September 2022 (see Section 5.3.3 below) to specifically discuss and agree the best way to acknowledge environmental considerations within the mapping process.

4.2 Stakeholder engagement

Throughout the mapping project, it was essential to engage with stakeholders to facilitate and acknowledge different viewpoints and optimise the evidence base. Accordingly, at every stage of the mapping project, stakeholders were invited to engage and input to the work.

Invitations were sent to a varied technical stakeholder group, encompassing developers, academics, NGOs, regulators and industry bodies. These stakeholders were selected by Welsh Government and represented a diverse range of backgrounds and experience relevant to the project.

From initiation of the project in spring 2022 through to the presentation of the refined RA maps in April 2023, stakeholders were invited to discuss and input to the mapping process. A combination of feedback requests, interactive workshops and presentations have been used to facilitate engagement (see Table 1). This included five stakeholder events:

- Stakeholder meeting #1 (Introduction to project) - March 2022; 45 attendees from 28 organisations
- Stakeholder meeting #2 (Sector Specific Constraints Workshops) June 2022 (14-30 June); 7 workshops, 15-24 attendees per workshop covering 9-22 organisations
- Stakeholder meeting #3 (Environmental Considerations) September 2022; 31 attendees from 20 organisations
- Stakeholder meeting #4 (Soft Constraints and Refined RAs) January 2023; 35 attendees from 19 organisations
- Stakeholder meeting #5 (Mapping Showcase) April 2023; 25 attendees from 17 organisations

Event #2 was spread over a series of workshops specific to the focus sectors in June 2022. Feedback was requested and acknowledged both through direct requests sent out to stakeholders, and the collation of comments received during and post events. Mindful of stakeholder feedback and given the adaptive and iterative approach, which was taken, the mapping project evolved substantially from its initial inception to delivery of the final outputs (the refined RA maps) to Welsh Government in early summer 2023.

Details on the engagement specific to a step, or steps, within the spatial analyses are covered in Section 5. A chronological compilation of the summary information sent out to stakeholders, including the outcomes from key stakeholder meetings, is provided in Appendix A. Due to the evolution of the mapping project following stakeholder feedback and given the adaptive and iterative approach, which was taken, the approach and methodology necessarily evolved alongside. Timings of the communications were also adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Following the identification of refined RAs to enable consideration of any proposals for SRAs, wider public stakeholder consultation is proposed in Autumn 2023.

Table 1. Key stakeholder communication and engagement. Text in bold indicates stakeholder meetings and events

Stakeholder Communication	Description	Date
Outline Approach	Pre-meeting information	8 March 2022
Sector Differentiation	Feedback request	8 March 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**
Resource Area confirmation	Feedback request	16 March 2022
Constraint Lists (Technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022
Method Statement (draft)	Project output circulated (Live document)	1 April 2022
Summary of stakeholder responses received (Up to 14 April 2022)	Project update and information (Inc. list of agreed constraints)	w/c 23 May 2022
Technical constraint parameters	Feedback request	w/c 16 May 2022
Stakeholder meeting #2 (Sector Specific Constraints Workshops)	**Categorise agreed constraints (Social, economic, sector-sector), identify suitable datasets for constraints**	**June 2022 (14-30 June)**
Summary of outputs from workshops	Project update and information	July 2022
Refined RA maps (Following application of technical constraints)	Project output circulated	August 2022
Stakeholder meeting #3 (Environmental Considerations)	**Discuss how environmental considerations can most appropriately be incorporated into SRA mapping**	**27 September 2022**
Summary of meeting conclusions	Information	October 2022
Refined RA maps (Following application of technical and hard constraints)	Project output circulated	October 2022
Stakeholder meeting #4 (Soft Constraints and Refined RAs)	**Refined maps, consider application of soft constraints (Socio-economic and environmental)**	**11 January 2023**
Summary of meeting conclusions	Information	February 2023
Stakeholder meeting #5 (Mapping Showcase)	**Refined RA recommendations**	**18 April 2023**
Derivation Report	Project output circulated	Summer 2023
SA report	Project output circulated	Summer 2023

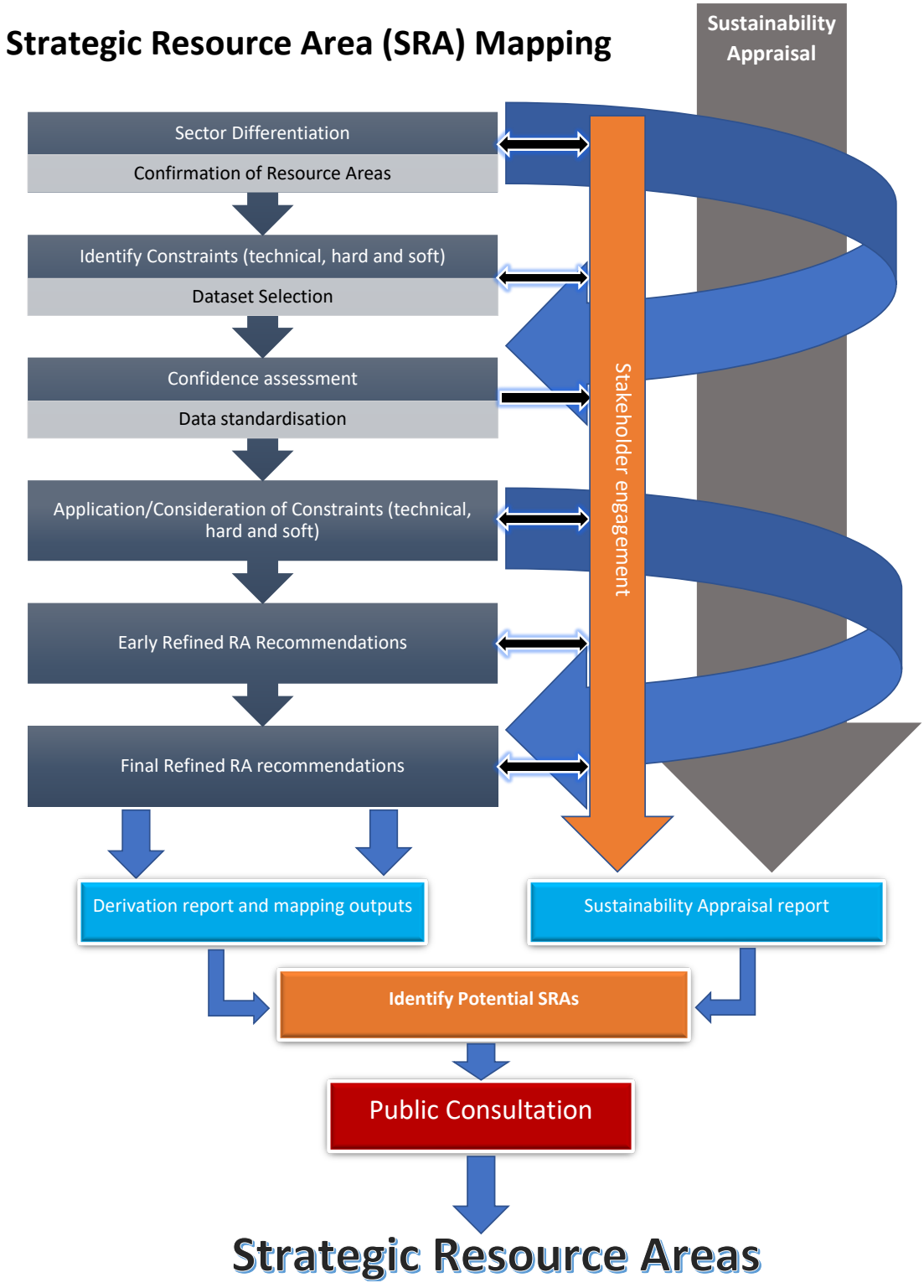

Figure 1. **The Strategic Resource Areas mapping process**

4.3 Sustainability appraisal of mapping methodology

In parallel to the spatial analyses work, the Sustainability Appraisal (SA) for the refined RA (and SRA) Mapping Project was carried out (ABPmer, 2023).

A key consideration for the SA were the outcomes of the discrete HRA and SEA screening activities, commissioned by Welsh Government in early 2022. These activities concluded that there would be no requirement for an SEA and/or HRA to assess the implications of the implementation of SRAs[9] [10]. This was due to there being no potential for an SRA MPN to have likely significant effects, when taking into account its characteristics or the presence of direct or indirect pathways for likely significant effects, on the environment.

The SA confirmed that the mapping methodology (see Figure 1) aligns with the principal objectives and goals of the Well-Being of Future Generations (Wales) Act 2015 and the principles of SMNR, as set out by the Environment (Wales) Act 2016). More specifically, as the project progressed and evolved, the mapping methodology was appraised against the SRA design principles and concluded that these were being met.

No significant negative effects on sustainability were identified and therefore no mitigation measures are considered necessary for the SRA mapping or activation of the policy SAF_02. Similarly, measures to monitor the activation of policy SAF_02 are not considered necessary. However, a monitoring strategy may be required to ensure the ongoing review of the effects of this policy via the already established iterative plan review (IPR) framework for the WNMP.

The SA is distinct from this Derivation Report and is a core activity of the SRA Mapping Project (see Section 4.1 and Figure 1).

9 Strategic Resource Areas and Marine Planning Notices: Habitats Regulations Assessment | GOV.WALES
10 Strategic Environmental Assessment: screening of the Strategic Resource Area marine planning notice | GOV.WALES

5 Refined RA (and SRA) Spatial Analyses Methodology

The stepwise process used to support derivation of the areas for consideration as potential SRA's is detailed within this section. The method was developed in collaboration with Welsh Government and stakeholders.

To ensure accordance with the SRA Design Principles, the methodology broadly encompassed:

- Application of technical criteria to best represent the resource most likely to be practically and economically viable within the next 20 years, given current technologies;
- Application of other sectoral spatial needs to refine the extent of the SRA, seeking to minimise or avoid conflict and encourage coexistence;
- Identification of areas where consideration may need to be given to alternative options for resource use;
- Identification of environmental constraints and opportunities relevant to the SRA;
- Identification of social and economic constraints and opportunities relevant to the SRA; and
- Consideration of the relationship between the SRA and the objectives and relevant general and sector policies of the WNMP.

Acknowledging the SRA Design Principles the spatial analyses activities comprised a number of steps (see Figure 1), the final step generating the refined RAs for a particular sector technology/activity:

- Identifying and agreeing how sectors will be differentiated;
- Confirmation of resource areas;
- Identifying technical, hard and soft constraints;
- Selection, standardisation and confidence of datasets;
- Application/consideration of constraints (technical, hard and soft);
- Early refined RA recommendations; and
- Refined RA recommendations.

These steps are detailed below, including, where appropriate, the rationale and a summary of the discussions and stakeholder feedback which informed the particular step in the spatial analyses methodology.

It should be noted that in April 2022 (see Table 1) a draft Method Statement was circulated to stakeholders to inform feedback on the proposed outline approach for the project. Since production of the draft Method Statement, the approach (as detailed below) has evolved significantly to reflect the findings and outcomes of discussions with Welsh Government and stakeholders.

5.1 Identifying and agreeing how sectors will be differentiated

The initial step to the process was to agree with Welsh Government and stakeholders how best to differentiate sector technologies/activities. The relative constraints and opportunities vary depending on the type of sector technology/activity that is implemented and/or the sector's location within the water column (see Section 3). To maintain a high-level focus but also encompass significant

differentiating factors the following differentiated sectors, representing the broad sectors, were initially proposed to stakeholders:

- Aggregates;
- Aquaculture - shellfish - seabed (e.g. ground laid mussels);
- Aquaculture - shellfish - suspended (e.g. ropes);
- Aquaculture - seaweed - suspended (e.g. ropes);
- Wave Energy - seabed;
- Wave Energy - surface;
- Tidal Stream - seabed;
- Tidal Stream - surface and water column;
- Tidal Range;
- Floating Offshore Wind - semi-submersible and spar buoy; and
- Floating Offshore Wind - tension leg platform (TLP).

These sector technologies/activities were each assumed to represent an existing commercially viable activity or one that is realistically likely to occur within the plan period of the WNMP (up to 2040) in Welsh waters (see Section 3).

Following consideration of stakeholder feedback received in March and April 2022 (Table 1) and the general agreement on the rationale for proposed differentiation (see Appendix A), all sector subdivisions were kept as initially proposed with the exception of FOW. Given the responses from stakeholders, it was decided that the FOW sector should not be subdivided. This is due to the considerable uncertainty of spatial requirements between TLP and spar buoy/semi-submersible. TLP is a fast-evolving technology, but uncertainty remains on its commercial development over the WNMP plan period.

The result was 10 differentiated sector technologies/activities taken forward within the mapping project.

5.2 Confirmation of resource areas

Existing RAs for each of the broad focus sectors (aggregates, aquaculture, FOW, tidal range, tidal stream and wave energy) have previously been identified by Welsh Government and are available on the WMPP[11]. Stakeholders were asked to confirm whether the existing RAs (as indicated on the WMPP) are broadly representative of the viable resource for the sector and, over the plan period of the WNMP, if any significant areas of resource exist outside the RAs. Stakeholders were also invited to comment as to whether there were any significant showstoppers in relation to viability of resource exploitation for any of the sectors.

As the key exploitable resource for each sector had been previously identified for defining the RAs, it was the expectation that many, if not all, of any proposed potential SRAs would be spatial refinements of the respective existing RA (as shown on WMPP). However, the possibility that all or part of a potential SRA might fall outside an existing RA, due to other constraining factors or opportunities, is acknowledged. Therefore, in subsequent steps of the methodology, consideration of constraint layers (technical, hard and soft), relevant to a particular sector, were applied across **all** of Welsh waters.,. This will ensure that any derived SRAs, should they be taken forward, will have been developed through full consideration of resource availability, constraints and opportunities.

Stakeholder feedback received in March and April 2022 (Table 1) generally agreed that the existing RAs were suitable representations of viable resource with the notable exception being the tidal range RA (see Appendix A). After careful consideration it was decided that the tidal range RA would be revisited

[11] Wales Marine Planning Portal (gov.wales)

by Welsh Government and corrected to capture depth requirements (≤25 m below chart datum) and assume that a tidal range of ≥6 m would be required for commercial viability. This resulted in a revised Tidal Range RA which was added to the WMPP in July 2022.

Welsh Government are aware that TCE are undertaking work to update Key Resource Areas (KRAs) for aggregates; however, at the time of the spatial mapping work, it was apparent that these would not be made available within the necessary project timeframes. It should be noted that the existing Aggregates RA was established through the KRA work identified by TCE (2014) in addition to including prospective coarse sand and gravel resource areas, and areas known to contain important sand and gravel resources (Bide et al. 2013).

5.3 Identifying technical, hard and soft constraints

Constraints mapping is an essential component to identifying, at a strategic plan-level, areas of natural resource which may merit safeguarding through SRAs (see SRA Design Principles). In accordance with the SRA Design Principles and working with stakeholders, technical, hard and soft constraints were identified and considered for each of the differentiated sectors, to contribute towards considerations on the derivation of any potential SRAs for the focus sectors. The definitions of technical, hard and soft constraints align with the SRA Design Principles and are detailed as follows:

A technical constraint covers the physical limitations (e.g. water depth) relevant to viable commercial resource exploitation, as encapsulated by the plan period of the WNMP (up to 2040), for each of the focus sectors. Within the context of the mapping project, technical constraints did not need to consider availability of **suitable** resource as this was a key consideration for derivation of each of the existing RAs (see RA_Sector_Derivations) and had been revisited through the Confirmation of Resource Areas (see Section 5.2).

A hard constraint is defined as a spatial consideration which means, for the lifetime of that constraint, any new development for a particular sector is, **in practice**, not possible. For example, significant fixed infrastructure would be considered a hard constraint in relation to new aggregate extraction. Within the context of this project the emphasis on a hard constraint was considered specifically in relation to mapping an SRA rather than project development.

A soft constraint is defined as a spatial consideration which relates to a particular sector. Soft constraints may have a varying degree of relevance to the prospects and nature of a new development. For example, the presence of a subsea cable would be an important consideration for a new renewable energy development but does not necessarily mean new development cannot progress.

This step of the spatial analyses work was phased. The initial phase proposed a number of technical, social and economic constraints (covering hard and soft constraints) considered relevant to each of the differentiated sectors. Following agreement on the constraints, the relevant datasets were selected and collated (see Section 5.4.1) and applied (Section 5.5).

Environmental constraints and considerations were considered separately to the socio-economic constraints (see below).

5.3.1 Technical constraints

The existing focus sector RAs (as indicated on the WMPP) were found to vary in their incorporation and consideration of technical constraints, with some based on an amalgamation of the technical parameters from different studies (e.g. wave energy) while others s were derived from a single study

(e.g. FOW). In the case of Aquaculture and FOW sectors, all the physical data relevant to informing technical constraints was already encompassed by the existing RAs.

Furthermore, the existing RAs covered broad sector types (e.g. tidal stream) rather than the differentiated technologies taken forward by this project (e.g. tidal stream seabed vs. tidal stream surface/mid-water) (see Section 5.1). Thus, the technical parameters for these broad sector RAs were further refined for the differentiated sectors.

In May 2022 (see Table 1 and Appendix A), stakeholders were invited to review the technical constraints and parameters proposed for each of the differentiated sectors, as applicable, as well as the suitability of technical datasets to derive the relevant spatial data.

The agreed outcomes (technical parameters) from this work were subsequently sent out to stakeholders on 31 August 2022 (see Appendix A) and applied to the existing RAs to initiate their refinement (see Section 5.5.1 and Appendix B).

5.3.2 Socio-economic constraints

Socio-economic constraints, covering both hard and soft constraints, were initially identified, and sent out to stakeholders in March 2022 (see Table 1 and Appendix A).

In June 2022, a series of sector specific workshops were held online to consider the proposed socio-economic constraints and also potential sector-sector constraints. The objectives of these workshops were to agree whether a given constraint was either hard or soft, for each differentiated sector, and, where soft, to categorise (from 1 to 4) according to the risk of perceived constraint/conflict for the differentiated sector in question:

Very low risk of conflict and/or very good potential for coexistence.
Low risk of conflict and/or good potential for coexistence.
Medium risk of conflict and/or low potential for coexistence.
High risk of conflict and/or very limited potential for coexistence.

Stakeholders were also asked before and during the workshops to consider which dataset(s) would best represent the constraints (see Section 5.4.1, selection of datasets).

The outcomes from these workshops were subsequently sent out to stakeholders on 22 July 2022 (see Appendix A). It should be noted that following the application of the hard constraints (Section 5.5.2) and provision of early refined RA maps, several constraints were reclassified from soft to hard during discussions with stakeholders and Welsh Government (Section 5.5.2).

Constraint catalogues indicating which socio-economic constraints were assigned as hard and which as soft, for each differentiated sector, are provided in Appendix C and D. The categories of each soft constraint, relative to a sector, are also shown.

5.3.3 Environmental considerations

During spring and summer 2022, a number of the stakeholder comments were received which related to how the SRA mapping project would consider environmental considerations (see Appendix A). The SRA Design Principles, note that '**in identifying an SRA, the marine plan authority should identify environmental constraints and opportunities relevant to the SRA**'. While the work being carried out by ABPmer was exploring and identifying social, economic and sectoral constraints, a parallel evidence workstream led by NRW considered the mapping of environmental constraints in Welsh waters (see Section 4.1.1).

To discuss how the SRA mapping project would best reflect environmental considerations, a stakeholder event specific to environmental constraints, in the context of SRA mapping, was held on 27 September 2022. Fundamental to these discussions were the conclusions of independent HRA and SEA screening exercises commissioned by Welsh Government [12] [13]. These concluded that mapping of SRAs and activation of SAF_02 would have no significant effects on any European sites, alone or in-combination.

At the stakeholder event (27 September 2022), stakeholders agreed unanimously with the HRA and SEA screening conclusions i.e. that, as formulated, SRAs do not, and cannot, lead to environmental impacts. It was also acknowledged that the derogation process (under Article 6(4) of the Habitats Directive) provides a mechanism that may allow a plan (or project) to be approved in limited circumstances even though it would or may have an adverse effect on site integrity on a Protected Site (see Appendix A).

It was recognised that environmental constraints need to be considered at a project-level. This is because they cannot be assessed meaningfully on a plan-level resource safeguarding basis due to the uncertainties (for example, the exact nature, location, scale and technology/methodology of a proposed activity and potential project-level mitigating or compensatory measures) which can only be fully understood and addressed at a project-level.

SRAs are a tool to alert developers that a resource may be sterilised by another activity. Ultimately resulting in an **additional** decision-making consideration **alongside** and **in addition to** the wider framework of WNMP environmental policies and regulatory environmental protections which will continue to apply irrespective of SRAs (including project-level HRA / EIA).

Thus, it was concluded that environmental considerations should not be used within the SRA mapping project to refine RA boundaries. The acknowledgment and potential application of soft constraints and therefore environmental considerations, to the SRA mapping project is covered in Section 5.5.3.

However, the environmental considerations relevant to each of the focus sectors and thus refined RAs will be available through the Welsh Marine Planning Portal as mapping layers. These will highlight key issues and considerations, enabling developers and decision makers to view details of the resource overlaid by details of environmental considerations. Thus, supporting early and informed decision making.

5.4 Selection, standardisation and confidence of datasets

5.4.1 Selection of datasets

During identification of suitable technical, hard and soft constraints (see Section 5.3), the datasets considered most appropriate to inform these considerations were selected. In May 2022 and at the sector-specific workshops in June 2022, stakeholders were invited to review and feedback on the suitability of the datasets proposed to inform the constraints (see Appendix A) as well as to recommend any other suitable datasets.

As a high-level criterion for selection, the dataset has to represent all or most of Welsh marine waters. Hence, localised datasets were not initially taken forward, although their applicability to focussed areas remained a consideration.

[12] https://www.gov.wales/strategic-resource-areas-and-marine-planning-notices-habitats-regulations-assessment
[13] https://www.gov.wales/strategic-environmental-assessment-screening-strategic-resource-area-marine-planning-notice

Where feasible, the datasets were available on DataMapWales or other open access websites with links provided to these datasets within the constraint catalogues (Appendix C and D). Datasets which were not open access were clearly indicated within the catalogue.

5.4.2 Confidence assessment

Confidence in the datasets was assured through the detailed stakeholder engagement process with recommendations from stakeholders considered and applied as appropriate (see Appendix A).

Limitations on the datasets were discussed and flagged. While it was noted that some datasets dated from a few years ago and/or were undergoing updates, it was agreed with stakeholders that the datasets taken forward were the best available evidence at the time of the spatial mapping exercise.

Specific detail on the feedback received in relation to the datasets is provided in the document sent out to stakeholders covering workshop outputs (22 July 2022, Appendix A). Datasets and constraints flagged for review in the short-term were:

- National Inshore Fishing Data Layer
- RYA boating atlas
- Historic assets
- Military defence
- Aviation

It was noted by stakeholders that an up-to-date inshore VMS dataset representing inshore fisheries had been recently initiated. However, at the time of the spatial mapping exercise a complete year of data was not available.

There are several different versions of the RYA Coastal (Boating) Atlas[14], of which only the public version can be used on the WMPP. In discussion with Welsh Government, the RYA confirmed that the version currently available on the WMPP was broadly the same to the updated public version of the Atlas.

At the recommendation of the Royal Commission On The Ancient & Historical Monuments of Wales (RCAHMW), the wrecks and obstructions dataset held by the UKHO (Global Wrecks and Obstructions Text File | ADMIRALTY Marine Data Portal) was also accessed to ensure the historic assets dataset was up to date.

MoD noted that the resolution of available datasets required refinement to allow suitable discrimination of defence constraints. Following separate discussions with the MoD, hard constraint and soft constraint datasets were provided representing defence related considerations.

Following recommendations from stakeholders the NATS Safeguarding dataset was used to inform soft constraints for FOW.

5.4.3 Data standardisation

Datasets were standardised to ensure integration of the mapping outputs and comparability within the project. As done for the SMMNR Ecological Constraints and Opportunities project (ABPmer, 2020), a 1 km^2 hexagonal vector grid cell was used for the overlapping of all input datasets.
The selected spatial information layers were standardised according to:

[14] uk-coastal-atlas-of-recreational-boating (rya.org.uk)

- Coordinate reference system (WGS 1984 UTM Zone 30N): this ensured all layers were spatially compatible and able to make use of metric units;
- Geographical extent (Welsh waters as defined by EEZ boundary): ensured all layers occur over the same spatial extent (as applicable);
- Classification: A standardised classification system was applied across the soft constraints for each sector.

5.5 Application and consideration of constraints

The following section provides an outline of the approach taken for the application and consideration of each of the constraints (technical, hard and soft). This part of the mapping approach provided very early mapping outputs for consideration and discussion with stakeholders (see also Section 5.6). In particular, these early mapping outputs were used to inform the buffers of hard constraints. However, the key activity of this work centred around the consideration of soft constraints within the mapping the process.

5.5.1 Technical constraints

Where technical constraints were identified for a differentiated sector, the agreed technical parameters were applied, as appropriate (see Section 5.3.1) and used to initially refine the RAs based on limitations relevant to each of the differentiated sectors. This resulted in technically refined mapping outputs for each of differentiated sectors representing RAs suitable for commercial exploitation which were provided to stakeholders on 31 August 2022 (see Appendix A).

5.5.2 Hard constraints

The next phase was the application of the initially agreed hard constraints (see Section 5.3.2) to the refined RAs). This resulted in overlaying the hard constraints (as agreed in the sector specific stakeholder workshops in June 2022) to the mapping outputs produced from the application of the technical constraints.

Direct engagement with relevant stakeholders, in combination with the outcomes of internal team discussions, were used to derive appropriate buffers for the hard constraints, as appropriate for a specific differentiated sector.

These further refined RAs (following application of both technical and hard constraints) were provided to stakeholders on 26 October 2022 (see Appendix A).

Following issue of these early mapping outputs, and subsequent discussions with Welsh Government and stakeholders, the hard constraints were revisited and several changes made including the reclassification of a number of constraints from soft to hard:

- Shipping and Navigation:
    - Areas To Be Avoided (ATBA) were taken forward as hard constraint for all sectors
    - Buffers for Traffic Separation Schemes (TSS) changed/increased
    - Major shipping route buffers changed/increased
- Energy - Low Carbon:
    - All Offshore Wind site agreements beyond early concept/planning phase taken as hard constraints for all sectors

- Fisheries:
    - Scallop dredging areas within inshore waters (<12 NM) with greatest relative scallop fishing activity were taken forward as hard constraints for Aggregates and Aquaculture sectors

Further detail on the buffers applied is provided in the hard constraint catalogue (Appendix C). The revised mapping outputs showing the refined RAs, and corresponding hard constraints, which were presented to stakeholders in January 2023 (see Table 1) are provided in Appendix E.

5.5.3 Soft constraints (socio-economic)

Socio economic soft constraints were previously identified and agreed during the sector specific June 2022 workshops (see Section 5.3.2 and Table 1). During these workshops, the socio-economic soft constraints were categorised, relative to each sector, ranging from 1-4 with 4 representing the greatest risk of perceived constraint/conflict for a differentiated sector.

In January 2023, a stakeholder event was held to specifically consider the best way to represent and acknowledge socio-economic soft constraints within the SRA mapping process (see Table 1). Options were provided to stakeholders for consideration. The first option considered the potential for further RA refinement based on sector to sector interactions (e.g. potential for conflict/co-existence etc.). The rationale for proposing the first option acknowledged that the key objective of resource safeguarding through SRAs is management of sector interactions.

The second options was to spatially present all soft constraints as contextual/informative data sources only. Thus, there would be no refinement of RAs based on interaction with soft constraints, whether they represent marine activities or otherwise.

Stakeholders unanimously agreed that the second option, representing all soft constraints as contextual/informative, would be the most appropriate for considering soft constraints in SRA mapping. Detail on the outcomes from this event were communicated to stakeholders on 28 February 2023 (see Appendix A).

Given the conclusions of the stakeholder event, the soft constraints have been provided as interactive layers on the WMPP. These provide spatial information about a given soft constraint, relevant to a given sector, and metadata including a brief description, category (1-4) (see above), source data (if relevant) and links to supporting documents / datasets. This information is provided in the soft constraint catalogue (Appendix D). Figure 2 provides an example of the soft constraints overlaid to the Tidal Stream (seabed) refined RA (as refined following application of agreed technical and hard constraints).

5.6 Early recommendations

Throughout the Refined RA (as a basis for potential SRAs) mapping process, suggestions on the approach were provided to stakeholders to assist thinking (see Appendix A and Table 1). Similarly, mapping outputs have been presented at various stages to allow stakeholders to visualise the evolving refinement of the RAs and encourage feedback.

Provision of the refined RAs, as the constraints were applied, tested the suitability of the approach taken and, in the case of the hard constraint mapping, elicited further discussions with stakeholders around these constraints to ensure applicability (see Section 5.5.2).

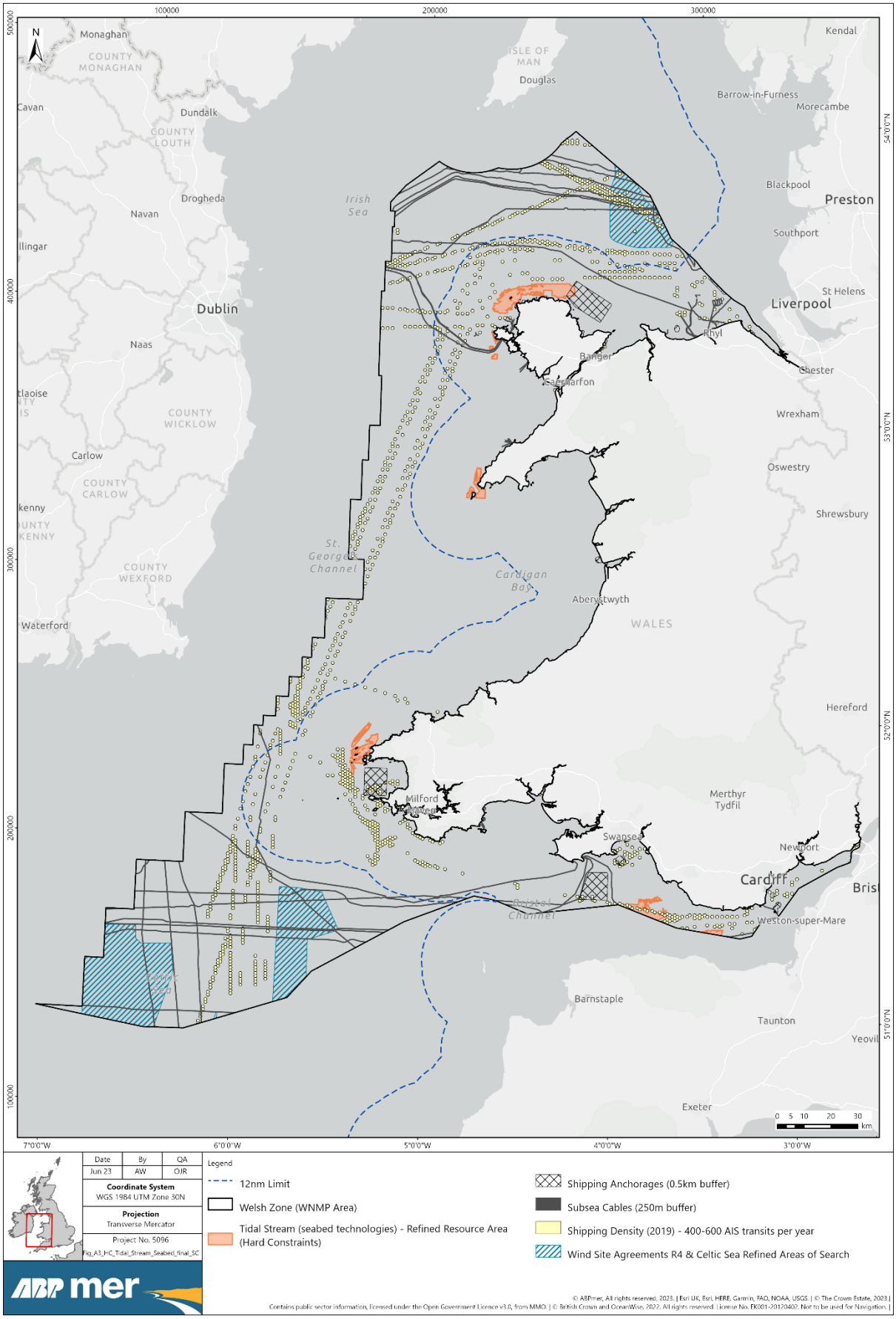

Figure 2. **An example mapping output showing a selection of soft constraints overlaid on the Tidal Stream (seabed) refined RA**

5.7 Refined RA recommendations

Refinement of the sector RAs were developed iteratively with Welsh Government and stakeholder engagement.

Following agreement that the best way to use soft constraints was as spatially informative contextual layers rather than using to define RA boundaries (see Section 5.5.3), the refined RAs were finalised in discussion with WG and in alignment with the SRA Design Principles. Specifically this was to: '...**ensure clarity of safeguarding through avoiding disproportionately complex boundaries and disjointed or fragmented areas** ....' through the 'cleaning-up' of mapping outputs.

On 18 April 2023, recommendations of refined RAs were made to Welsh Government and presented to stakeholders at the final stakeholder event (Table 1). These mapping outputs represented the application of the constraints in the manner described above (see Section 5.5) and the consequent 'cleaning up' process (Figure 3 to Figure 12). These outputs allow the potential spatial opportunities for SRA development to be visualised for each of the differentiated sectors.

The extent of the refined RA varies considerably between sectors. For example, the Wave Energy seabed RA (Figure 11) occupies a comparatively small area when compared with Aggregates (Figure 3), FOW (Figure 7) and even Wave Energy surface (Figure 12) RAs.

Following the last stakeholder event, the finalised refined RAs were made available on the WMPP for users to overlay and consider alongside other spatial information.

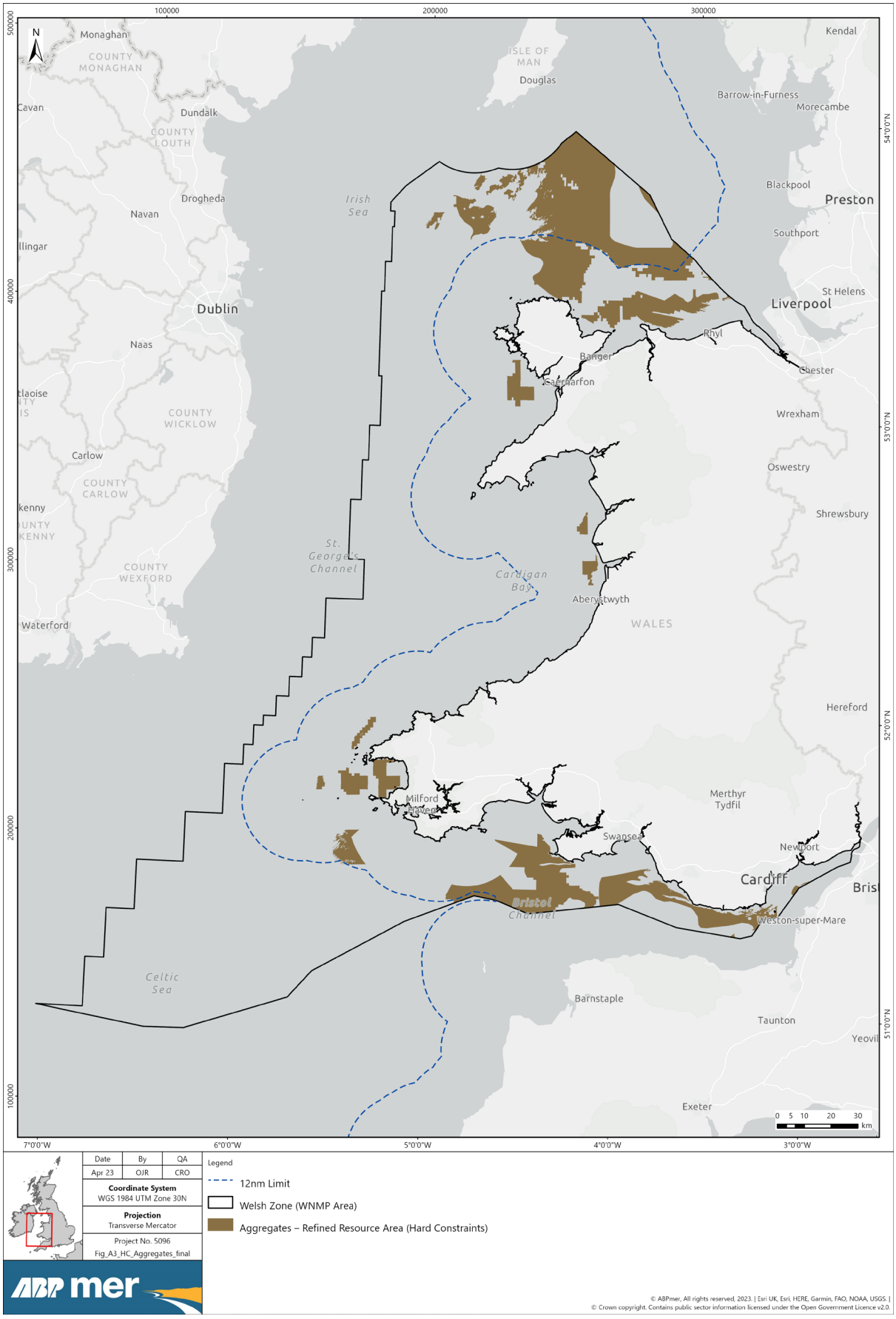

Figure 3. Refined RA for aggregates

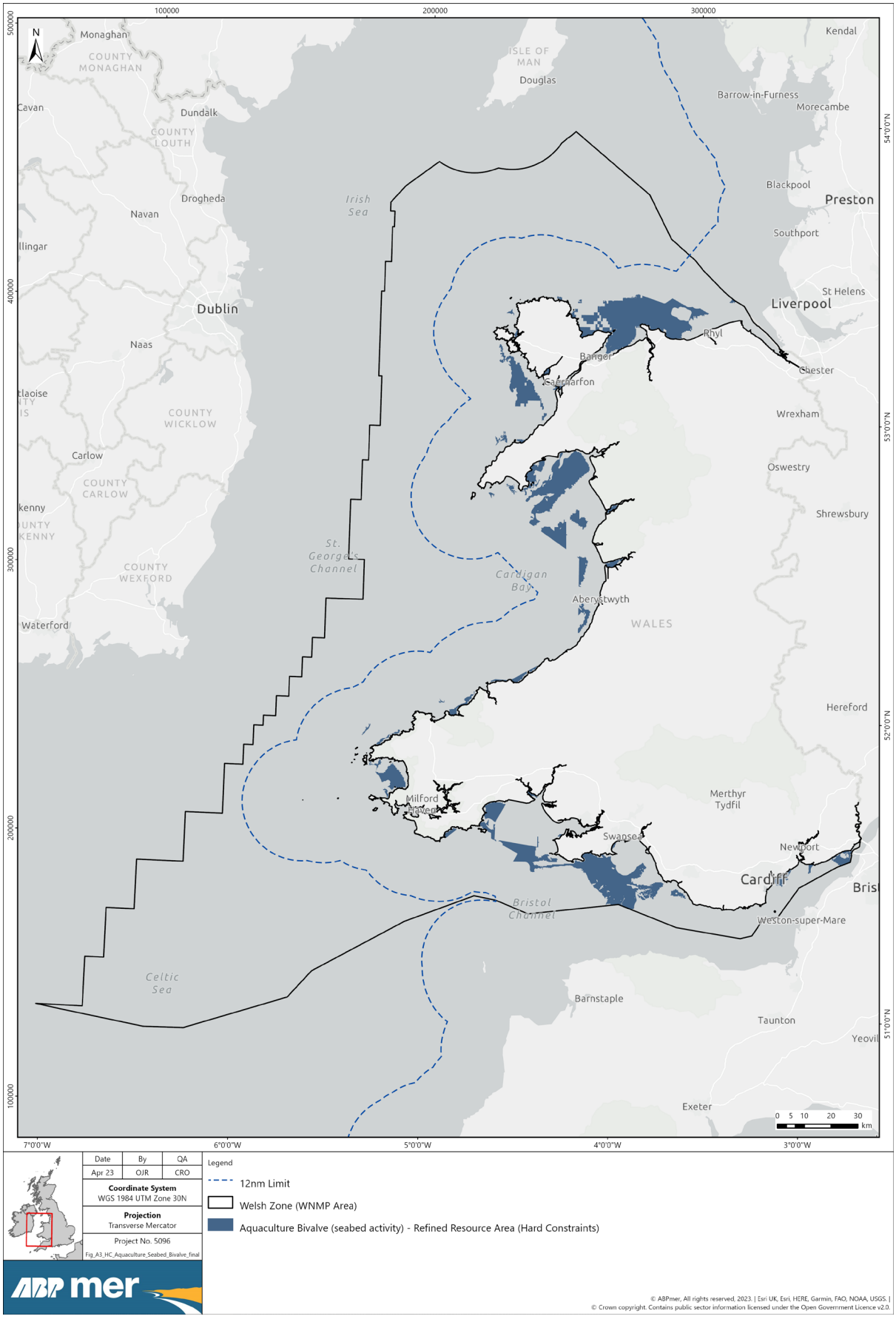

Figure 4. Refined RA for aquaculture bivalve (seabed)

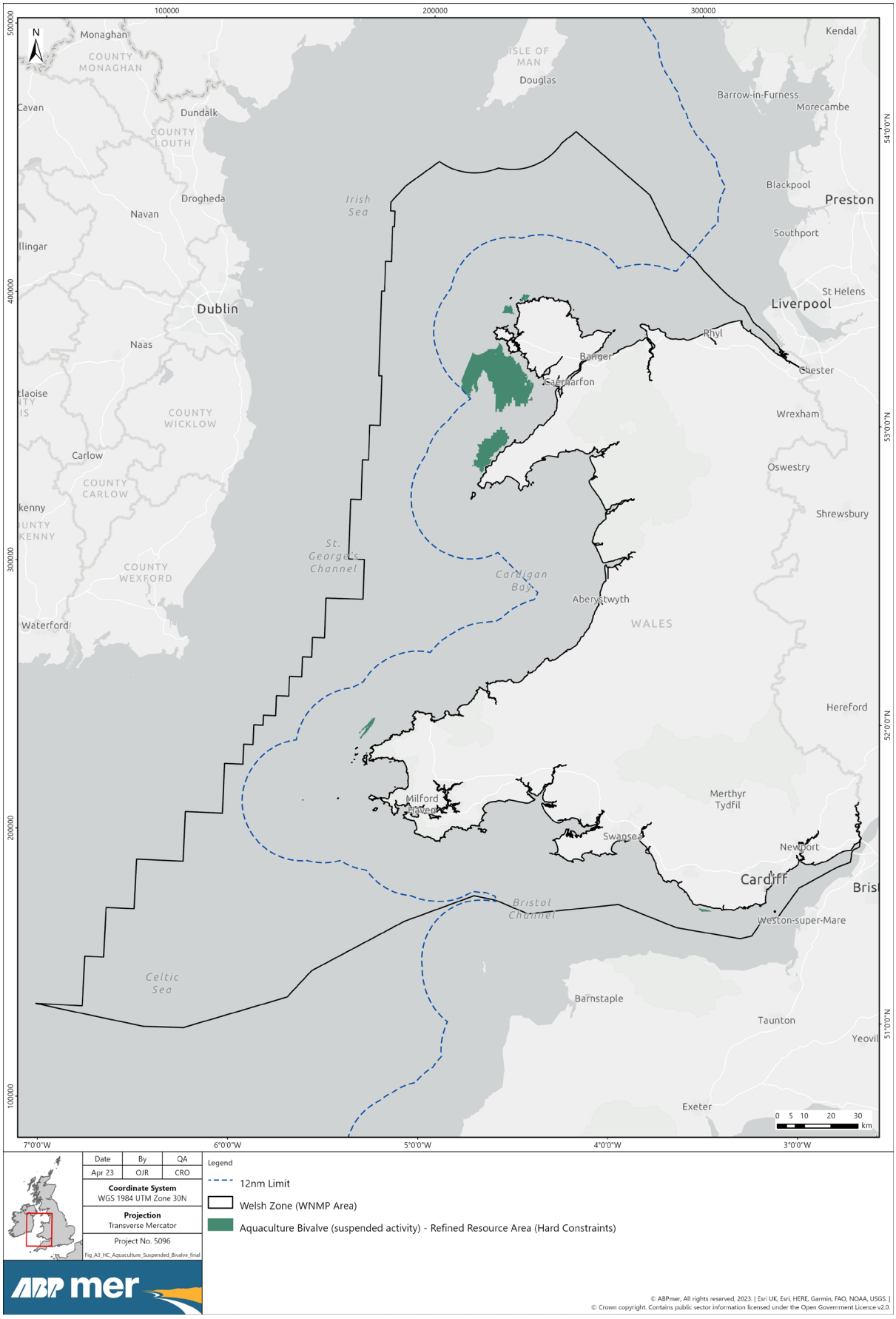

Figure 5. Refined RA for aquaculture bivalve (suspended)

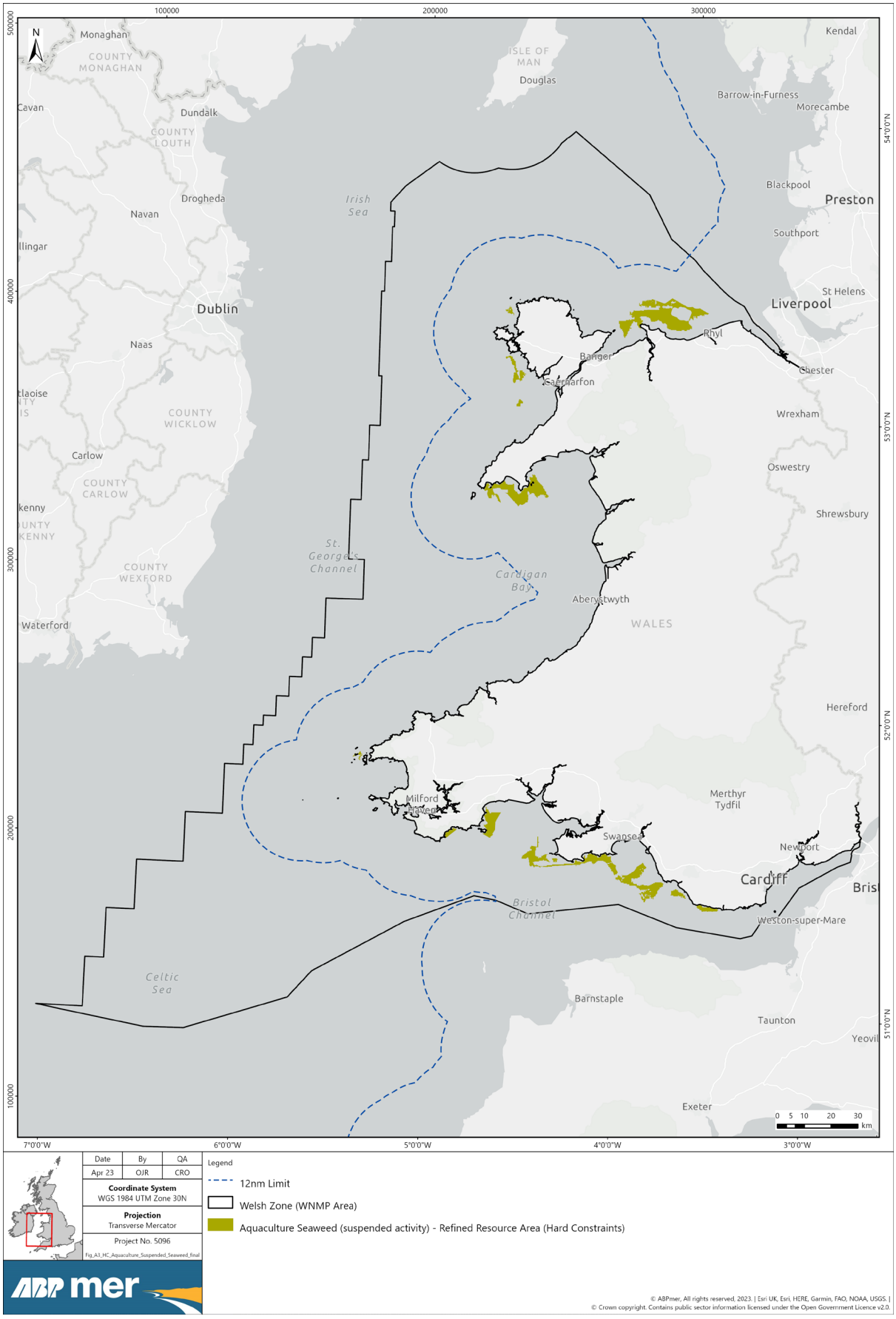

Figure 6. Refined RA for aquaculture seaweed (suspended)

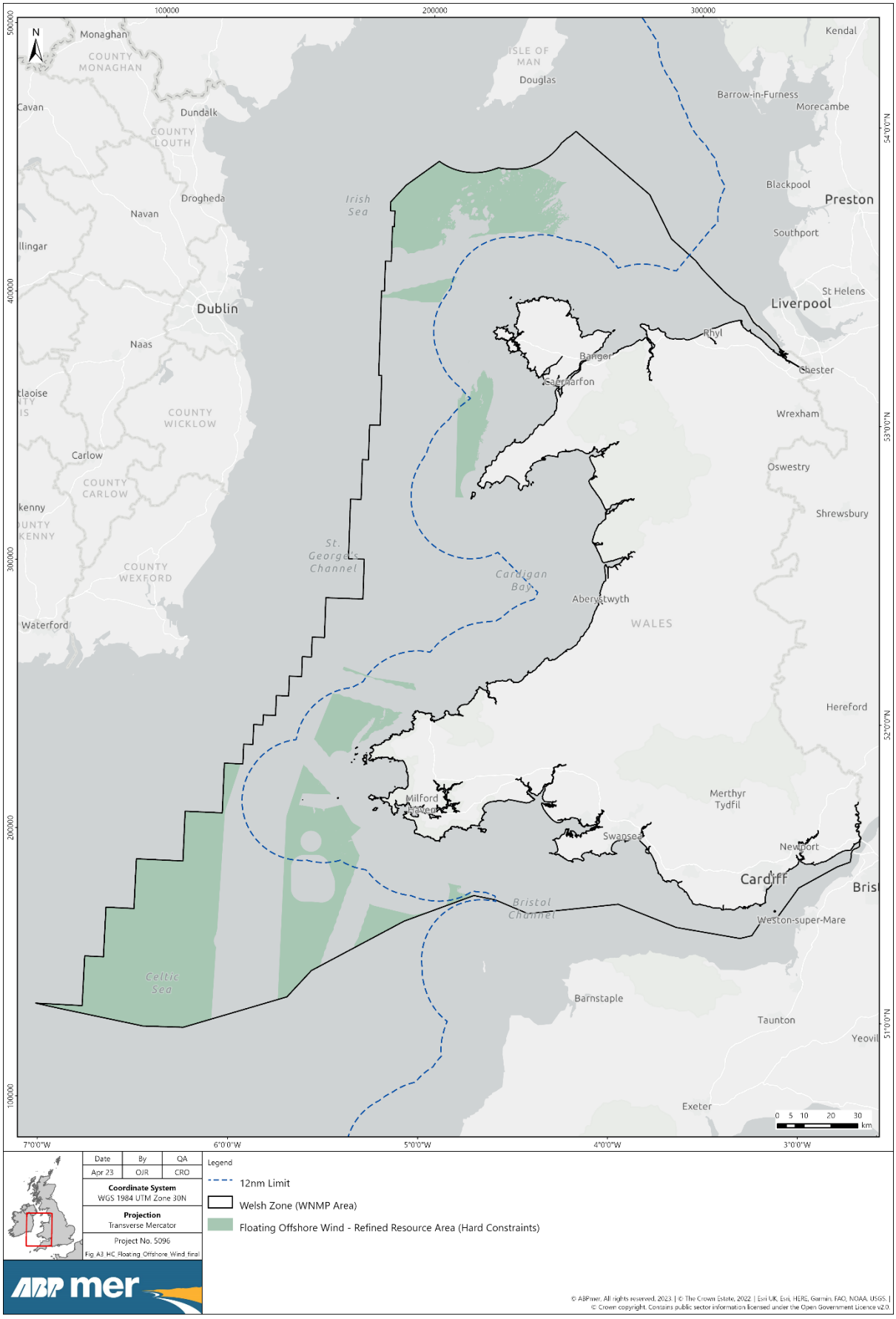

Figure 7. Refined RA for floating offshore wind

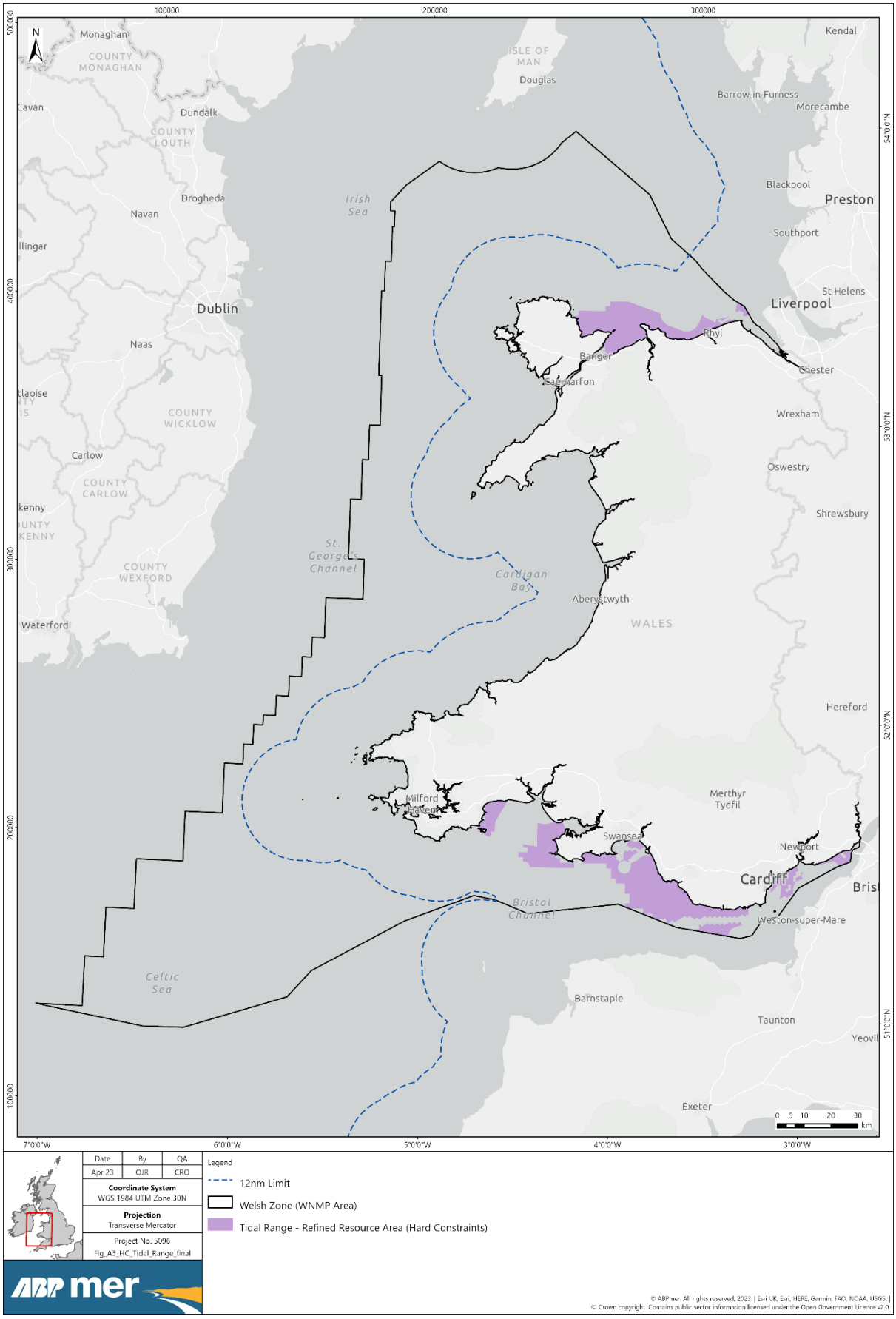

Figure 8. Refined RA for tidal range

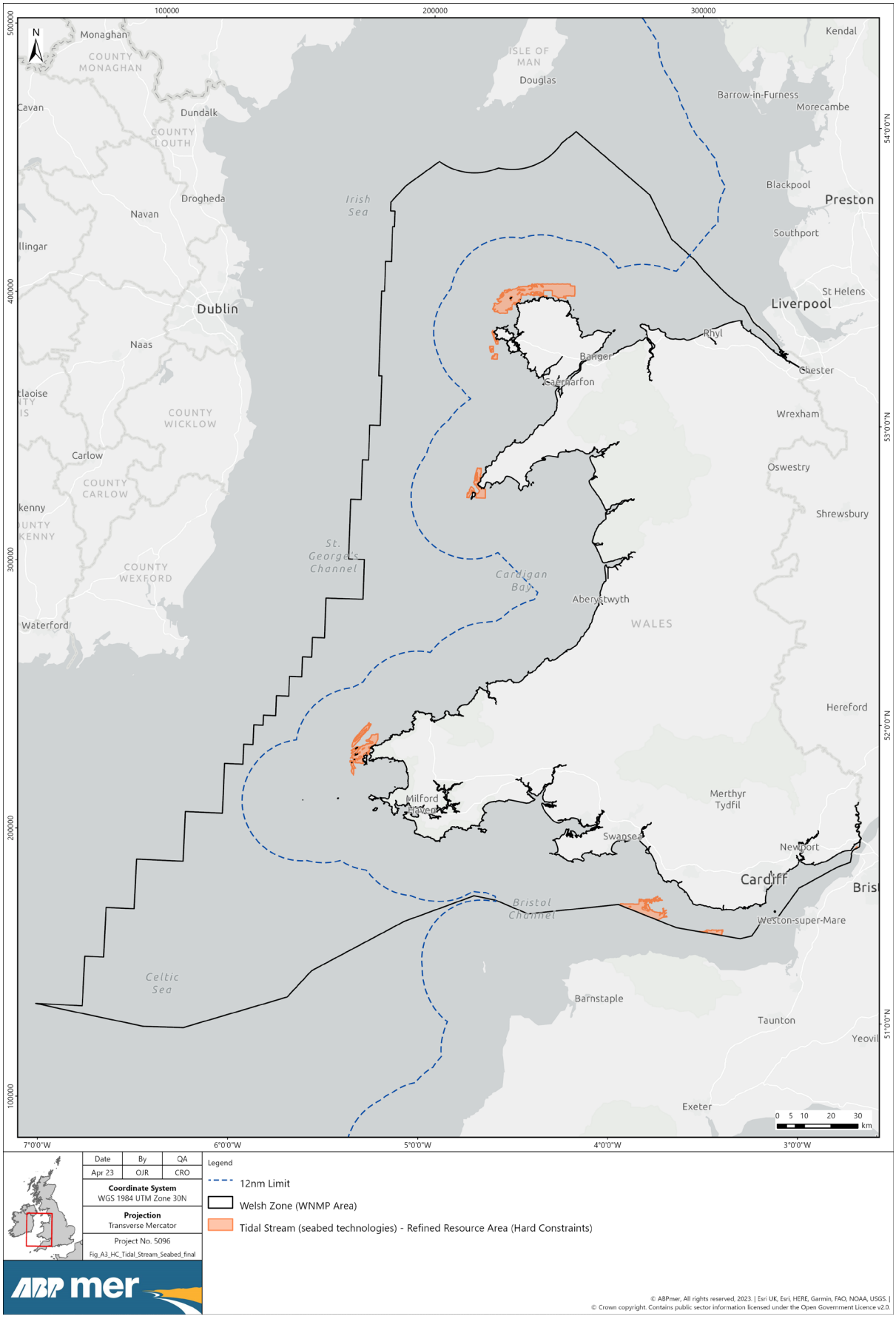

Figure 9. Refined RA for tidal stream (seabed)

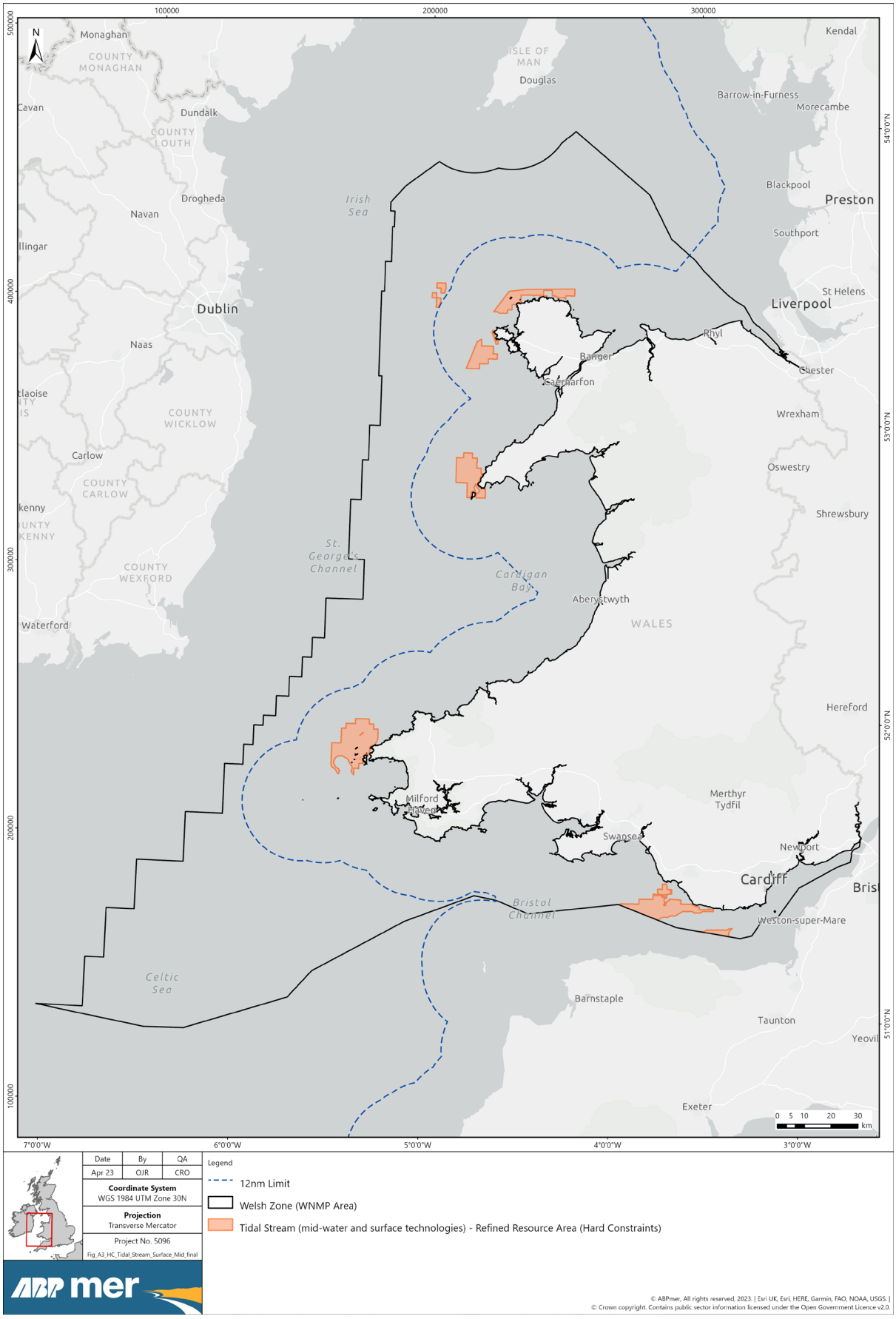

Figure 10. Refined RA for tidal stream (mid water and surface)

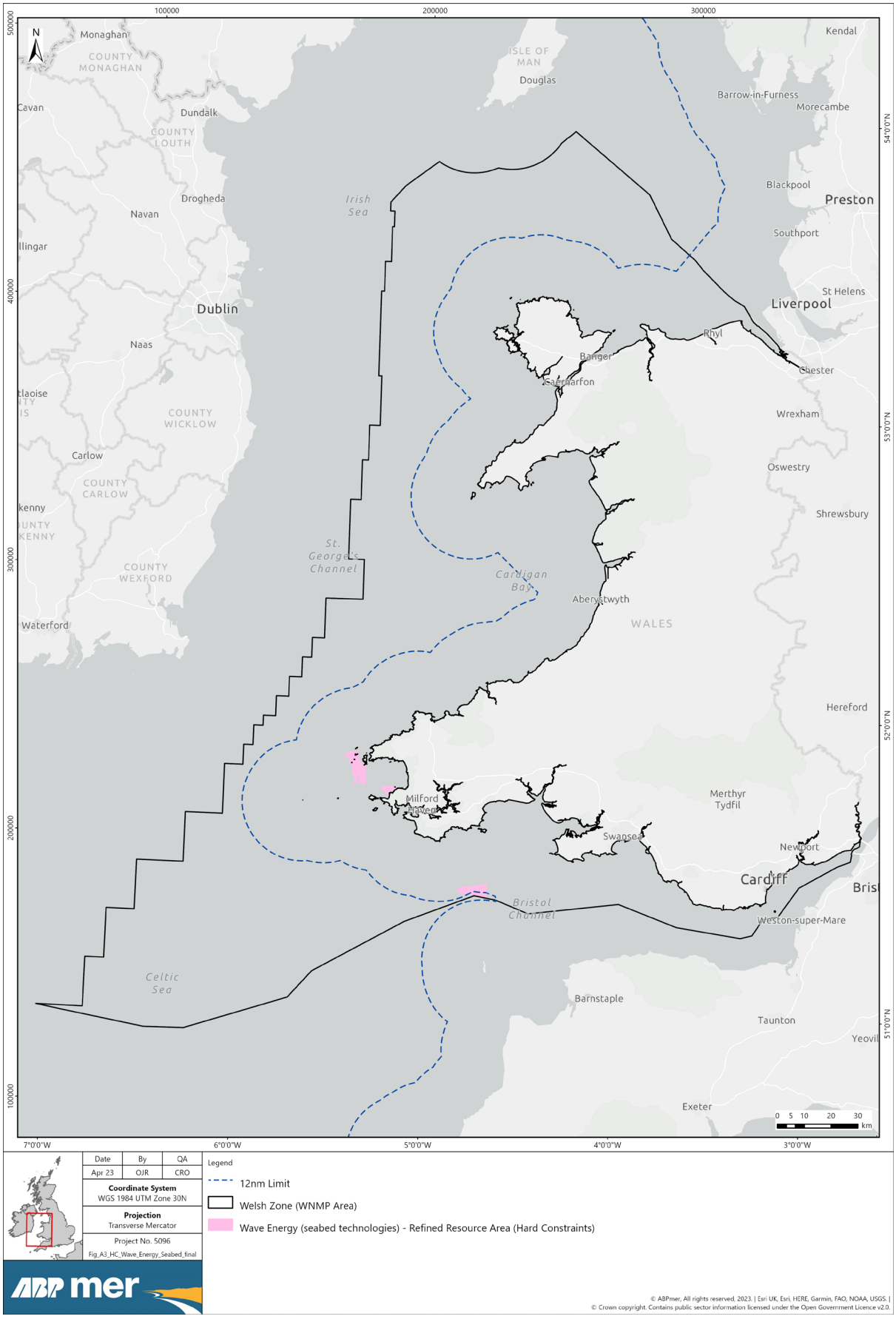

Figure 11. Refined RA for wave energy (seabed)

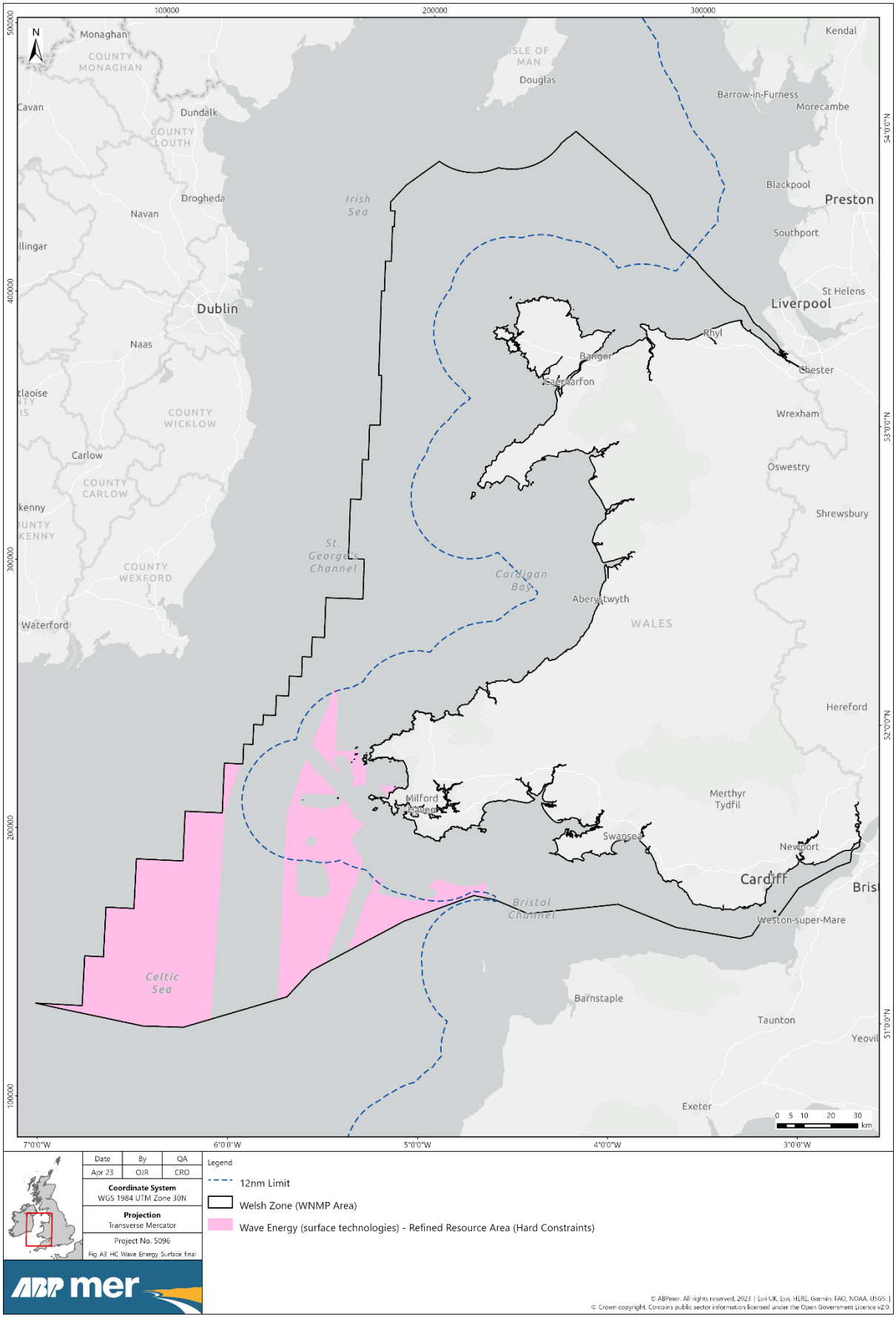

Figure 12. Refined RA for wave energy (surface)

6 Further Work

The refinement of the RAs, achieved through the identification, consideration and, where appropriate application, of constraints, represents completion of a key stage within the mapping work towards identifying potential of SRAs.

Welsh Government will now progress with SRA development to ensure the design criteria are fully adopted and that all of the outputs of this work are accessible and useful to stakeholders now and in the future.

6.1 SRA progression (Step 3)

The outputs (refined RAs) will require further consideration from a policy perspective against the published SRA Design Principles.

Issues requiring consideration will include:

- Minimising conflict between overlapping sectoral opportunities.
- Promoting coexistence.
- Incorporating 'adequacy of scale' considerations with respect to a sector's scale of operation and potential growth rate etc.
- Avoiding disproportionately complex boundaries and disjointed or fragmented areas.
- The relative benefit of proposing an SRA for an area relative to its potential adverse effect upon other sectors.

While these issues have, to some degree been considered within the mapping process, they will need to be revisited as the mapping outputs evolve further to align with the SRA Design Principles.

The parallel SA for SRA mapping (ABPmer, 2023) will need to be finalised and consulted upon and along with this Derivation Report, published. At the same time, The Welsh Ministers will consider which SRAs to progress to consultation. Consultation on the proposed SRAs is anticipated later in 2023 along with the provision of draft Marine Planning Notices giving the policy effect. These will be implemented in line with the respective Implementation Guidance once this is developed with the support of stakeholders.

6.1.1 Pilot SRAs

Based on all of the outputs (refined RAs), Welsh Government are currently proposing to undertake a pilot approach to SRAs.

The refined RAs vary in extent with several occupying comparatively large areas. These include a large number of areas where the sector refined RAs overlap and also where they adjoin the coastline, and, therefore, where the interests of a large number of other sectors overlap. This has potential to add complexity and cost to marine licensing and to small-scale coastal proposals which would not be considered appropriate (including key activities such as maintenance dredging and flood defences). .

Therefore, Welsh Government are initially proposing to pilot a limited number of SRAs . Welsh Government will work with regulators and industry to understand the effect of these pilot SRAs, the extent of any resulting benefit, whether there are any unintended consequences, and whether they

impact on timescales, cost or complexity of marine consenting processes. This will enable informed decisions on the next steps for the SRA programme.

In considering whether to propose pilot SRAs for a specific sector, Welsh Government will be guided by the provisions of the WNMP regarding SRA development and by the SRA Design Principles. This will include consideration of:

- Whether there are realistic prospects of the loss or material disruption of a resource upon which a sector is dependent as a result of another activity;
- Whether the identification of an SRA can support meaningful forward planning by providing clarity on the distribution and availability of resources;
- The extent to which the benefit of identifying an SRA outweighs potential adverse impact upon other sectors;
- Whether technical considerations allow identification of a realistic, focussed and meaningful SRA;
- Minimising conflict between overlapping sectoral opportunities; and
- 'Adequacy of scale' considerations with respect to a sector's scale of operation and potential growth rate.

Implementation Guidance will be used to minimise any unnecessary effects for other sectors from these pilot SRAs, and to set out how to balance the interests of different sectors. Additionally, for all the focus sectors, Welsh Government will make available the extensive constraints mapping and associated evidence, via guidance and interactive mapping on the Wales Marine Planning Portal.

6.2 Evidence, accessibility and functionality

6.2.1 Monitoring and iterative review

At the time of writing, the evidence used to inform this work is considered the best available in the context of the approach and derivation of SRAs. It is acknowledged that a regular review of the datasets that inform the constraints will be needed. In some cases, this may lead to further refinement. For example, as greater understanding of technical limitations to commercial operation of focus sectors is realised. This is most likely to occur with emerging sectors such as wave energy and even tidal stream.

The evolution of existing established activities may alter the hard constraint layers. For example, the closure of a marine disposal site may result in the disposal site footprint being considered a soft constraint for certain sectors.

However, most of the changes anticipated will be to the soft constraints (contextual layers) as new evidence becomes available. An example in the short term, will be the required shift to using inshore VMS data to inform inshore fishing activity, as opposed to the National Inshore Fishing Data Layer[15] (see Section 5.4.2).

6.2.2 Welsh marine planning portal (WMPP)

At key points in the mapping project, the outputs have been uploaded to the WMPP to provide a transparent indication of the evolving work. These outputs, as mapping layers, are interactive thus enabling the user to apply additional layers provided on the WMPP, and to understand how the developing layers relate to other map layers showing natural resource or human activity.

[15] UK Inshore Fishing Activities Intensity - Geographic Information System Data Layer 2011-2012

Further evolution of the mapping outputs is assumed given the requirement for regular review of the evidence base (see Section 6.2.1). As agreed with stakeholders, the soft constraints identified for this work will be made available as interactive layers on the portal (see Section 5.5.3). This will include the outputs from the parallel spatial mapping work carried out by NRW in relation to environmental considerations relevant to each of the differentiated sectors.

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https://www.emodnet-bathymetry.eu/

https://www.gov.wales/sites/default/files/publications/2021-09/welsh-national-marine-plan-strategic-resource-area-identification-design-principles.pdf

https://www.gov.wales/strategic-environmental-assessment-screening-strategic-resource-area-marine-planning-notice

https://www.gov.wales/strategic-resource-areas-and-marine-planning-notices-habitats-regulations-assessment

https://www.gov.wales/welsh-national-marine-plan-strategic-resource-area-identification-design-principles

https://www.renewables-atlas.info/

https://www.rya.org.uk/knowledge/planning-licensing/uk-coastal-atlas-of-recreational-boating

8 Abbreviations/Acronyms

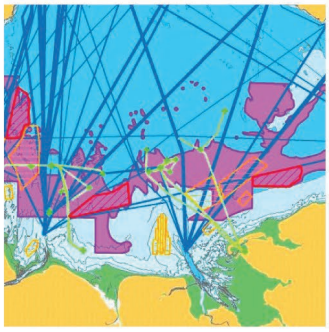
ATBA	Areas To Be Avoided
AWAA	Assessing Welsh Aquaculture Activities
BCD	Below Chart Datum
EEZ	European Economic Zone
EIA	Environmental Impact Assessment
EMFF	European and Maritime Fisheries Fund
EMODnet	European Marine Observation and Data Network
FOW	Floating Offshore Wind
HRA	Habitats Regulations Assessment
IPR	Iterative Plan Review
KRA	Key Resource Area
MCAA	Marine and Coastal Access Act
MoD	Ministry of Defence
MPA	Marine Protected Area
MPN	Marine Planning Notice
MPS	Marine Policy Statement
NATS	National Air Traffic Services
NGOs	Non-Governmental Organisations
NM	Nautical Mile
NRW	Natural Resources Wales
RA	Resource Area
RCAHMW	Royal Commission On The Ancient & Historical Monuments of Wales
RYA	Royal Yachting Association
SA	Sustainability Appraisal
SEA	Strategic Environmental Assessment
SMMNR	Sustainable Management of Marine Natural Resource
SMNR	Sustainable Management of Natural Resource
SRA	Strategic Resource Area
TCE	The Crown Estate
TLC	Tidal Lagoon Challenge
TLP	Tension Leg Platform
TSS	Traffic Separation Schemes
UK	United Kingdom
UKHO	UK Hydrographic Office
UTM	Universal Transverse Mercator
VMS	Vessel Monitoring System
WFGA	Well-Being of Future Generations (Wales) Act
WG	Welsh Government
WGS	World Geodetic System
WMPP	Welsh Marine Planning Portal
WNMP	Welsh National Marine Plan

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.

Appendices




Innovative Thinking - Sustainable Solutions

ABP mer

A Information Provided to Stakeholders

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Spatial Analyses – Step 1 (Sector Differentiation)
Date sent	08/03/2022
Objective	Stakeholder feedback
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Purpose of Paper

This paper sets out a proposed approach to differentiate certain sectors, within the Strategic Resource Areas (SRA) mapping project, dependent on:

a) where a specific sector technology/activity occurs within the water column (e.g. surface, seabed); and
b) how the relative constraints experienced may vary depending on the type of sector technology/activity implemented.

It seeks stakeholder input to inform this approach and poses a number of questions upon which stakeholder views are specifically requested.

Project Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind
Tidal Range
Tidal Stream
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints in line with the principles of Sustainable Management of Natural

Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input will be used to shape the project. This will be key to identifying areas with the potential for future sustainable use by the focus sectors, where there may be a case to apply resource safeguarding through WMMP policy SAF_02. As part of this process, stakeholders representing a range of marine sectors and interests will be invited to respond and contribute towards the approach.

To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information (Table 1).

This paper seeks stakeholder input to inform the approach to sector differentiation and poses a number of questions upon which stakeholder views are specifically requested. The intention is for stakeholders to respond and provide feedback in relation to sector differentiation following the first stakeholder meeting.

Spatial Analyses – Step 1 (Sector Differentiation)

The spatial analyses element to the SRA mapping project will be carried out via a number of steps, of which sector differentiation is the first (Figure 1). These steps are summarised within the corresponding **SRA Mapping Project outline approach paper** circulated to stakeholders (8 March 2022).

Similar to the approach taken within the Sustainable Management of Marine Natural Resources project (ABPmer, 2020), it is proposed to further differentiate certain sectors dependent on where they occur within the water column (i.e. seabed, mid-water and surface) and/or their associated specific technology/activity (e.g. seabed tidal stream vs. surface tidal stream). This is because the spatial considerations and relative constraints experienced will vary depending on the type of sector technology/activity implemented. For example, shipping has the potential to be considered a 'hard' constraint for certain surface activities but a 'soft' constraint for certain seabed activities.

In line with the SRA Design Principles (Welsh Government, 2021), a hard constraint is a spatial consideration which means, for the lifetime of that constraint, new development for a particular sector is, *in practice*, not possible. Within the context of this project, the emphasis on a hard constraint is considered specifically in relation to mapping an SRA rather than project development. A soft constraint is a spatial consideration relating to a particular sector which may have a varying degree of relevance to the prospects and nature of SRA mapping for that sector.

Within this plan-level work, it is recognised that significant differences exist within several of the focus sectors, which would lead to identifiable differences in how one or more of the constraints could affect mapping of the relevant SRA. To maintain a high-level focus to the work but also encompass these significant differentiating factors, the following sector technologies/activities are initially proposed:

Aggregates;
Aquaculture – shellfish - seabed (e.g. ground laid mussels);
Aquaculture – shellfish - suspended (e.g. ropes);
Aquaculture – seaweed - suspended (e.g. ropes);
Floating Offshore Wind – semi-submersible and spar buoy;
Floating Offshore Wind – tension leg platform (TLP);
Tidal Stream – seabed;
Tidal Stream – surface and water column;
Tidal Range
Wave Energy – seabed; and
Wave Energy – surface.

These sector technologies/activities are all considered to represent an existing commercially viable activity or one that is realistically likely to occur within the WNMP plan period (i.e. up to 2040) in Welsh waters.

Aggregates

It is not currently proposed that the Aggregates sector is sub-divided. In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that the Aggregates sector should not be sub-divided?

If not, please provide your reasons and any recommendations on Aggregates differentiation.

Aquaculture

It is proposed that aquaculture first be separated by type (bivalve or seaweed). These aquaculture types have clear differences in their relative potential effects on environmental features. Bivalve aquaculture is further divided to reflect spatial occurrence of activity in the water column.

In line with the WNMP Aquaculture Resource Area, mapping of an SRA for the commercial mariculture of finfish is not being taken forward by this project, as this is not considered, at this point, to be commercially viable in Welsh waters. It is also proposed that shellfish ranching (lobster, crayfish) is not taken forward for the same reason.

In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that the proposed sub-division of Aquaculture is suitable?

If not, please provide your reasons and any recommendations on Aquaculture differentiation.

Floating Offshore Wind (FOW)

It is acknowledged that FOW can be broadly divided into three technology types: semi-submersible, spar buoy and tension leg platform (TLP) (noting that TLP technology has yet to be deployed at a commercial scale in UK waters).

Against the context of spatial analyses and SRA mapping, it is proposed that semi-submersible and spar buoy are not differentiated. Given that the relative spatial footprint of TLP is significantly less than other FOW technologies it is proposed that the SRA mapping project considers TLP separately from semi-submersible/spar buoy.

In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that the proposed sub-division of FOW is suitable? Please consider if TLP is likely to be commercially viable within the next 15-20 years.

If not, please provide your reasons and any recommendations on FOW differentiation.

Tidal Range

It is not currently proposed that the Tidal Range sector is sub-divided. In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that Tidal Range sector should not be sub-divided?

If not, please provide your reasons and any recommendations on Tidal Range differentiation.

Tidal Stream Energy

It is proposed that Tidal Stream is broadly divided to reflect spatial occurrence of tidal stream technology within the water column (i.e. surface, mid-water and seabed).

In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that the sub-division of Tidal Stream Energy is suitable?

If not, please provide your reasons and any recommendations on Tidal Stream differentiation.

Wave Energy

It is proposed that Wave Energy is broadly divided to reflect spatial occurrence of wave energy technology within the water column (i.e. surface and seabed).

In the context of the plan level SRA mapping work and over the WNMP plan period, do you agree that the sub-division of Wave Energy is suitable?

If not, please provide your reasons and any recommendations on Wave Energy differentiation.

Further comment

Please provide any additional comments on this step of the SRA mapping approach.

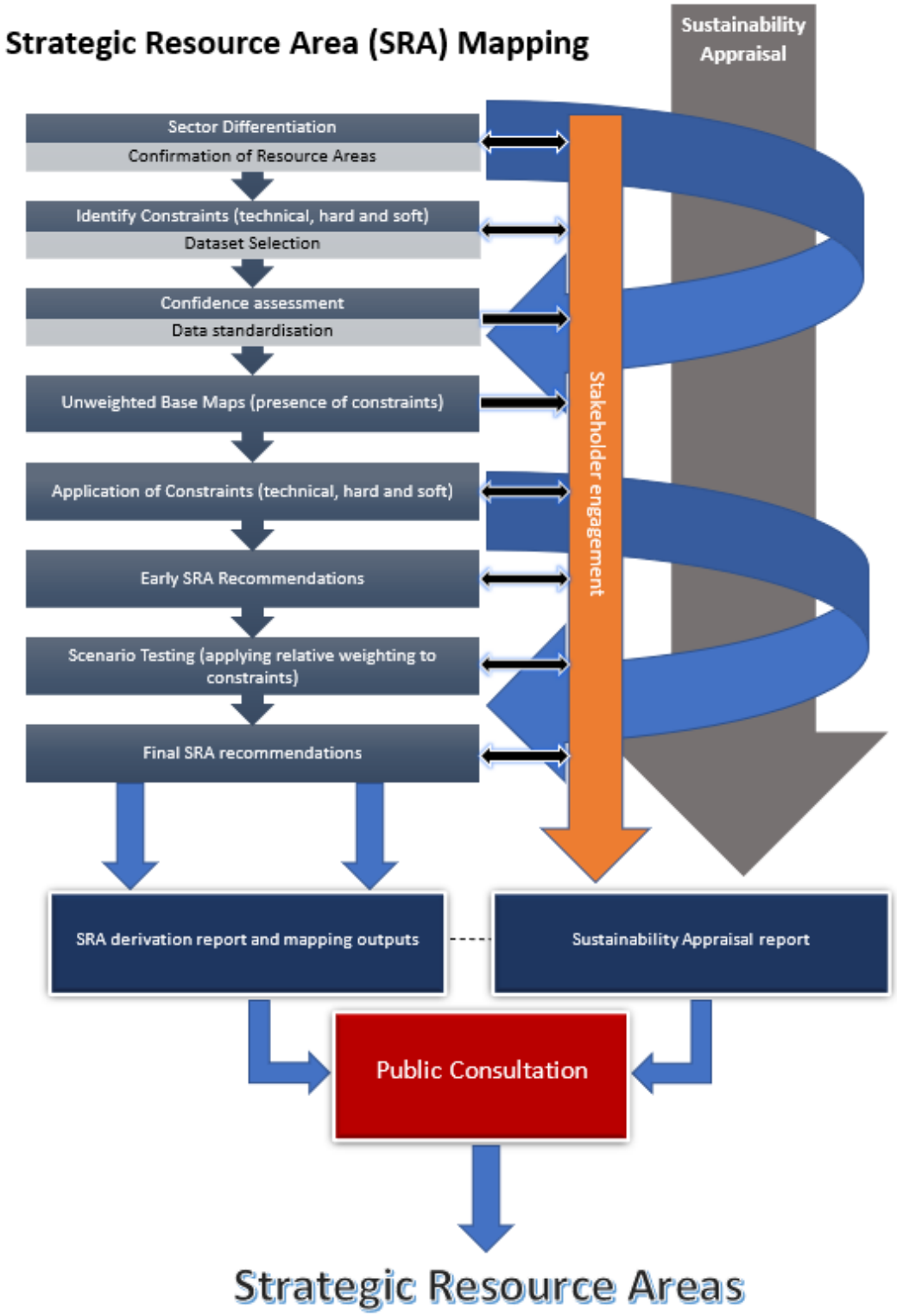


Figure 1: The SRA mapping process

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	15 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	15 March 2022	Yes	14 April 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Agree/categorise soft constraints, identify suitable datasets**	**June 2022 (tbc)**	**n/a**	**n/a**
Method Statement	Project output circulated	June 2022 (tbc)	n/a	n/a
Refined RA maps (following technical constraints)	Information	June 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Spatial Analyses – Step 2 (Confirmation of Resource Areas)
Date sent	16/03/2022
Objective	Stakeholder feedback
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Purpose of Paper

This paper presents the Resource Areas (RAs), as defined by Welsh Government on the Wales Marine Planning Portal (the Planning Portal) for the focus sectors for SRA mapping.

The RAs have been identified and mapped by Welsh Government through the Welsh National Marine Plan (WNMP) and informed by stakeholder consultation undertaken as part of the WNMP's development[1].

This paper seeks stakeholder input to confirm whether the RAs are broadly representative of the viable resource for each sector and, over the plan period of the WNMP, if any significant areas of resource exist outside these RAs.

Project Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range
Tidal Stream
Wave Energy

[1] Apart from the Floating Offshore Wind (FOW) RA, which is based on the Crown Estate's Characterisation of Key Resource Areas for Offshore Wind (October 2020).

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of WNMP safeguarding policy SAF_02.

Stakeholder input will be used to shape the project. This will be key to identifying areas with the potential for future sustainable use by the focus sectors, where there may be a case to apply resource safeguarding through WMMP policy SAF_02. As part of this process, stakeholders representing a range of marine sectors and interests will be invited to respond and contribute towards the approach.

To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information (Table 1).

This paper seeks stakeholder input to confirm whether the identified RAs are broadly representative of the viable resource for the sector and, over the plan period of the WNMP (Welsh National Marine Plan), if any significant areas of resource exist outside the RAs.

The intention is for stakeholders to respond by 14 April 2022.

Spatial Analyses – Step 2 (Confirmation of Resource Areas)

The spatial analyses element to the SRA mapping project will be carried out via a number of steps, of which confirmation of RAs is the second (Figure 1). These steps are summarised within the corresponding **SRA Mapping Project outline approach paper** circulated to stakeholders (8 March 2022).

It is the expectation that SRAs, should they occur, are likely to be encompassed by existing RAs. These RAs have been identified and mapped by Welsh Government through the Welsh National Marine Plan (WNMP) and informed by stakeholder consultation undertaken as part of the WNMP's development[2]. In this preliminary phase of the project and reflecting the WNMP's expectation that RAs may evolve as understanding, evidence and technology develop; we want to ensure that RAs (as defined) are broadly representative of potential resource (excluding consideration of technical and/or other constraints).

RAs for each of the broad focus sectors (aggregates, aquaculture, FOW, tidal range, tidal stream and wave energy) are available on the Planning Portal. Please refer to the iNotes accompanying the RA maps on the Planning Portal for details of the derivation of each RA.

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[2] Apart from the FOW RA, which is based on the Crown Estate's Characterisation of Key Resource Areas for Offshore Wind (October 2020).

Note: The aquaculture RA provided on the Planning Portal encompasses a variety of possible aquaculture activities and is derived from the amalgamation of multiple potential resource areas specific to each aquaculture activity. Given that finfish mariculture and ranching of lobster/crayfish are not likely to be commercially viable over the plan period of the WNMP, we are not proposing to consider these further within this project.

As per the proposed approach presented in the **SRA Mapping Project sector differentiation paper** circulated to stakeholders (8 March 2022), aquaculture has been separated by type (bivalve or seaweed) and spatial occurrence of activity in the water column (seabed or suspended). This has resulted in the subdivision of aquaculture and RAs for the following:

Bivalve – seabed
Bivalve – suspended
Seaweed - suspended

Please consider each of the RAs presented (Figure 2 – 9) and respond to the questions relevant to each.

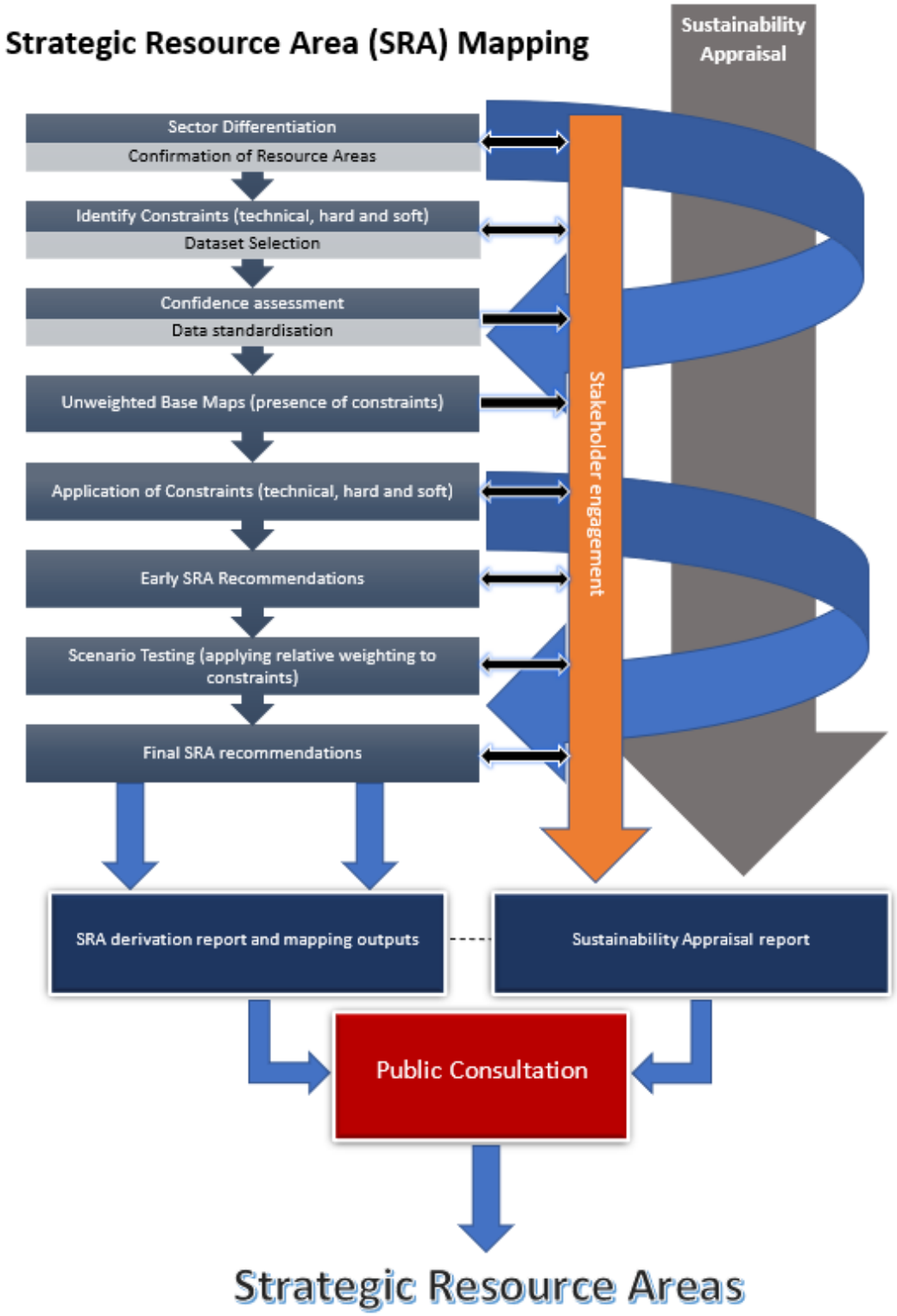

Figure 1: The SRA mapping process

Table 1: **Indicative** programme for stakeholder communication. Grey cells represent completed task*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Suitable datasets	Pre-workshop information	May 2022 (tbc)	n/a	n/a
Soft constraint categories	Pre-workshop information	May 2022 (tbc)	n/a	n/a
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Agree/categorise soft constraints, identify suitable datasets**	**June 2022 (tbc)**	**n/a**	**n/a**
Method Statement	Project output circulated	June 2022 (tbc)	n/a	n/a
Refined RA maps (following technical constraints)	Information	June 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Please refer to the iNotes accompanying the RA maps on the Planning Portal for details of the derivation of each RA.

Aggregates

Do you agree that the RA for this sector (Figure 2) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this sector outside the RA (Figure 2)? If so, where?

Aquaculture – Bivalve (Seabed)

Do you agree that the RA for this subsector (Figure 3) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this subsector outside the RA (Figure 3)? If so, where?

Aquaculture – Bivalve (Suspended)

Do you agree that the RA for this subsector (Figure 4) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this subsector outside the RA (Figure 4)? If so, where?

Aquaculture – Seaweed (Suspended)

Do you agree that the RA for this subsector (Figure 5) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this subsector outside the RA (Figure 5)? If so, where?

Floating Offshore Wind (FOW)

Do you agree that the RA for this sector (Figure 6) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this sector outside the RA (Figure 6)? If so, where?

Tidal Range

Do you agree that the RA for this sector (Figure 7) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this sector outside the RA (Figure 7)? If so, where?

Tidal Stream Energy

Do you agree that the RA for this sector (Figure 8) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this sector outside the RA Figure 8)? If so, where?

Wave Energy

Do you agree that the RA for this sector (Figure 9) is broadly representative of the viable resource in Welsh waters?

Can you confirm whether, over the plan period of the WNMP, any significant areas of resource exist for this sector outside the RA (Figure 9)? If so, where?

Further comment

Please provide any additional comments on this step of the SRA mapping approach.

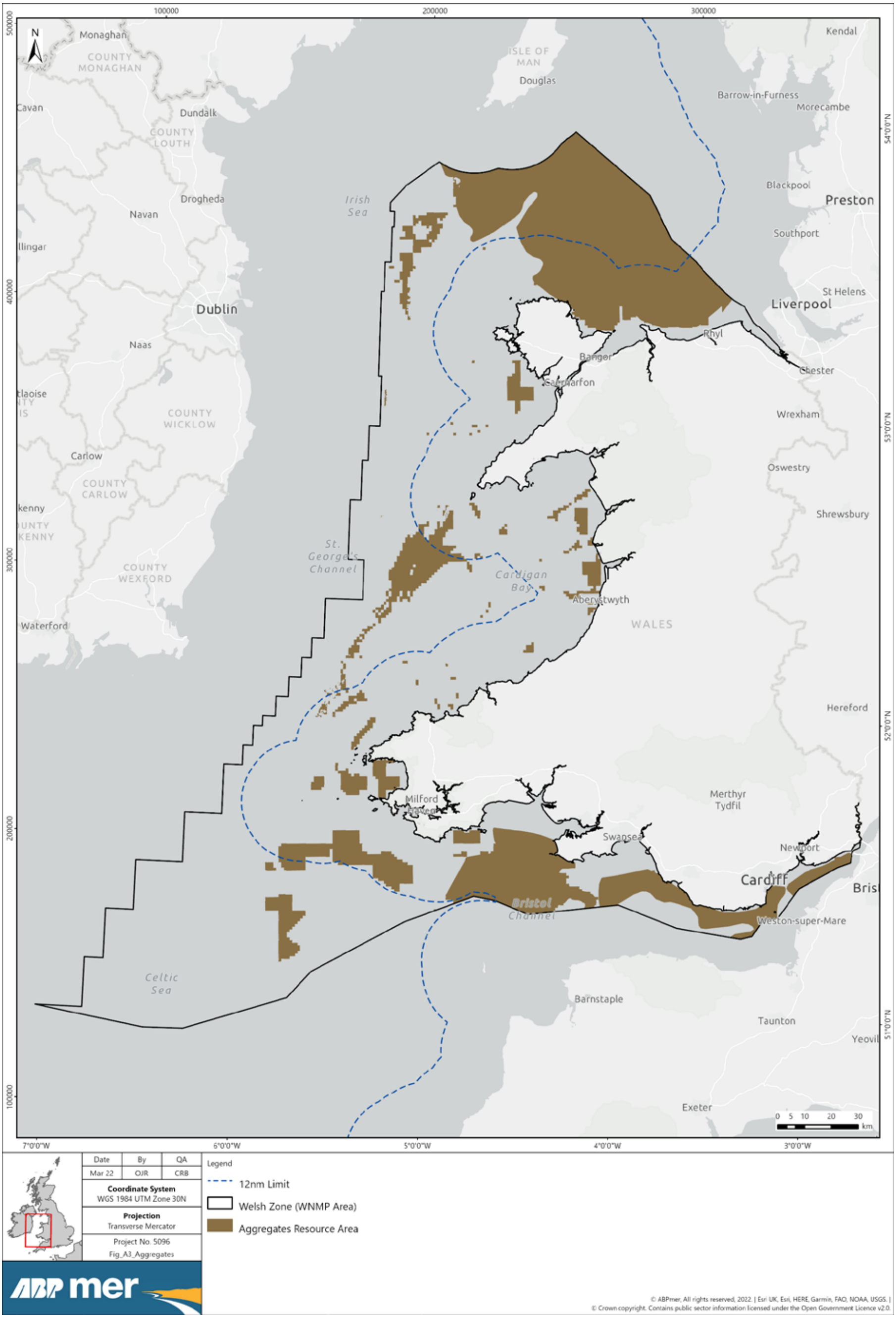

Figure 2: Aggregates Resource Area

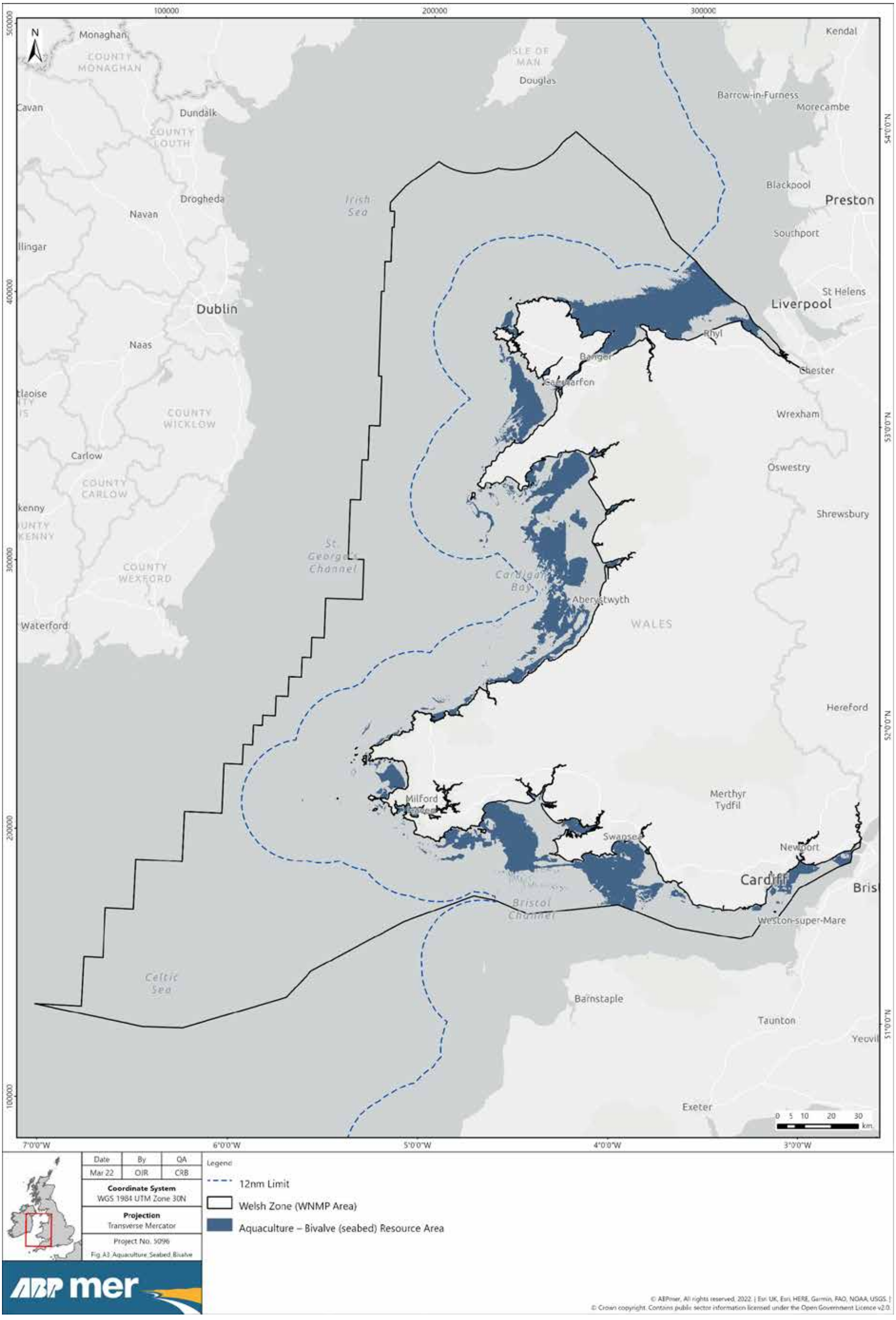

Figure 3: Aquaculture –Bivalve (Seabed) Resource Area

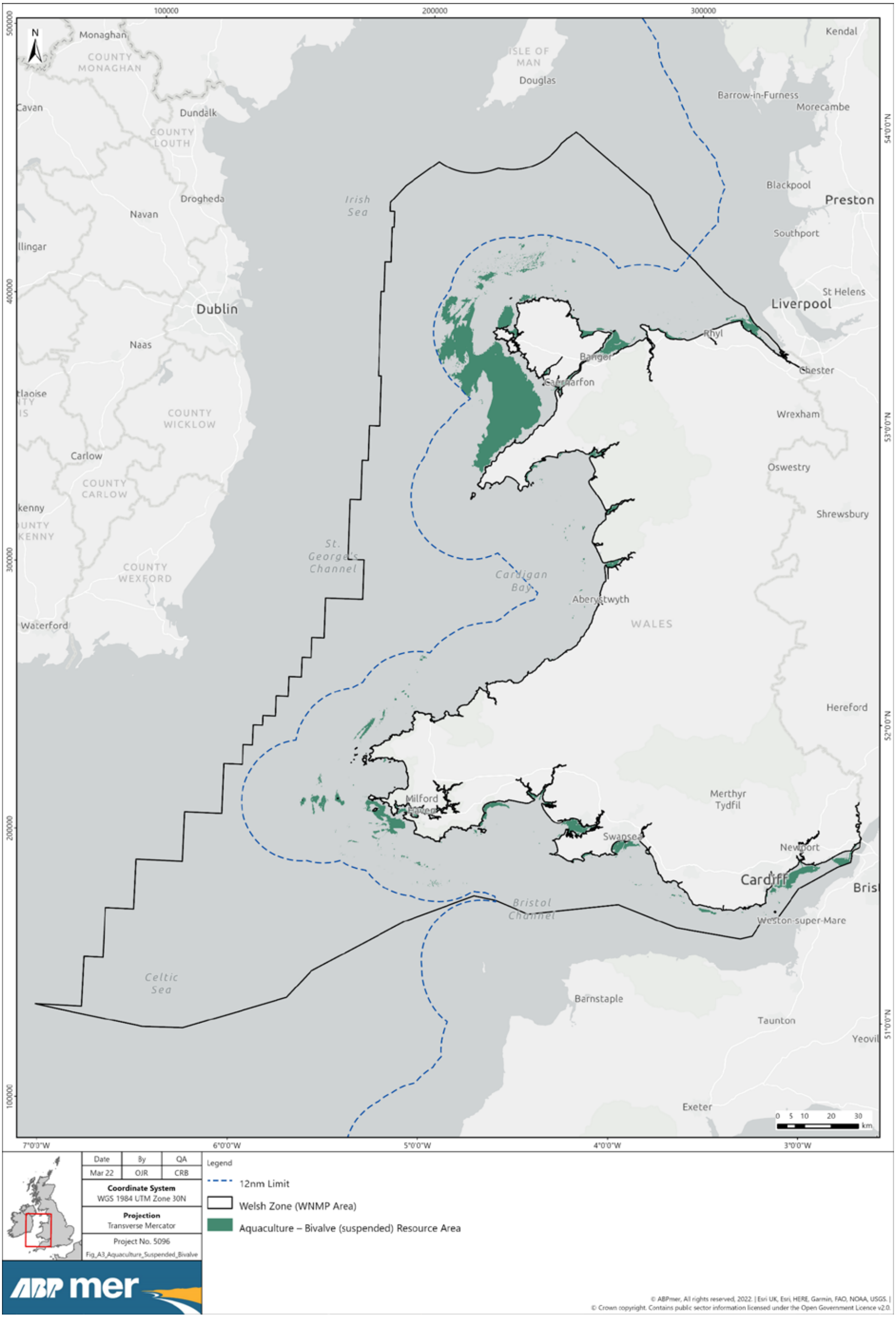

Figure 4: Aquaculture –Bivalve (Suspended) Resource Area

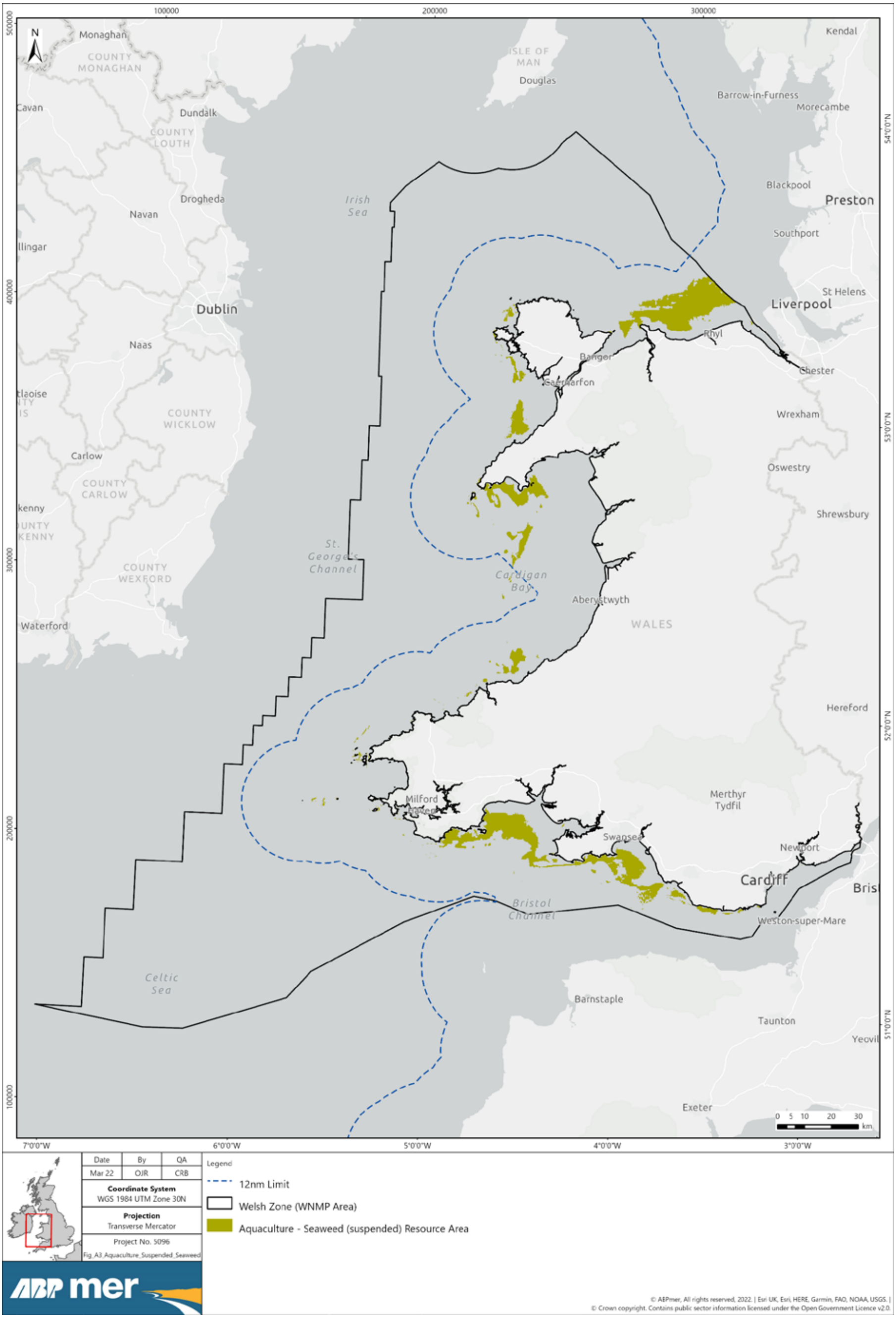

Figure 5: Aquaculture –Seaweed (Suspended) Resource Area

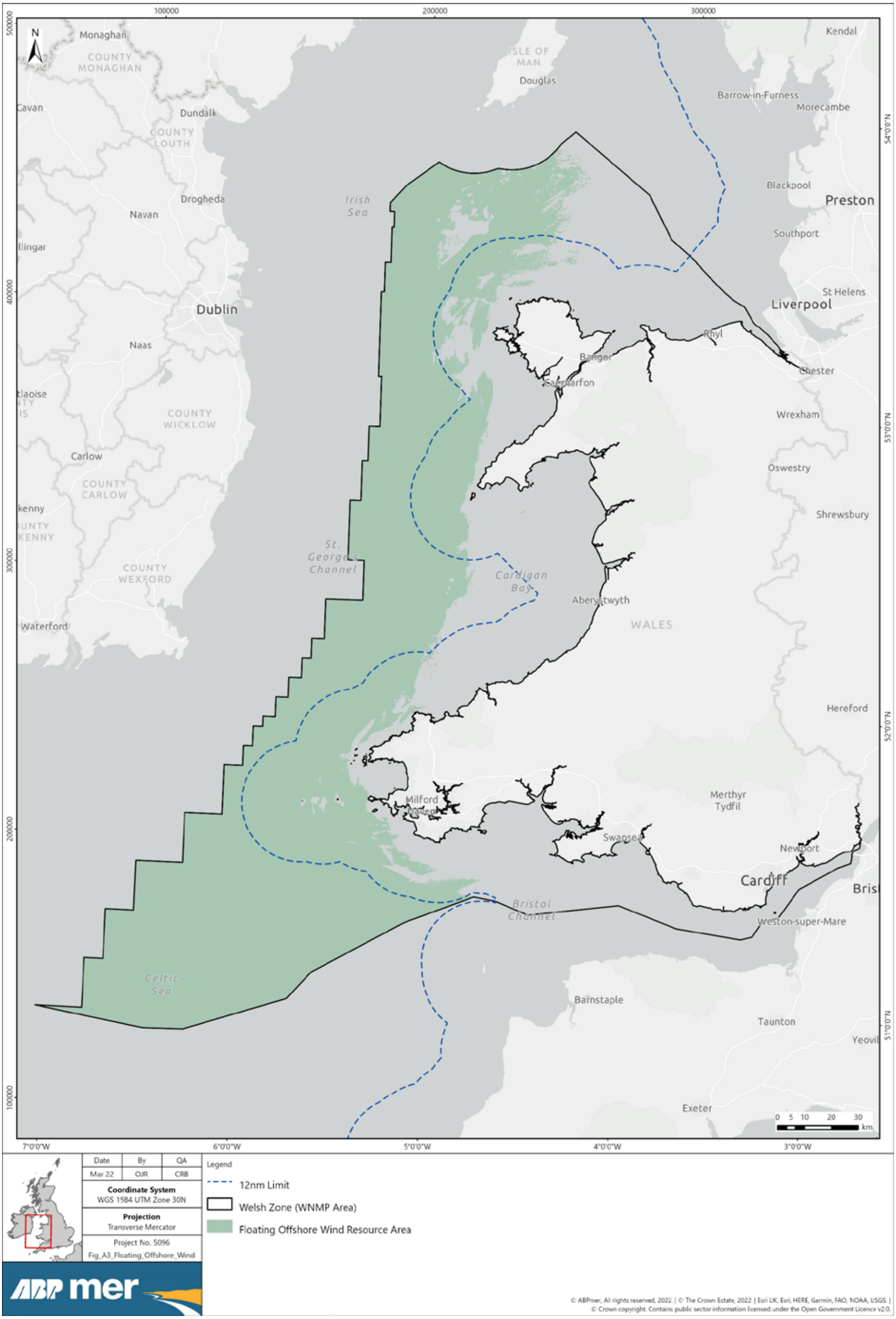

Figure 6: Floating Offshore Wind Resource Area

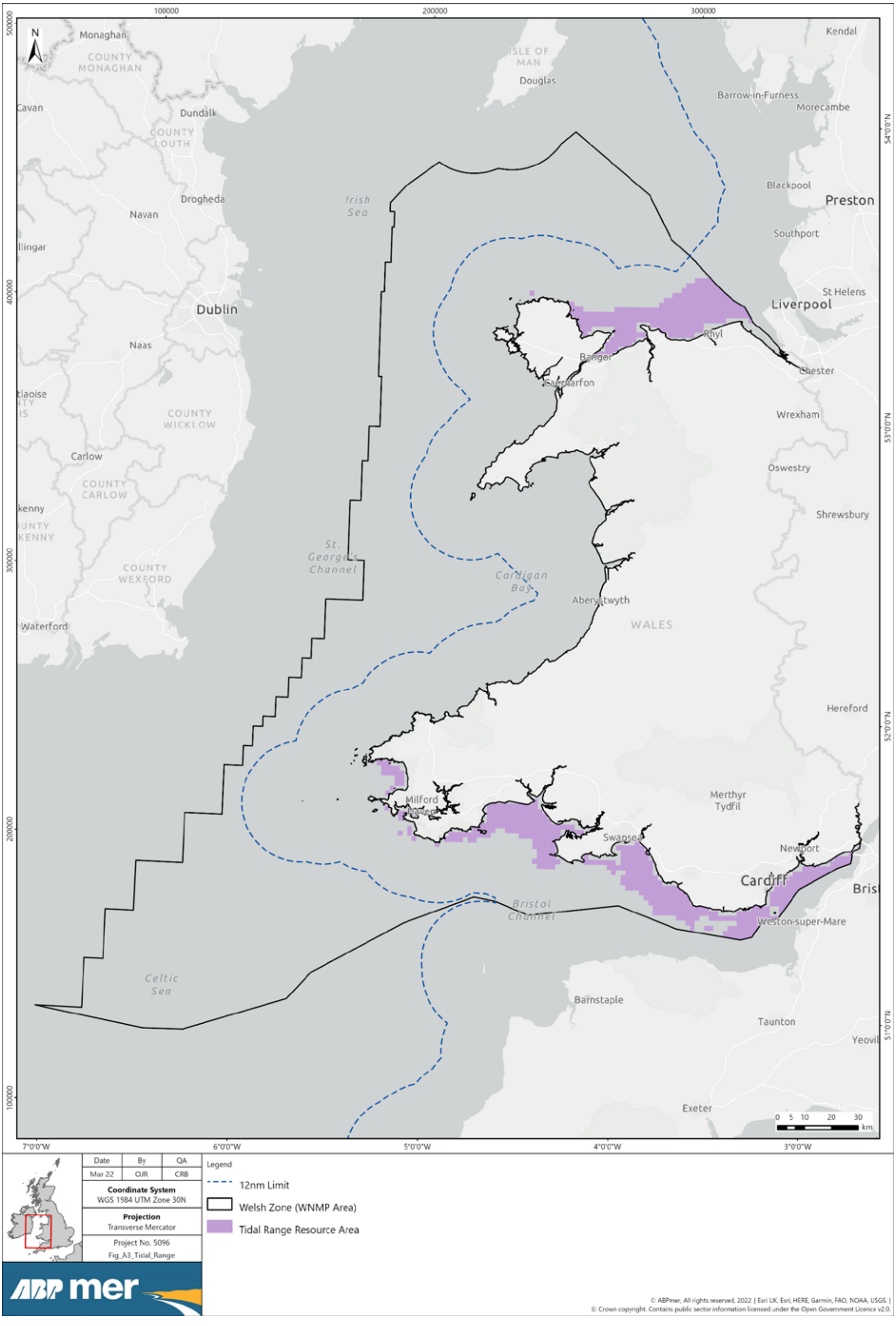

Figure 7: Tidal Range Resource Area

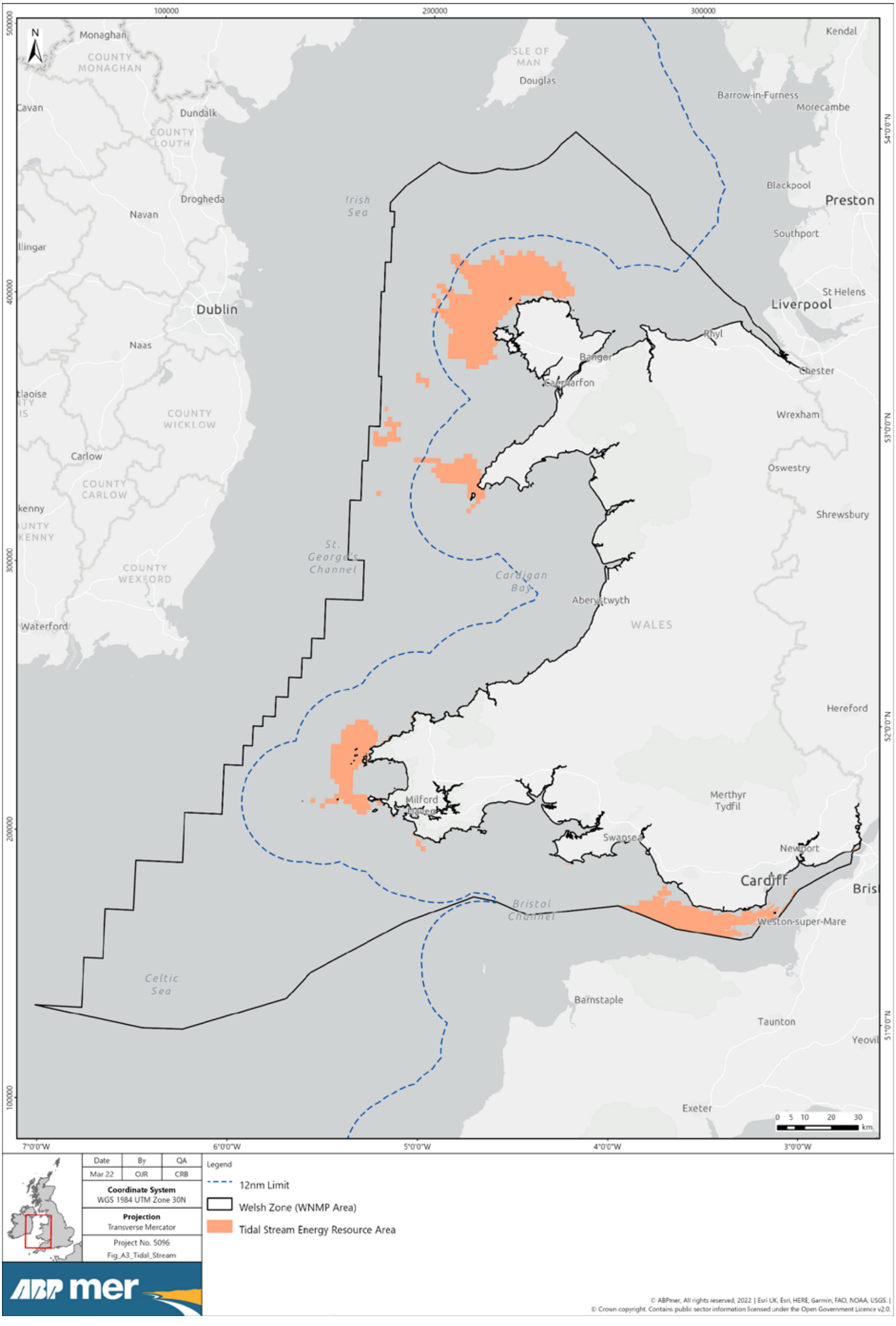

Figure 8: Tidal Stream Energy Resource Area

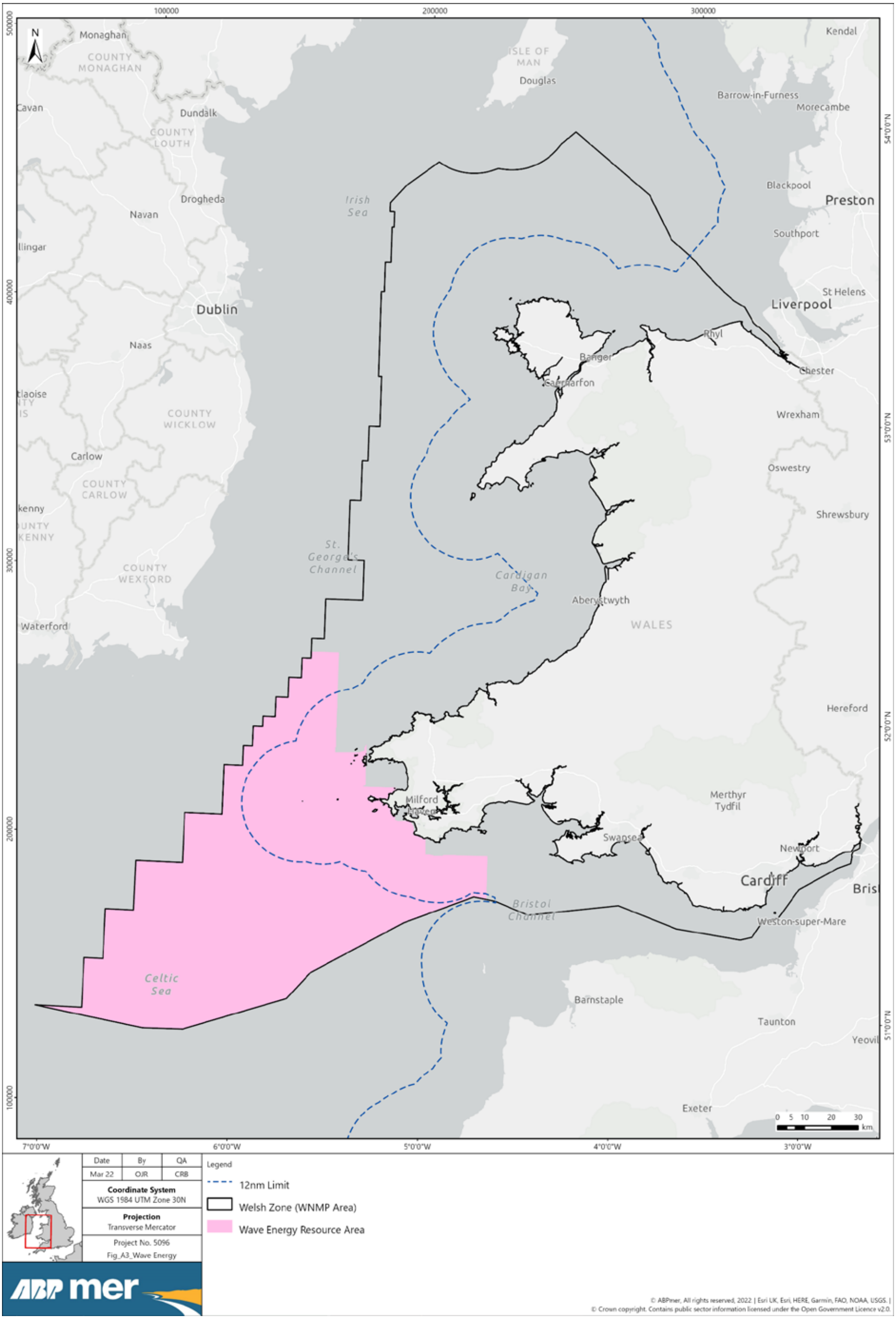

Figure 9: Wave Energy Resource Area

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Outline of Approach
Date sent	08/03/2022
Objective	Stakeholder information
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Purpose of Paper

This paper introduces the Strategic Resource Areas (SRA) mapping project. It provides a broad outline of the proposed approach to mapping SRAs and is intended to familiarise stakeholders to the proposed approach before the first stakeholder meeting (15 March 2022).

Project Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

The project will carry out spatial analyses to map potential SRAs. This will involve identifying and taking account of environmental, social and economic opportunities and constraints (including implications for other marine activities), in line with the principles of Sustainable Management of Natural Resources (SMNR).

In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02 in the context of sustainable development through the integration of environmental, social and economic considerations.

Welsh Government intends to explore the potential identification of SRAs in relation to those sectors considered to have potential to sustainably expand activity footprints over the WNMP plan period. These sectors are referred to as the **focus sectors** and encompass:

- Aquaculture
- Aggregates
- Floating Offshore Wind
- Tidal Range
- Tidal Stream
- Wave Energy

The project will culminate in the production of an SRA derivation report and SA report, along with SRA mapping outputs for the focus sectors informed through spatial analysis, evidence review and stakeholder input. Potential SRAs will only be progressed where there is a case for doing so.

The broad approach to the SRA mapping project is outlined in Figure 1 and encompasses a SA and stepwise process of spatial analyses:

Identifying and agreeing how sectors will be differentiated (technology/activity type);
Confirmation of Resource Areas;
Identifying technical, hard and soft constraints;
A constraint catalogue providing agreed lists of hard/soft constraints for each sector;
Selection of most appropriate datasets to inform the constraints analysis;
Confidence assessment of selected datasets;
Data standardisation and base maps;
Application of constraints (technical, hard and soft);
Early SRA recommendations;
SRA scenario testing; and
Final recommendations on potential SRAs.

Welsh Government has commissioned separate SEA and HRA screening reports, which do not currently indicate a requirement to engage SEA or HRA Appropriate Assessment processes in relation to resource safeguarding through SRAs. Welsh Government will keep these findings under active and regular review.

Stakeholder Input

Stakeholder input will be used to shape the project. This will be key to identifying areas with the potential for future sustainable use by the focus sectors, where there may be a case to apply resource safeguarding through WNMP policy SAF_02. As part of this process, stakeholders representing a range of marine sectors and interests will be invited to respond and contribute towards the approach.

To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information (Table 1).

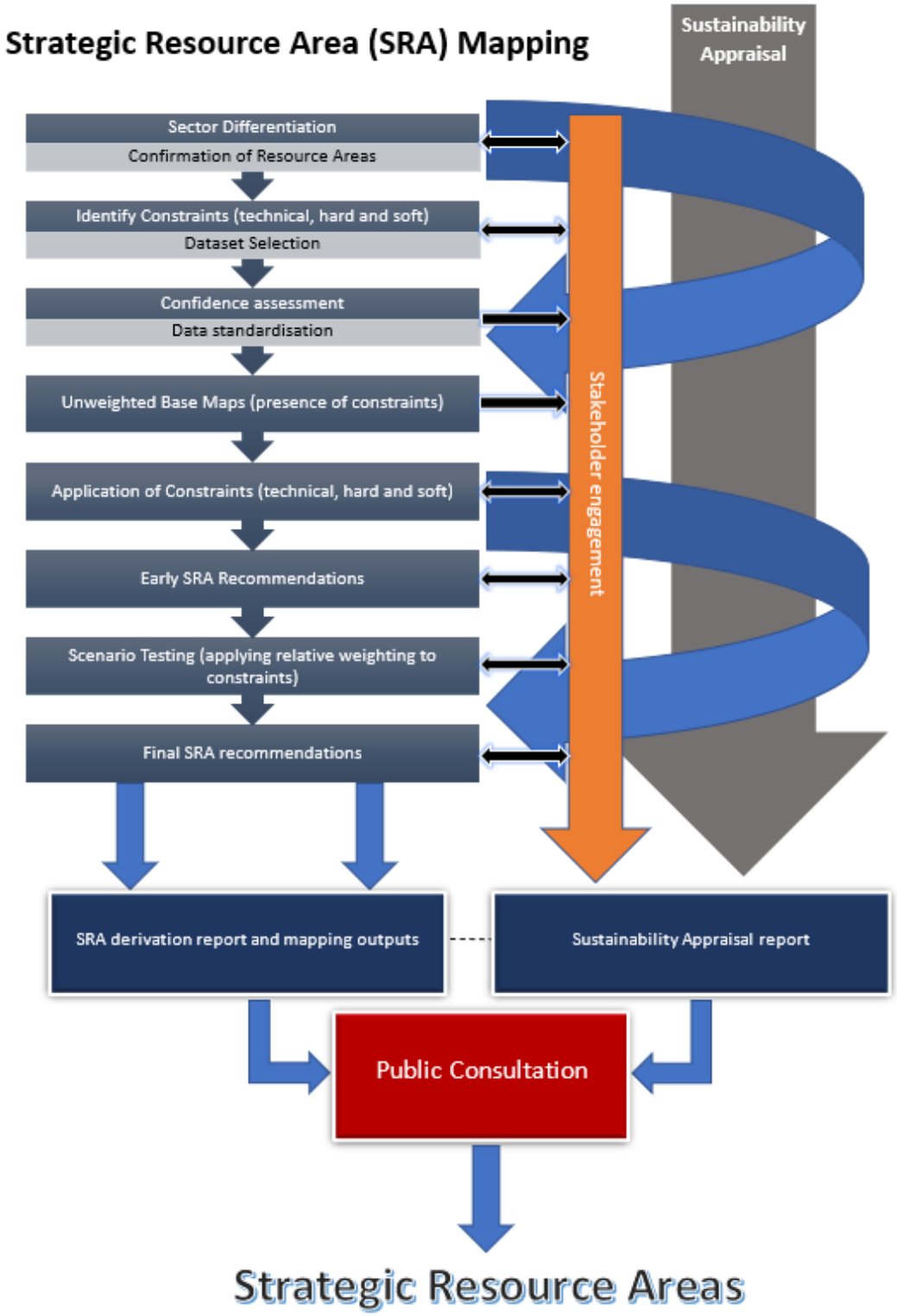

Figure 1: The SRA mapping process

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	15 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	15 March 2022	Yes	14 April 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Agree/categorise soft constraints, identify suitable datasets**	**June 2022 (tbc)**	**n/a**	**n/a**
Method Statement	Project output circulated	June 2022 (tbc)	n/a	n/a
Refined RA maps (following technical constraints)	Information	June 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Spatial Analyses – Step 3 (Identify Constraints)
Date sent	16/03/2022
Objective	Stakeholder feedback
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Purpose of Paper

This paper sets out the proposed technical, social and economic constraints for each of the differentiated sectors (as currently proposed) to inform mapping of Strategic Resource Areas (SRAs) in Welsh waters.

Consideration is given to technical constraints (as expressed by physical limitations affecting a given sector), hard constraints and soft constraints (as defined by the SRA Design Principles (Welsh Government, 2021)).

It seeks stakeholder input to inform identification of relevant technical, social and economic constraints and poses a number of questions upon which stakeholder views are specifically requested.

This paper primarily focuses on technical, social and economic constraints, but includes an open request to stakeholders to identify environmental constraints (and associated datasets) they consider appropriate to the development of SRAs.

Project Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

- Aquaculture
- Aggregates
- Floating Offshore Wind (FOW)
- Tidal Range
- Tidal Stream
- Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input will be used to shape the project. This will be key to identifying areas with the potential for future sustainable use by the focus sectors, where there may be a case to apply resource safeguarding through WMMP policy SAF_02. As part of this process, stakeholders representing a range of marine sectors and interests will be invited to respond and contribute towards the approach.

To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information (Table 1).

This paper seeks stakeholder input to inform constraint identification and poses a number of questions upon which stakeholder views are specifically requested. The intention is for stakeholders to respond and provide feedback in relation to constraint identification by 14 April 2022.

Spatial Analyses – Step 3 (Identify Constraints)

The spatial analyses element to the SRA mapping project will be carried out via a number of steps, of which identifying constraints is step 3 (Figure 1). These steps are summarised within the corresponding **SRA Mapping Project outline approach paper** circulated to stakeholders (8 March 2022).

Similar to the approach taken within the Sustainable Management of Marine Natural Resources project (ABPmer, 2020), further differentiation of certain sectors dependent on where they occur within the water column (i.e. seabed, mid-water and surface) and/or their associated specific technology/activity (e.g. seabed tidal stream vs. surface tidal stream) has been proposed (see **SRA Mapping Project sector differentiation paper**). This is because the spatial considerations and relative constraints experienced will vary depending on the type of sector technology/activity implemented. For example, shipping has the potential to be considered a 'hard' constraint for certain surface activities but a 'soft' constraint for certain seabed activities.

In line with the SRA Design Principles (Welsh Government, 2021), a hard constraint is a spatial consideration which means, for the lifetime of that constraint, new development for a particular sector is, *in practice*, not possible. Within the context of this project, the emphasis on a hard constraint is considered specifically in relation to mapping an SRA rather than project development. A soft constraint is a spatial consideration relating to a particular sector which may have a varying degree of relevance to the prospects and nature of SRA mapping for that sector.

Within this plan-level work, it is recognised that significant differences exist within several of the focus sectors, which would lead to identifiable differences in how one or more of the

constraints could affect mapping of the relevant SRA. To maintain a high-level focus to the work but also encompass these significant differentiating factors, the following sector technologies/activities have initially been proposed:

Aggregates;
Aquaculture – shellfish - seabed (e.g. ground laid bivalve species);
Aquaculture – shellfish - suspended (e.g. ropes);
Aquaculture – seaweed - suspended (e.g. ropes);
FOW – semi-submersible and spar buoy;
FOW – tension leg platform (TLP);
Tidal Stream – seabed;
Tidal Stream – surface and water column;
Tidal Range
Wave Energy – seabed; and
Wave Energy – surface.

These sector technologies/activities are all considered to represent an existing commercially viable activity or one that is realistically likely to occur within the WNMP plan period (i.e. up to 2040) in Welsh waters.

Against each of these differentiated technologies/activities a list of the proposed constraints (technical, social and economic) has been provided in addition to splitting the social and economic considerations into either hard or soft constraints.

Incorporation of environmental constraints into the overall development of the SRAs is a key consideration and the project will draw upon wider programmes of work, including the Sustainable Management of Marine Natural Resources (SMMNR) project and environmental mapping work currently being progressed by NRW . This paper therefore primarily focuses on technical, social and economic constraints, but stakeholders are also requested to identify any environmental constraints (and associated datasets) they consider appropriate to the development of SRAs.

Once the lists of constraints are agreed for each of the differentiated sectors then future work will seek identification and confirmation of datasets considered most appropriate to inform the selected constraints (see **Table 1**). Work will also be carried out to parametrise the technical constraints and classify soft constraints. This will be achieved with stakeholder engagement and in discussion with Welsh Government (see Figure 1 and **Table 1**). However, at this early stage in the spatial analyses, it would be useful to obtain any initial views on technical parameters that would likely prevent commercial operation of a differentiated sector within the WNMP plan period.

Application of the technical constraints will eventually be used to refine the wider Resource Areas (RAs) defined by Welsh Government (see **Confirmation of Resource Areas paper**) based on physical limitations (e.g. water depth, seabed geology etc.) relevant to each of the differentiated sectors. Resulting in technically refined mapping outputs which effectively represent RAs which are technically viable for exploitation.

With the exception of the FOW sector, the currently defined Resource Areas (RAs) for each of the undifferentiated sectors (Aquaculture, Aggregates, Tidal Range, Tidal Stream, Wave Energy) only consider potential resource availability but do not consider **all** physical limitations (technical constraints). A characterisation study by TCE encompassing Welsh waters, considered technical constraints for FOW (Everoze, 2020). Hence, additional work to identify technical constraints for FOW are **not** proposed in this project.

The proposed social and economic constraints have been assigned as either hard or soft for each differentiated sector in the context of SRAs and therefore from a plan-level resource safeguarding perspective. At a project level, it is also recognised that some of the constraints which do not necessarily define SRA boundaries would be project-level hard constraints for some, if not all, of the sectors. For example, protected wrecks (sites and vessels designated under the 1973 Protection of Wrecks Act and the Protection of Military Remains Act 1986 ("war graves")) are hard constraints at a project level. However, in terms of this plan-level SRA mapping exercise to safeguard areas of resource, it is currently proposed that (apart from FOW and Tidal Range SRA mapping) these specific small-scale areas of project-level hard constraint will not automatically be used to define SRA boundaries. This is because, at a project level, operation of aggregates, aquaculture, tidal stream and wave energy could in practice, to varying degrees, avoid impacting these specific small-scale areas of hard constraints. However, if such features are known to be present within any potential SRA then these would be highlighted.

As detailed above, to support the WNMP safeguarding policy SAF_02, the SRA mapping project is focussed on safeguarding resource for potential future sustainable use. Thus, existing consented activities (as covered by safeguarding policy SAF_01a) are excluded from the SRA mapping (i.e. treated the same as hard constraints), irrespective of the sector being considered. This includes existing activities in consented areas, lease areas, and areas where an exploration or option agreement has been offered. The exception are the blocks offered for oil and gas licensing which can cover very large areas and realistically have comparatively lower potential for actual development.

The constraint list for each sector also considers existing Resource Areas for other sectors. The WNMP and SRA Design Principles set out that the resource needs of other sectors need to be considered during SRA mapping. As the aim is to avoid overlapping SRAs where coexistence of sectors is not possible, RAs will be considered a soft constraint to SRA development. How this soft constraint and others are eventually categorised will be the focus of a series of workshops in June (see **Table 1**).

Please respond against each of the differentiated sectors, in the context of the plan level SRA mapping work and over the WNMP plan period:

Aggregates

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 6)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Aquaculture – Bivalve – Seabed

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 3)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Aquaculture – Bivalve – Suspended

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 4)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Aquaculture – Seaweed – Suspended

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 5)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

FOW - semi-submersible and spar buoy

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 6)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

FOW – tension leg platform (TLP)

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 7)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Tidal Range

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 8)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Tidal Stream Energy – Surface and Mid-Water

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 9)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Tidal Stream Energy – Seabed

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 10)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Wave Energy - Surface

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 11)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Wave Energy - Seabed

Do you agree with the proposed technical, social and economic constraints as listed for this sector (see Table 12)?

If not, please provide your reasons and any recommendations.

Are you able to provide any initial parameters against the technical (physical) limitations (as proposed or as recommended by you) for operation of this sector?

Do you agree with the judgement of a constraint as being hard or soft for the social and economic constraints identified for this sector?

If not, please provide your reasons and any recommendations

Environment (Ecological) – Surface, Mid-water or Seabed

Please identify any environmental constraints you consider appropriate to SRA development (please characterise as Surface; Mid-water and/or Seabed). For examples of environmental considerations which could be defined as constraints please refer, for example, to the Appendices in the Sustainable Management of Marine Natural Resources Report.

Please provide your reasons and any recommendations.

Further comment

Please provide any additional comments on this step of the SRA mapping approach. This may include any early recommendations on suitable datasets for informing constraints. However, Dataset Selection (Step 4) will be explored in further detail in June 2022 (see **Table 1**).

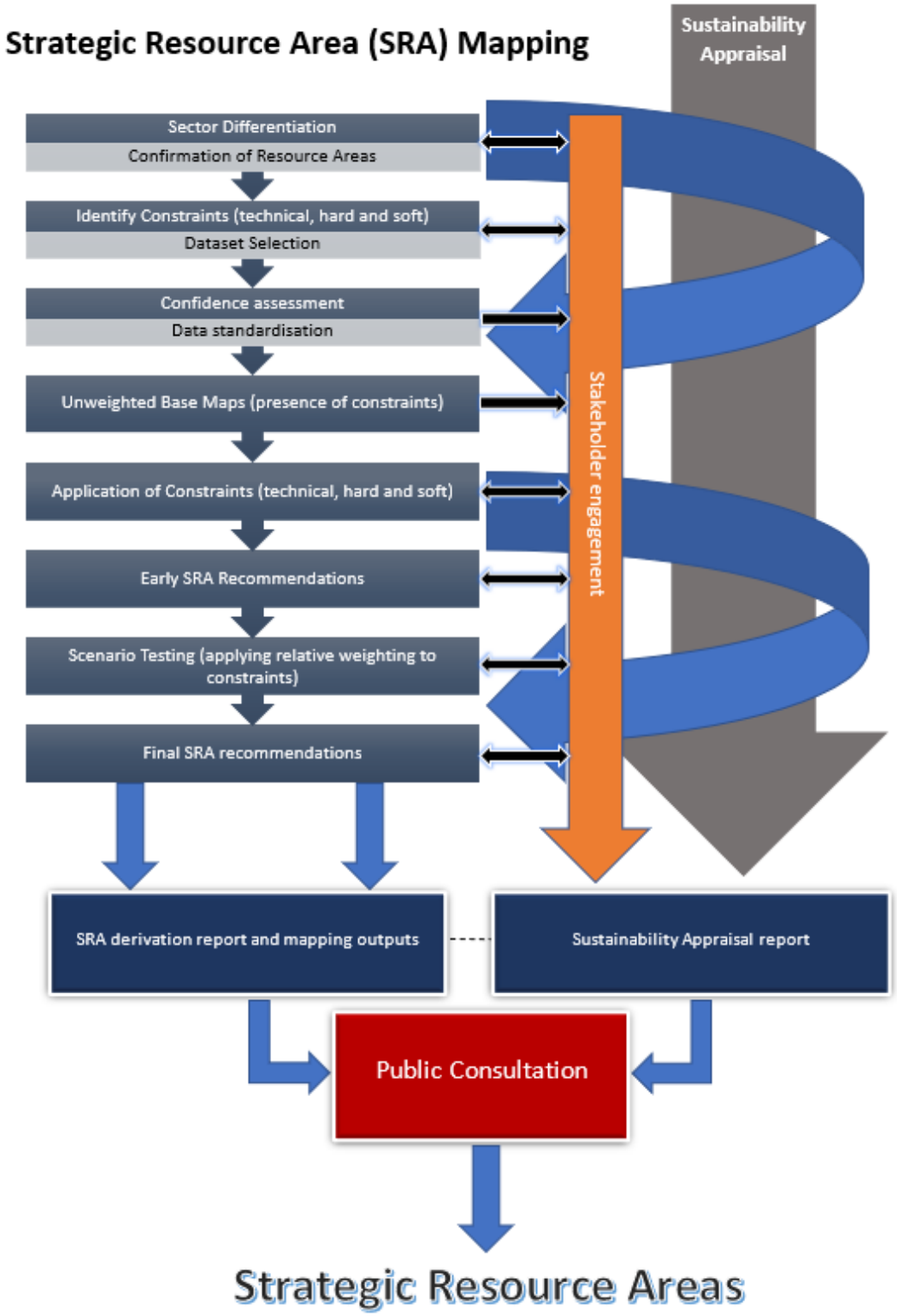

Figure 1: The SRA mapping process

Table 1: Indicative programme for stakeholder communication. Grey cells represent completed task*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Suitable datasets	Pre-workshop information	May 2022 (tbc)	n/a	n/a
Soft constraint categories	Pre-workshop information	May 2022 (tbc)	n/a	n/a
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Agree/categorise soft constraints, identify suitable datasets**	**June 2022 (tbc)**	**n/a**	**n/a**
Method Statement	Project output circulated	June 2022 (tbc)	n/a	n/a
Refined RA maps (following technical constraints)	Information	June 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Technical, Social and Economic Constraint Lists

Table 2: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Aggregates. Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	Military Practice Areas (coastal fire ranges)	Other sector RAs
Geological and geomorphology features	Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**		Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	Civil Airport Safeguarding	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Significant wave height	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			Offshore Natural Gas Storage Site Agreements			
Tidal flow - spring peak	**Dredge Disposal Sites**						Offshore Carbon Capture and Storage Site Agreements			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines, licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes						-			

Table 3: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Aquaculture (Bivalve – Seabed). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**		Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive anchorages**	**Aquaculture leases**	Civil Airport Safeguarding	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Seabed surficial sediments	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			Offshore Natural Gas Storage Site Agreements			
Significant wave height	**Dredge Disposal Sites**						Offshore Carbon Capture and Storage Site Agreements			
Tidal flow - spring peak	**IMO Routeing (excluding Areas to be Avoided (ATBAs))**						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 4: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Aquaculture (Bivalve – Suspended). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Significant wave height	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			Offshore Natural Gas Storage Site Agreements			
Tidal flow - spring peak	**Dredge Disposal Sites**						Offshore Carbon Capture and Storage Site Agreements			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 5: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Aquaculture (Seaweed – Suspended). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Significant wave height	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			Offshore Natural Gas Storage Site Agreements			
Tidal flow - spring peak	**Dredge Disposal Sites**						Offshore Carbon Capture and Storage Site Agreements			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 6: Proposed list of social and economic constraints for potential SRA mapping of FOW (semi-submersible & spar buoy). Constraints in bold represent potential hard constraints

Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military	Resource
Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	**Wrecks**	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Recreational Sailing	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Dredge Disposal Sites		Civil Radar	**Offshore Tidal Stream Cable Agreements**			Offshore Natural Gas Storage Site Agreements			
IMO Routeing (excluding Areas to be Avoided (ATBAs))						Offshore Carbon Capture and Storage Site Agreements			
Major shipping routes						**Offshore Meteorological and Oceanographic Equipment Agreements**			
Navigational dredging						**Offshore Natural Gas Storage Pipeline Agreements**			
Lifeline ferry routes						Pipelines , licensed blocks, hydrocarbon fields etc.)			

Table 7: Proposed list of social and economic constraints for potential SRA mapping of FOW (Tension Leg Platform). Constraints in bold represent potential hard constraints

Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	**Wrecks**	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Anchorages	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Tidal Stream Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Recreational Sailing	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Wave Site Agreements**			
Dredge Disposal Sites		Civil Radar	**Offshore Tidal Stream Cable Agreements**			**Offshore Natural Gas Storage Site Agreements**			
IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Carbon Capture and Storage Site Agreements**			
Major shipping routes						**Offshore Meteorological and Oceanographic Equipment Agreements**			
Navigational dredging						**Offshore Natural Gas Storage Pipeline Agreements**			
Lifeline ferry routes						Pipelines , licensed blocks, hydrocarbon fields etc.)			

Table 8: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Tidal Range. Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	**Wrecks**	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	**Anchorages**	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Wave Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	Recreational Sailing	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Tidal Stream Site Agreements**			
Seabed surficial sediments	**Dredge Disposal Sites**			**Offshore Tidal Stream Cable Agreements**			**Offshore Natural Gas Storage Site Agreements**			
Significant wave height	**IMO Routeing (excluding Areas to be Avoided (ATBAs))**						**Offshore Carbon Capture and Storage Site Agreements**			
Tidal flow - spring peak	**Major shipping routes**						**Offshore Meteorological and Oceanographic Equipment Agreements**			
Tidal Range	**Navigational dredging**						**Offshore Natural Gas Storage Pipeline Agreements**			
	Lifeline ferry routes						Pipelines , licensed blocks, hydrocarbon fields etc.)			

Table 9: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Tidal Stream (Surface & Mid-water). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	**Anchorages**	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Wave Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Tidal Stream Site Agreements**			
Seabed surficial sediments	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			**Offshore Natural Gas Storage Site Agreements**			
Significant wave height	**Dredge Disposal Sites**						**Offshore Carbon Capture and Storage Site Agreements**			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 10: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Tidal Stream (Seabed). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	**Anchorages**	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Wave Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Tidal Stream Site Agreements**			
Seabed surficial sediments	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			**Offshore Natural Gas Storage Site Agreements**			
Significant wave height	**Dredge Disposal Sites**						**Offshore Carbon Capture and Storage Site Agreements**			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 11: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Wave Energy (Surface). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	**Anchorages**	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Natural Gas Storage Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Tidal Stream Site Agreements**			
Seabed surficial sediments	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			**Offshore Wave Site Agreements**			
Tidal flow - spring peak	**Dredge Disposal Sites**						**Offshore Carbon Capture and Storage Site Agreements**			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Table 12: Proposed list of technical (physical), social and economic constraints for potential SRA mapping of Wave Energy (Seabed). Constraints in bold represent potential hard constraints

Physical (Technical)	Navigation	Fishing	Aviation	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & Seascape	Military	Resource
Bathymetry	Shipping density 2017	Landings by ICES Rectangle	Military Airport Safeguarding	Subsea Cables	**Offshore Minerals Aggregates Site Agreements**	**Offshore disposal sites (closed or open)**	**Offshore Wind Site Agreements**	Wrecks	**Military Practice Areas (coastal fire ranges)**	Other sector RAs
Geological and geomorphology features	**Anchorages**	Fishing Activity UK 15m and Over 2017 (includes value)	Helicopter Main Routes	**Offshore Wind Cable Agreements**	**Offshore Minerals Evaporites Site Agreements**	**Nuclear power stations**	**Offshore Natural Gas Storage Site Agreements**	Seascape sensitivity	Military Practice Areas (offshore)	
Distribution of rock on seabed	**Explosive Anchorages**	**Aquaculture leases**	**Civil Airport Safeguarding**	**Offshore Wave Cable Agreements**		**Outfalls**	**Offshore Tidal Stream Site Agreements**			
Seabed surficial sediments	Recreational Sailing			**Offshore Tidal Stream Cable Agreements**			**Offshore Wave Site Agreements**			
Tidal flow - spring peak	**Dredge Disposal Sites**						**Offshore Carbon Capture and Storage Site Agreements**			
	IMO Routeing (excluding Areas to be Avoided (ATBAs))						**Offshore Meteorological and Oceanographic Equipment Agreements**			
	Major shipping routes						**Offshore Natural Gas Storage Pipeline Agreements**			
	Navigational dredging						Pipelines , licensed blocks, hydrocarbon fields etc.)			
	Lifeline ferry routes									

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Spatial Analyses – Application of Constraints (technical constraint parameters)
Date sent	19/05/2022
Objective	Stakeholder feedback
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Purpose of Paper

This paper sets out the proposed parameters for the technical constraints (as currently proposed) for each of the differentiated sectors to inform mapping of Strategic Resource Areas (SRAs) in Welsh waters.

Consideration is given to technical constraints (as expressed by physical limitations affecting a given sector) as acknowledged within the SRA Design Principles (Welsh Government, 2021).

The request seeks stakeholder input to agree technical parameters and poses a number of questions upon which stakeholder views are specifically requested.

This paper primarily focuses on technical constraint parameters but includes an open request to stakeholders to indicate suitable datasets to inform these constraints.

Project Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

- Aquaculture
- Aggregates
- Floating Offshore Wind (FOW)
- Tidal Range
- Tidal Stream
- Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints / considerations in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02. An outline of the broad approach to determining SRAs is provided in Figure 1.

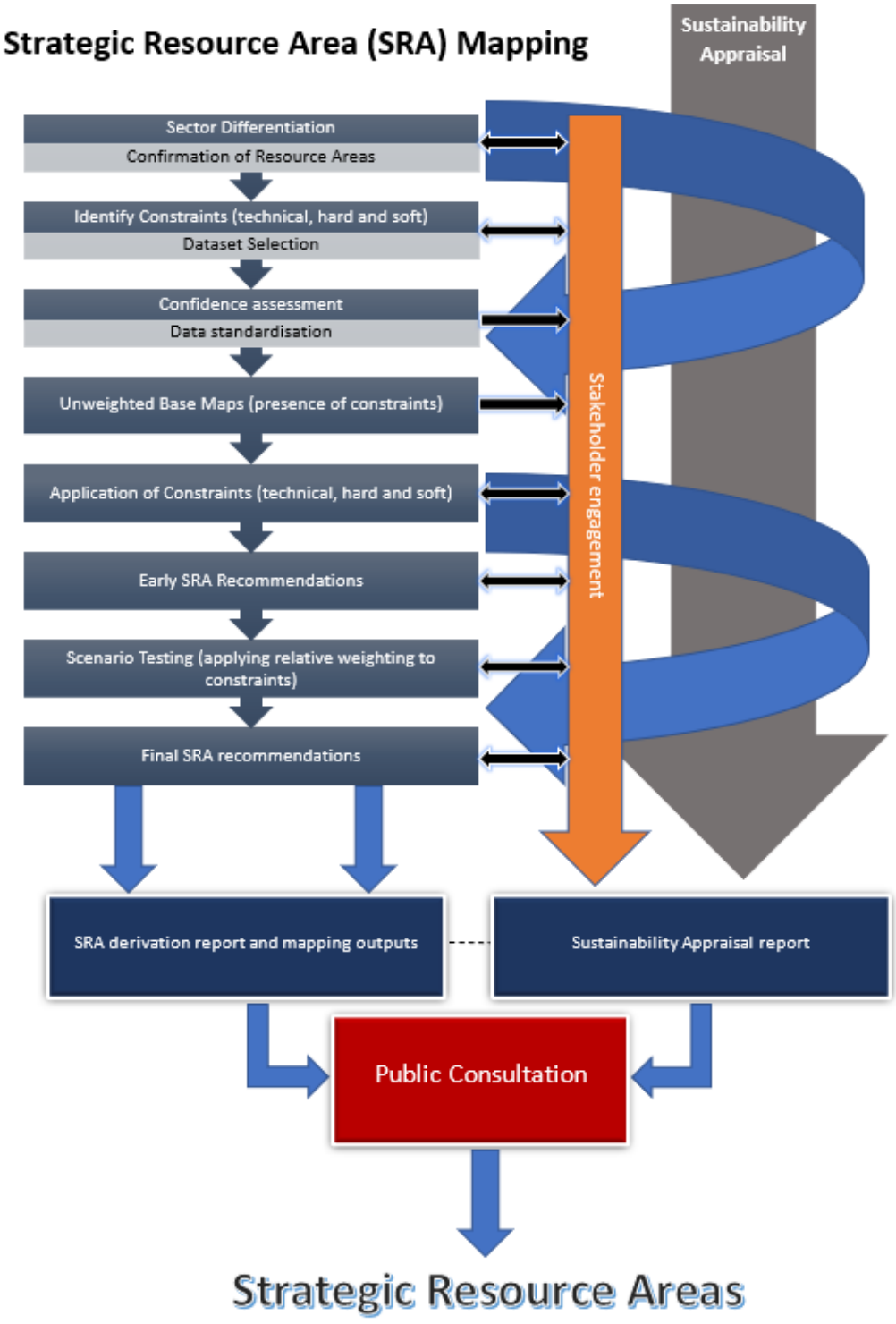

Figure 1: The SRA mapping process

Stakeholder input will be used to shape the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information.

This paper seeks stakeholder input to inform parameters for technical constraints and poses a number of questions upon which stakeholder views are specifically requested. The intention is for stakeholders to respond and provide feedback in relation to technical parameters by 10 June 2022.

Spatial Analyses –Application of Constraints -Technical Parameters

Agreed technical constraints will be applied across each of the differentiated sectors to **initially** refine the focus sector Resource Areas (RAs) (i.e. Aggregates, Aquaculture, FOW, Tidal Range, Tidal Stream and Wave Energy). These constraints will be based on physical limitations (e.g. water depth) relevant to each of the differentiated sectors. This will result in mapping outputs which represent initially refined RAs that are likely to be **technically viable** for commercial exploitation within the WNMP plan period (up to 2040).

While all the existing RAs fundamentally cover potential resource availability, the degree to which other relevant physical limitations have been captured varies. Furthermore, the subdivision of sectors by broad technology type or activity (e.g. Tidal Stream (seabed)) may allow additional refinement based on technical criteria.

In April 2022, responses were received from stakeholders in relation to the feedback request on **Identifying Constraints** (circulated 16 March 2022). A summary of the responses received in relation to constraints will be sent out (w/c 23 May 2022). While minimal feedback directly focussing on the proposed technical constraints was received, after further consideration, the project team has refined the proposed technical constraints).

It should also be noted that following stakeholder response on **Sector Differentiation** (circulated 16 March 2022), FOW will no longer be subdivided.

The following sections of this document are broken down by differentiated sector, as agreed. Proposed technical constraints, parameters and corresponding datasets are provided, as relevant. Stakeholders are requested to provide feedback on the technical parameters, as well as any initial thoughts on the datasets being proposed to spatially map technical constraints.

While a key objective of the upcoming June workshops will be identification of the most suitable datasets to inform the technical, hard and soft constraints; initial thoughts on potential datasets to inform the technical considerations are encouraged through *this* feedback request. Datasets representing all or most of Welsh marine waters have been proposed below. Ideally, the datasets selected will be available on LIe geoportal or other open access websites.

Where applicable, for each listed differentiated sector please respond against the questions provided[1], in the context of the plan level SRA mapping work and acknowledging the WNMP plan period (up to 2040). In some instances, it is recognised that the broad technical parameters may not vary between differentiated sectors.

[1] Note that technical constraints for Aquaculture and FOW are not being considered within this step. Justification is provided below

Technical Constraints – Proposed Parameters and Datasets

Aggregates

The presence of suitable aggregate resource in Welsh waters was established through the Key Resource Areas (KRA) work identified by The Crown Estate (2014) and used to produce the Aggregate Resource Area (see RA_Sector_Derivations). The existing aggregates RA is located on the Welsh Marine Planning Portal. It is noted that TCE are currently undertaking work to update KRA for aggregates.

Given stakeholder responses received on **Sector Differentiation** and **Identifying Constraints,** in addition to further project team review; this sector was not subdivided, and the technical constraints proposed are as shown in Table 1.

Table 1: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Aggregates.

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10 – 60 m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Distribution of rock on seabed	BGS Offshore 1:250 000 scale hard substrate	Absence of rock at or near seabed surface	British Geological Survey (BGS) Natural Environment Research Council (NERC) https://map.bgs.ac.uk/arcgis/services/Offshore/Products_WMS/MapServer/WmsServer?Layer name:BGS250k.HardSubstrate

Do you agree with the proposed technical (physical) constraint parameters as listed for this sector (see Table 1)?

If not, please provide your reasons and any recommendations.

Are you able to provide any thoughts on the datasets suggested for spatial mapping of the technical (physical) limitations (as proposed by us or as recommended by you) for commercial operation of this sector?

Aquaculture

The presence of suitable resource for bivalve and macroalgae cultivation in Welsh waters was spatially assessed by ABPmer (2015). Welsh Government used the outputs from the spatial assessment to establish the Aquaculture RA (see RA_Sector_Derivations). The existing Aquaculture RA can be viewed on the Welsh Marine Planning Portal and comprises areas which are potentially suitable for the cultivation of bivalves or macroalgae. Following agreement on the approach, the Aquaculture RA has been separated by type (bivalve or seaweed) and spatial occurrence of activity in the water column (seabed or suspended). This has resulted in the subdivision of aquaculture and three distinct RAs as starting points for this project:

Bivalve – seabed
Bivalve – suspended
Seaweed - suspended

The Aquaculture RAs were derived following consideration of a number of physical limitations such as light (for macroalgal cultivation), salinity (as defined by boundary of Severn tidal limits), sediment type, wave/current exposure and depth.

In April 2022, responses were received from stakeholders in relation to the feedback request on **Identifying Constraints** (circulated 16 March 2022). In relation to technical constraints and Aquaculture the only comments received suggested consideration of water temperature and turbidity for aquaculture operations.

Due to the temperature tolerance range of the various species which could be commercially produced (seaweed and bivalve species), the range of temperature in Welsh waters and the level of data resolution, temperature was not included in the technical constraints.

In this context, turbidity levels affect light penetration through the water column. However, given the large variation in turbidity at many sites and the differing light requirements for seaweeds, it is accepted that all but the most turbid environments are likely to have suitable light conditions for at least some species of macroalgae. It is also noted that the constraint 'light' was used to determine the existing Aquaculture RA (macroalage cultivation) and derived through applying the Photic Zone data layer (see ABPmer, 2015).

Hence, as these physical data are already encompassed by the existing RA, and after consideration of stakeholder feedback by the project team, further work to identify technical constraints and parameters for Aquaculture (as differentiated) is **not** being taken forward.

FOW

A characterisation study by TCE encompassing Welsh waters, considered technical constraints for FOW (Everoze, 2020). The existing RA for FOW is based on TCE commissioned work. Hence, additional work to identify technical constraints and their parameters for FOW is **not** proposed.

Tidal Range

The presence of suitable Tidal Range resource in Welsh waters (as defined by the existing RA) was established through the Key Resource Areas (KRA) work identified by The Crown Estate (2014) and criteria used in the UK Offshore Energy Strategic Environmental Assessment by Department of Energy and Climate Change (2016) (see RA_Sector_Derivations). Based on feedback from technical stakeholders a maximum depth of 20 m is proposed in addition to a tidal range requirement of >6 m.

Given stakeholder responses received on **Sector Differentiation** and **Identifying Constraints,** in addition to further project team review; this sector was not subdivided, and the physical constraints proposed are as shown in Table 2.

Table 2: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Tidal Range.

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	<20m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Tidal Range		Mean Spring Tidal Range 6+m	Atlas of UK Marine Renewable Energy Resources. 2008. ABPmer https://www.renewables-atlas.info/

Do you agree with the proposed technical (physical) constraint parameters as listed for this sector (see Table 2)?

If not, please provide your reasons and any recommendations.

Are you able to provide any thoughts on the datasets suggested for spatial mapping of the technical (physical) limitations (as proposed by us or as recommended by you) for commercial operation of this sector?

Tidal Stream Energy

The presence of suitable Tidal Stream resource in Welsh waters was established through the Key Resource Areas (KRA) work identified by The Crown Estate (2014) which was used to produce the Tidal Stream Resource Area (see RA_Sector_Derivations). Parameters used to create the existing Tidal Stream RA included a maximum distance from shore of 5 km, a minimum depth of 5m and minimum mean spring peak current velocity of 1.5 m/s.

Tidal Stream - Seabed

Given stakeholder responses received on **Sector Differentiation** and **Identifying Constraints,** in addition to further project team review; the tidal stream sector was subdivided into seabed and mid water/surface. The physical constraints proposed for this differentiated sector are as shown in Table 3

It is assumed that commercial operation of tidal stream (seabed) would require a depth range of 20-40 m BCD to allow turbine rotation and ensure adequate resource is still achieved. It is also assumed that O&M would require an annual mean significant wave height of <2.0 m.

Table 3: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Tidal Stream (seabed technologies).

Physical	Description	Parameter	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	20 m-40 m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Significant wave height	The average height of the highest 1/3 of waves.	Annual mean significant wave height <2.0m	ABP Marine Environmental Research (ABPmer) http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp? Layer name:nmp:WaveHeight

Do you agree with the proposed technical (physical) constraint parameters as listed for this sector (see Table 3)?

If not, please provide your reasons and any recommendations.

Are you able to provide any thoughts on the datasets suggested for spatial mapping of the technical (physical) limitations (as proposed by us or as recommended by you) for commercial operation of this sector?

Tidal Stream – Mid Water and Surface

Given stakeholder responses received on **Sector Differentiation** and **Identifying Constraints,** in addition to further project team review; the tidal stream sector was subdivided into seabed and mid water/surface. The physical constraints proposed for this differentiated sector are as shown in Table 4.

It is assumed that commercial operation of tidal stream (surface and mid-water) could occur in a depth range from 5m -120 m BCD. Also assumed that O&M would require an annual mean significant wave height of <2.0 m.

Table 4: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Tidal Stream (surface and mid-water technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	5-120 m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Significant wave height	The average height of the highest 1/3 of waves.	Annual Mean significant wave height <2.0 m	ABP Marine Environmental Research (ABPmer) http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp? Layer name:nmp:WaveHeight

Do you agree with the proposed technical(physical) constraint parameters as listed for this sector (see Table 4)?

If not, please provide your reasons and any recommendations.

Are you able to provide any thoughts on the datasets suggested for spatial mapping of the technical (physical) limitations (as proposed by us or as recommended by you) for commercial operation of this sector?

Wave Energy

The presence of suitable Wave Energy resource in Welsh waters was established through the Atlas of UK Marine Renewable Energy Resources (ABPmer, 2008) and from areas defined in the Marine Renewable Energy Strategic Framework (MRESF) (RPS, 2011). Consideration was given to maximum distance from shore, depth and wave characteristics. The existing Wave

Wave Energy - Surface

Given stakeholder responses received on **Sector Differentiation** and **Identifying Constraints,** in addition to further project team review; the wave energy sector was subdivided into seabed and surface. The physical constraints proposed for this differentiated sector are as shown in Table 6.

It is assumed that commercial operation of wave energy (surface technology) would require a depth range of 10-200 m BCD.

Table 6: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Wave Energy (surface technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10 m-200 m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/

Do you agree with the proposed technical (physical) constraint parameters as listed for this sector (see Table 6)?

If not, please provide your reasons and any recommendations.

Are you able to provide any thoughts on the datasets suggested for spatial mapping of the technical (physical) limitations (as proposed by us or as recommended by you) for commercial operation of this sector?

Further comment

Please provide any additional comments on this step of the SRA mapping approach. Please note that dataset selection and categorisation of constraints will be explored in further detail at the workshops in June 2022.

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Stakeholder feedback responses summary
Date sent	24/05/2022
Objective	Stakeholder feedback
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range
Tidal Stream
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints / considerations in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is being used to shape the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops will be held over the duration of the SRA mapping project. These will be supported by documentation circulated to stakeholders for feedback and information (Table 1).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

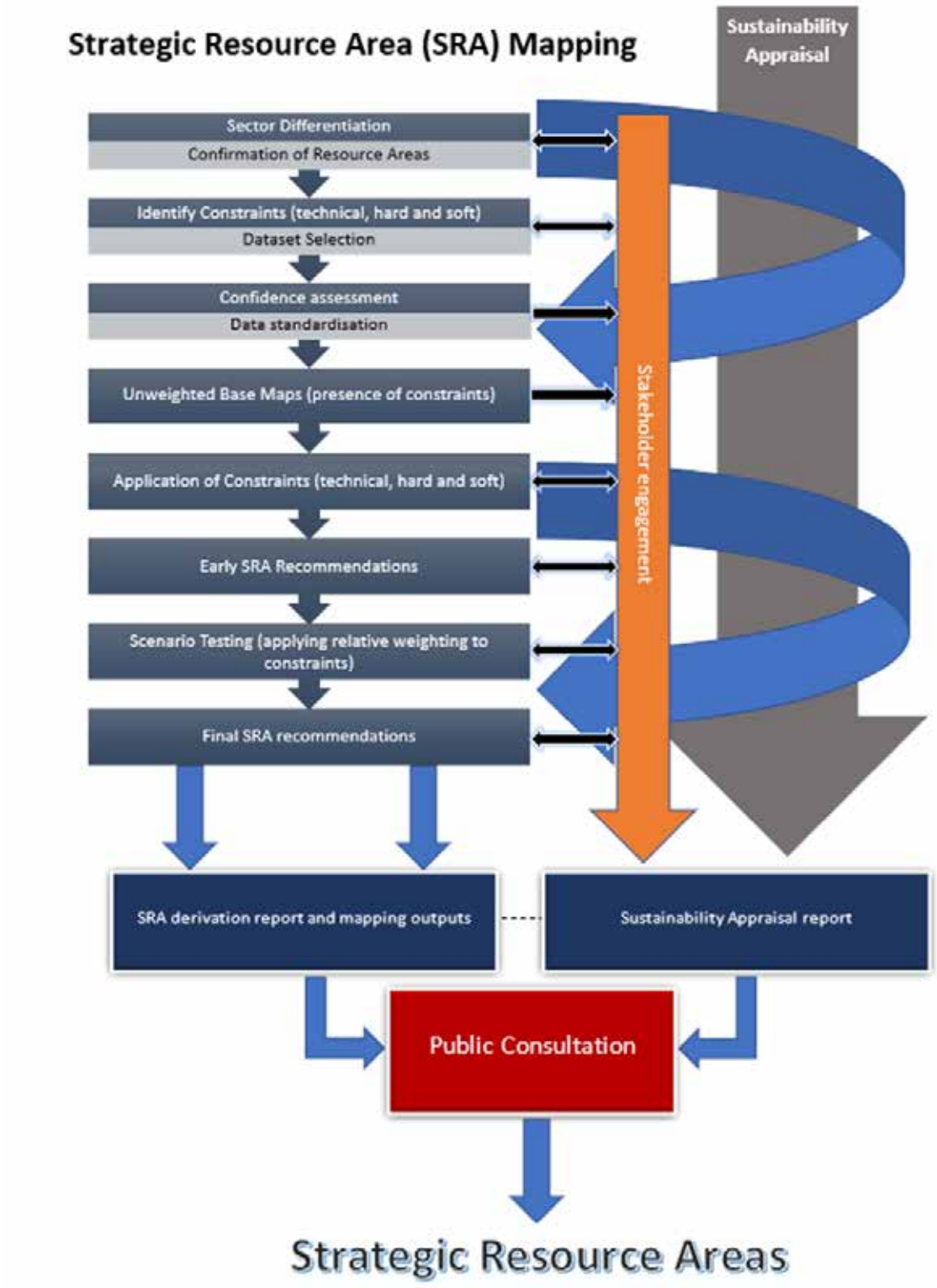

Figure 1: The SRA mapping process

Questions received during this event and the project team's responses were summarised and shared with technical stakeholders on 18 March 2022.

In March 2022, stakeholders were also invited to respond on the first three steps of the spatial analysis activity:

Step 1 – Sector differentiation;
Step 2 – Confirmation of Resource Areas (RAs); and
Step 3 – Identify constraints.

Responses in relation to these steps and the general approach were received in April 2022.

This paper provides a summary of the stakeholder feedback responses received in relation to the first three steps of the SRA mapping project, as well as a summary of general comments received over that period.

It covers the key themes raised by technical stakeholders to date and how these have been or will be addressed during the SRA mapping process.

Feedback overview

A total of 120 comments were received in response to the first three feedback requests between 8 March and 14 April 2022. Responses were received from across 12 organisations spanning a wide range of stakeholders such as Statutory Nature Conservation Bodies (SNCBs), developers, regulators and environmental non-governmental organisations (eNGOs). The number of comments received per feedback request, as well as general comments, were as follows:

General – 20 comments;
Step 1 – Sector differentiation – 32 comments;
Step 2 – Confirmation of RAs – 20 comments; and
Step 3 – Identify constraints – 48 comments.

Most responses were in relation to the identification of constraints and of these the majority were in relation to environmental considerations.

General Comments

The main theme of the general comments received was on environmental considerations, and particularly:

The point at which the environment is considered during the mapping process;
How the SMMNR project outcomes will feed into the SRA mapping process and concerns over how these account for sustainability and management of the marine ecosystem.

There are two parallel evidence and mapping processes underway which will feed into and inform SRA mapping. These include **environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project, and extending this approach to the remainder of the SRA focus sectors) being progressed by NRW in its capacity as the SNCB. , Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer. The categorisation of **social, economic and sectoral** soft constraints will be a key task for the upcoming June workshops.

The SRA mapping work considers, at plan-level only, future sustainable resource safeguarding for a sector. In indicating an area of sustainable safeguarded resource, both the above-mentioned evidence and mapping processes will be used and careful consideration given to the environmental, social, economic and sectoral constraints that could impact establishment of an SRA.

The focus of the safeguarding policy (SAF_02), which would be applied to any SRAs, is on cross-sector considerations – i.e. encouraging co-existence and avoiding inappropriate sterilisation of a resource by activity in another sector. Should an SRA be established for a particular sector's resource it will not confer development suitability or provide planning policy support for development and every proposal must still undertake all required regulatory environmental assessments (e.g. HRA, EIA), together with complying with the WNMP's environmental policies. Nor will an SRA sterilise an area from development by other activities. Thus, the opportunity indicated through this work (SRA mapping) will be specific to resource safeguarding rather than identifying an opportunity for development of a given sector.

The project team are considering how environmental considerations will be most appropriately acknowledged within the SRA mapping process, noting the conclusions of the independent HRA and SEA screening exercises commissioned by Welsh Government that mapping of SRAs and activation of SAF_02 would have no significant effects on any European sites, alone or in combination[1]. From the parallel evidence and mapping work by NRW, the environmental mapping outputs will build upon that done for the SMMNR project, with the consideration against consenting risk. It is likely that the datasets used to derive the NRW outputs will be taken and adapted to allow consideration within the SRA mapping approach where appropriate. We will discuss weighting of soft constraints (including environmental considerations), against a specific sector type/technology, with stakeholders. The presence of environmental considerations will thus be acknowledged at the same time as the other constraints and, if appropriate, help contribute to the shaping and/or guidance on the use of the SRAs.

As part of the overall approach to SRA mapping, we have initiated a Sustainability Appraisal and will continue to revisit this iterative process to ensure that our approach complies with the

[1] This is because policy SAF_02, in safeguarding resources against inappropriate sterilisation by other activities, does "not confer any rights for use or development" and does "not provide any direct or indirect support, or planning determination benefit, for development", and therefore makes *"… no provision for any changes that could conceivably affect a European site and this assessment is consistent with the assessments of similar safeguarding policies in other plans (notably minerals safeguarding policies in Minerals Plans)."* Wood Group, 2022.

objectives and policies of the WNMP, the conclusions of the independent SEA and HRA screenings and other relevant legislation (e.g. Environment (Wales) Act 2016 and the Well-Being of Future Generations (Wales) Act 2015). Thus, the principles of Sustainable Management of Natural Resources (SMNR) underpin SRA development (see SRA Design Principles).

Other general comments included:

> ***The timeframe over which the strategic importance of a resource is considered is an important factor that needs to be accounted for.***

As outlined in the draft Method Statement (sent out on 1 April 2022) the SRA mapping work encompasses a timeframe that aligns with the Welsh National Marine Plan period (i.e. up to 2040).

Responses to Step 1 - Sector Differentiation

Thirty-two comments were received on Sector Differentiation; 50% of all these comments agreed with the proposed differentiation of focus sectors.

Agreement was unanimous in relation to the aggregates, tidal range, tidal stream and wave energy sectors.

Conflicting responses were received in relation to aquaculture and FOW sectors, with some agreeing with the proposed differentiation of these sectors and some disagreeing.

The key themes are presented below, with comments on aquaculture and FOW differentiation presented in more detail in the following sections.

FOW and tidal stream – grid connections and cable routes

> ***The importance of considering grid connections and cable routes for the FOW and tidal stream sectors was raised.***

Cables from renewable developments are a project level consideration and SRAs are being mapped as a resource safeguarding tool focused on managing sector-sector interactions, and not for development. There is, therefore, no intention to map SRAs specifically for cables. In terms of existing subsea cables, while these would be a hard constraint for most sectors at a project level (e.g. aggregates) the SRAs will not necessarily be subdivided on this basis. They will, however, be mapped and provided as a useful information source. This is in line with the SRA Design Principle to ensure clarity of safeguarding through avoiding disproportionately complex boundaries and disjointed or fragmented boundaries.

Greater detail on the approach for cables/pipelines as a constraint for SRAs is provided under the responses to Step 3, below.

Aquaculture and tidal stream – position of technology and levels of disturbance to species and habitats

It was suggested that differences in technology location within the water column, e.g. for aquaculture and tidal stream, may not necessarily result in different levels of disturbance to mobile species and benthic habitats. There should be alignment between the proposed differentiation for these sectors and benthic disturbance to habitats.

The rationale behind why aquaculture and tidal stream has been split into the proposed subdivisions was provided in the feedback request document (Sector Differentiation). In summary, it is considered that significant differences in the relative level of constraint could potentially be experienced by these broadly different sector technology/activity types. The constraint(s) may be environmental, social, economic and/or sectoral.

It is noted that a number of responses agreed with the sector differentiation of aquaculture and tidal stream as proposed, for each of the sectors.

Aquaculture subdivisions

Some comments received on aquaculture disagreed with the proposed subdivision, though a number were in agreement.

Recommendations on subdivisions included the consideration of:

multitrophic aquaculture;
introduction of an intertidal bivalve subdivision;
combining seaweed and suspended bivalve subdivisions; and
introduction of a finfish subdivision.

At this time there are too many uncertainties around commercial multitrophic aquaculture to take forward any specific mapping of this sector type. Multitrophic can encompass a wide range of cultivated species and technologies with various permutations that fall outside the scope of this work. However, the opportunity to identify specific sector activities/technologies in discrete SRA maps will be considered in the future when Welsh Government revisit the SRA mapping work.

Intertidal bivalve cultivation is captured within the bivalve seabed subdivision. It is considered that there are potentially large differences in the level of constraint between bivalve and seaweed suspended activities, hence these are kept separate.

As stated within the draft Method Statement and in line with the WNMP, finfish aquaculture is not covered as it is not considered to be a commercially viable sector in Welsh waters within the 20-year timeframe of the WNMP.

FOW subdivisions

Half of the comments received on the FOW sector differentiation agreed with the proposed subdivision, whilst the other half disagreed.

> ***It was suggested that there may be no benefit in splitting the FOW sector in two subdivisions at this stage. The proposed subdivision, which is based on assumed reduced spatial requirements for tension leg platform (TLP) technology, was questioned.***

After careful consideration the project team has decided to take forward the recommendation for no subdivision of the FOW sector. This is due to the considerable uncertainty of spatial requirements between TLP and spar buoy/semi-submersible. TLP is a fast-evolving technology but uncertainty remains on its commercial development over the WNMP plan period.

As noted above, the opportunity to identify specific sector activities/technologies in discrete SRA maps will be considered in the future when Welsh Government revisit the SRA mapping work. Should greater certainty be provided on TLP technology then, if required, consideration will be given to the identification of technology specific SRAs.

Responses to Step 2 - Confirmation of RAs

Twenty comments were received on Confirmation of RAs; most agreed with the proposed RAs.

Agreement was unanimous in relation to the aggregates, aquaculture, FOW and wave energy sectors although some recommendations were also made with regards to the aggregates and FOW sectors.

Conflicting responses were received in relation to tidal range and tidal stream sectors with some agreeing with the proposed RAs for these sectors and some disagreeing.

The key themes are presented below.

Aggregates and FOW – alignment of RAs with The Crown Estate's Key RAs

> ***It was recommended that RAs for aggregates should align with TCE's revised Key RAs for aggregates.***

Other ongoing related work programmes are acknowledged, and we will consider how and if to align these once they are available. This will be dependent on how relevant outputs from these ongoing programmes fit with the SRA mapping project timeline.

Tidal range and tidal stream – depth requirements

> ***It was suggested that the proposed RAs do not reflect depth requirements for tidal range and tidal stream technologies, with tidal range technology usually present***

in waters no deeper than 20 m chart depth and tidal stream turbines present in water of 20 m or deeper.

These suggestions have been considered and taken forward to the application of technical parameters stage which are covered in the stakeholder feedback request document (**Application of Constraints_technical constraint parameters**), sent out on 19 May 2022.

Tidal range RAs – corrections

It was suggested that the tidal range mapping in the area between Barry and Aberthaw appears to need correction, as there is a sliver along the coast that is not included in the RA.

Correction of the existing tidal range RA is under consideration.

It was suggested that the existing tidal range RA should reflect tidal lagoons meeting the shore.

Correction of the existing tidal range RA is under consideration.

Responses to Step 3 – Identify Constraints

Forty-eight comments were received on Identifying Constraints; most comments included recommendations for additional constraints or questioned the proposed constraints. Of these, the majority were in relation to environmental constraints.

The key themes are presented below.

Environmental constraints

The following points were raised with regards to environmental constraints:

Marine Protected Areas and formal environmental designations should be considered hard constraints;
Hard as well as soft environmental constraints should be applied;
Designated benthic features should be considered hard constraints where SRAs intersect environmental designations;
Bird foraging areas should be added to environmental constraints.

Environmental considerations will acknowledge many features such as MPAs (and other designated sites), benthic and coastal communities, marine mammals, fish and birds (including seabird foraging areas).

While we recognise the importance of environmental considerations, in the context of plan-level resource safeguarding and thus the objective of SRAs, it is likely that these will be considered as soft constraints. The conclusions of the independent SEA and HRA screening exercises, that SRA mapping and SAF-02 activation would have no significant effects on any

European sites, alone or in combination, will be kept under active review by Welsh Government.

As mentioned previously, the opportunity indicated through this work (SRA mapping) will be specific to resource safeguarding rather than identifying an opportunity for development of a given sector.

It is our intention to discuss the appropriateness, categorisation and weighting of environmental considerations with stakeholders.

Safeguarding Policy SAF_01b and other policies

> ***The process outlined with respect to "hard constraints" seems to disadvantage activities that are covered under SAF_01b (e.g. fishing; tourism and recreation)/ SAF_01b is not covered in constraints list.***
> ***It would be useful to align constraints to plan policies to ensure nothing is missed.***

Existing mobile activities such as shipping, recreational sailing and commercial fishing are captured in our constraint lists. **Tourism and recreational** activities are, other than activities such as recreational sailing, not readily mapped due to data limitations, their mobile nature and the context within which they are acknowledged. Tourism and recreational data are at a spatial resolution that will require greater consideration at project level.

The approach to determining SRA location and boundaries specifically considers activities which have the potential for sector-to-sector interactions for a given resource. The objective being to identify other sectoral spatial needs and amend a potential SRA as appropriate.

A Sustainability Appraisal (SA), running in parallel to the mapping work, will appraise the approach used to determine potential SRAs against relevant WNMP objectives and policies in addition to other relevant legislation.

Wrecks and historic assets

> ***Protected Wrecks (not all wrecks) and Scheduled Monuments should be a hard constraint;***
> ***The historic assets dataset defined within the Welsh Marine Planning Portal should be used as a constraint for all sectors in line with SOC05 of the WNMP. This dataset includes the full range of historic assets, not just wrecks.***

As outlined in the stakeholder feedback request document 'Identify Constraints – Step 3', at a project level it is recognised that some of the constraints which do not necessarily define SRA boundaries would be project-level hard constraints for some, if not all, of the sectors. For example, historic assets, such as protected wrecks (sites and vessels designated under the 1973 Protection of Wrecks Act and the Protection of Military Remains Act 1986 ("war graves")) are hard constraints at a project level. However, in terms of this plan-level SRA mapping exercise to safeguard areas of resource, it is currently proposed that (apart from FOW and Tidal Range SRA mapping) these specific small-scale areas of project-level hard constraint will not be used to define SRA boundaries. This is because, at a project level, operation of aggregates,

aquaculture, tidal stream and wave energy could in practice, to varying degrees, avoid impacting these specific small-scale areas of hard constraints. As set out in the SRA Design Principles, the mapping process should avoid, where possible, complex boundaries and fragmented areas.

However, if such historic asset features are known to be present within any potential SRA then these will be clearly highlighted.

Following the recommendation received in relation to 'historic assets' the constraint 'wrecks' will be encompassed by the 'historic assets' constraint using the recommended dataset.

Subsea cables and pipelines

Subsea cables and pipelines should be considered a hard constraint for all sectors.

A broadly similar approach will be taken for cables and pipelines as proposed for historic assets. Hence, in terms of this plan-level SRA mapping exercise to safeguard areas of resource, it is currently proposed that (apart from FOW and Tidal Range SRA mapping) these specific small-scale areas of potential project-level hard constraint from cables and pipelines will not be used to define SRA boundaries.

As with historic assets, the presence of cables and pipelines will be clearly highlighted on the SRA maps if they fall within a potential SRA.

Military practice areas

How are coastal ranges and offshore ranges being distinguished?

Military Practice Areas will be divided into hard and soft categories with hard covering all coastal 'live' firing ranges.

MOD Danger Areas that support live firing, bombing or explosives/demolition activities will be considered a hard constraint for all focus sector SRAs.

Military defence constraints

All MOD Danger Areas and all Exercise Areas should be a hard constraint for all sectors, for the installation and operation of technology as well as any associated infrastructure.
'MOD Explosives Storage Sites Safeguarding' as well as 'MOD Technical Site Safeguarding' along with 'defence maritime navigational interests (surface & sub-surface)' need to be added as further military soft constraints.

Military Practice Areas will be divided into hard and soft categories with hard likely to encompass MOD Danger Areas that support live firing, bombing or explosives/demolition activities for all focus sector SRAs.

The soft category includes all other marine and aerial practice areas e.g. submarine exercise areas and areas of intense aerial activity.

Consideration will also be given to the inclusion of 'MOD Explosives Storage Sites Safeguarding', 'MOD Technical Site Safeguarding' and 'defence maritime navigational interests (surface & sub-surface)' as soft constraints.

Tourism & Recreation/ designated landscapes/ flood defence/ seascape sensitivity

> ***Tourism and recreation; designated landscapes; coastal flood defences; and seascape sensitivity are missing from the constraints list.***

Coastal defence will be considered as a soft constraint for sectors that directly overlap with the coast such as Tidal Range.

Designated landscapes will be encompassed in the same manner as tourism and recreation (see above).

Seascape sensitivity will be a soft constraint for all sectors.

Aviation consideration

> ***Why is aviation a constraint for all sectors? It is only relevant to FOW sector.***

Aviation has been removed from all sectors except FOW.

Nuclear Power Stations consideration

> ***Why are nuclear power stations a constraint for all sectors? They are only relevant to possibly the aggregates sector, but even then, they are on the coast.***

Nuclear power stations have been removed as a constraint from all sectors.

A broadly similar approach will be taken for cooling water intake and outfalls, as proposed for historic assets. Hence, in terms of this plan-level SRA mapping exercise to safeguard areas of resource, it is currently proposed that (apart from Tidal Range SRA mapping) these specific small-scale areas of potential project-level hard constraint from cooling water intake and outfalls will not be used to define SRA boundaries.

Closed Disposal sites consideration

> ***Closed disposal sites are not normally a hard constraint.***

The above feedback has been considered and closed disposal sites will be applied as a soft constraint for all sectors.

Anchorages

Why are anchorages a constraint for FOW? They are more inshore as opposed to depths needed for FOW.

Given that parts of the existing FOW RA are less than 0.5 km from the Welsh coast, anchorages have currently been left as a soft constraint for FOW.

Aquaculture lease areas/ co-existence

Consider whether aquaculture leases should be a soft instead of a hard constraint. Particularly for FOW, not all aquaculture will be incompatible with this sector and co-location/ multi-use of sites should be encouraged where possible. Compatibility and co-existence in both time and space should be discussed more widely – example mapping would be useful.

We have reviewed the constraint 'aquaculture leases' and changed the term to Several Orders.

We agree that not all aquaculture, or other sectors, will be necessarily incompatible with FOW and acknowledge the SRA Design Principles, specifically that a marine plan authority should '*Apply other sectoral spatial needs to refine the extent of the SRA, seeking to minimise or avoid conflict and encourage coexistence'*.

Example mapping will be provided as we progress with the work (see Figure 1 and draft Method Statement) to help inform the decision making and refine outputs. This will allow visual consideration of potential coexistence and cross sector compatibility.

Shipping and shipping routes/ harbours

Access to harbours and ports should be considered.
It is unclear why major shipping routes are a hard constraint.
Human Activity Shipping Density AIS DATA could be useful instead of 'Shipping Density 2017'.

Harbour Areas will initially be considered as a soft constraint for all sectors. As with Oil and Gas blocks, Harbour Areas fall under WNMP policy SAF_01a. While the level of constraints (hard/soft) would be dependent on the powers each Harbour Authority has and whether they are supportive of the activity in question, these are considered more project level related considerations. Thus, for the purposes of SRA mapping, Harbour Areas are soft constraints.

After consideration, major shipping routes will be amended to a soft constraint for all sectors except FOW and Tidal Range.

We believe that 'Shipping Density 2017' is the same as Human Activity Shipping Density AIS DATA. However, we now have access to 'Shipping Density 2019' so will use this dataset for all sectors.

Fishing

Consideration of small boat data.

It is appreciated that there are difficulties with assessing fishing activity in Wales due to most vessels being under 12 m and therefore have no requirement for VMS pre-2021. While it is recognised that VMS has been required since 2021, there is insufficient data from VMS available at this point to understand the relative importance of locations for fishing (for vessels <12 m).

We are looking at the potential of using the National Inshore Fishing Data Layer (Cefas, 2014) to inform fishing intensity within 12 nm of the Welsh coast. We would also welcome feedback from the sector to signpost significant areas for fishing.

Next Steps

An updated programme for stakeholder communication is presented in Table 1. A feedback request on technical constraint parameters was recently sent out (19 May 2022) with feedback due on 10 June 2022. For information, we will also be providing stakeholders with a list of the agreed constraints prior to the June workshops. The list will acknowledge feedback we have received and the conclusions from further project team review.

Following this, the next stage of the process will be the second SRA mapping stakeholder event in June. As previously outlined, this second stakeholder event will be delivered as a series of **sector specific virtual workshops** (Table 2). The key objectives of each sector specific workshop will be to:

Agree suitable datasets to inform technical, and socio-economic hard and soft constraints; and
Discuss and agree categorisation of constraints.

We will also use this opportunity to discuss the feedback received from stakeholders and update you on project progress and the next steps.

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Suitable datasets (to inform constraints)	Pre-workshop information	w/c 23 May 2022	n/a	n/a
Soft constraint categories (initially suggested)	Pre-workshop information	w/c 23 May 2022	n/a	n/a
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information (inc. list of agreed datasets)	July 2022 (tbc)	n/a	n/a
Refined RA maps (following application of technical constraints)	Information	July 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Table 2 Dates and times for sector specific workshops to discuss constraints

Sector	Date	Time
Aggregates	Tuesday 14 June 2022	09:30 – 12:00
Wave Energy	Wednesday 15 June 2022	09:30 – 12:00
Tidal Stream	Thursday 16 June 2022	09:30 – 12:00
Aquaculture - bivalve	Tuesday 21 June 2022	09:30 – 12:00
Aquaculture - seaweed	Thursday 23 June 2022	09:30 – 12:00
Floating Offshore Wind	Tuesday 28 June 2022	09:30 – 12:00
Tidal Range	Thursday 30 June 2022	09:30 – 12:00

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Sector specific workshop outputs
Date sent	22/07/2022
Objective	Stakeholder feedback – categorisation of socioeconomic constraints
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range
Tidal Stream
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints / considerations in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is being used to shape the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops have been and will be held over the duration of the SRA mapping project. These are being supported by documentation circulated to stakeholders for feedback and information (Table 1).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

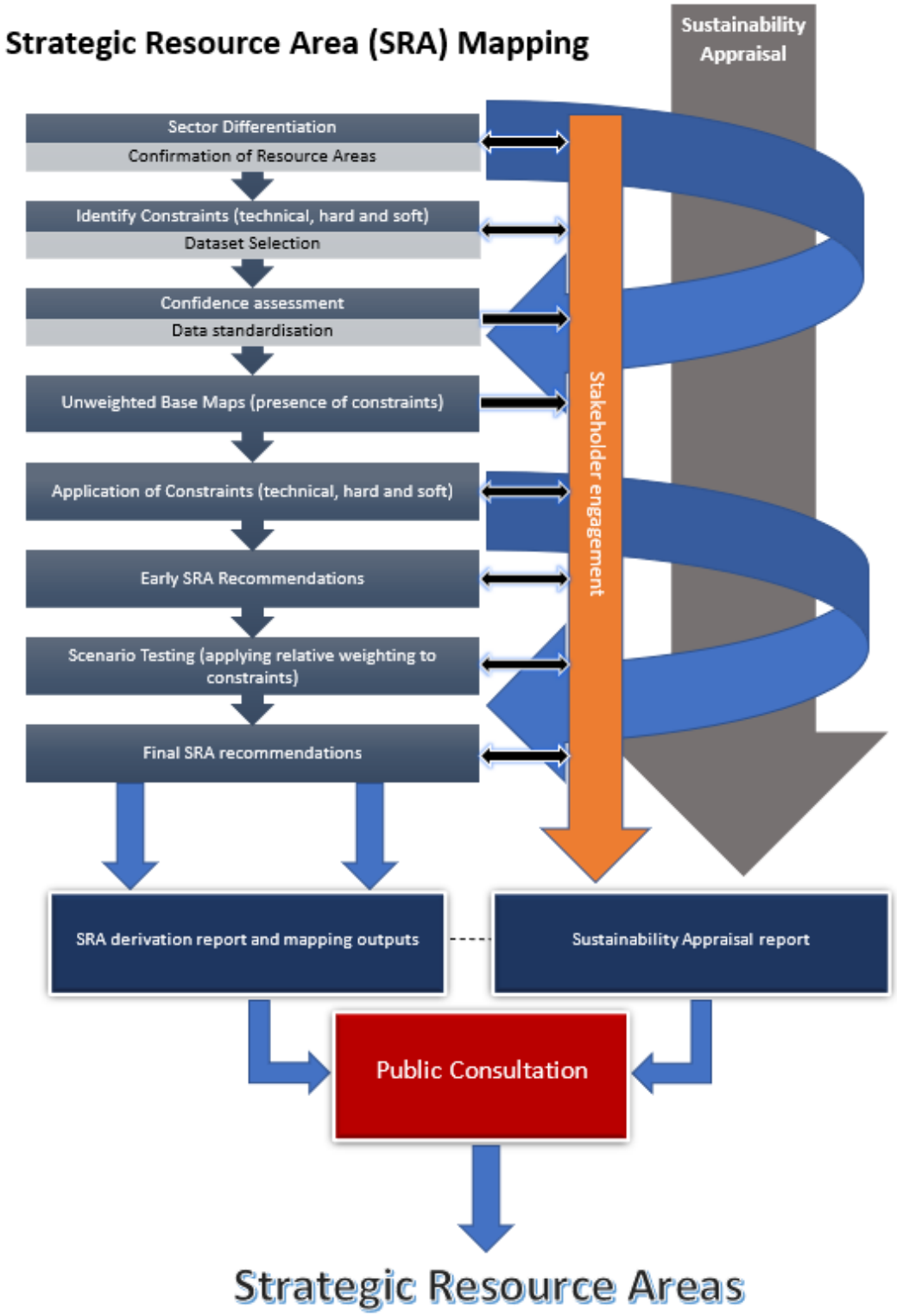

Figure 1: The SRA mapping process

In June 2022 a series of sector specific virtual workshops were held with technical stakeholders; the key objectives for each workshop were to:

Agree categorisation of socio-economic constraints (hard/soft; soft category);
Identify and agree suitable datasets; and
Agree sector-sector interactions of potential overlap with SRA boundaries.

Environmental constraints were not considered during these workshops. As previously communicated to stakeholders, there are two parallel evidence workstreams underway which will be considered and inform the SRA mapping process. **Environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project), is being progressed by NRW in its capacity as the Statutory Nature Conservation Body (SNCB). Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer and was the focus of the June workshops.

This paper provides a summary of the workshop outcomes based on the stakeholder input and discussions held during the June workshops. The paper covers how stakeholder comments have been or will be addressed during the SRA mapping process.

Overarching points of discussion

This section provides an overview of points discussed across all workshops that are relevant for all sectors. Sector specific comments are discussed in subsequent sections of this summary report.

Constraint definitions

One comment was made that **constraints definitions and approach were too simplistic and open to interpretation**. No other comments were raised in any of the workshops with regards to constraint definitions. Whilst acknowledging this point, the project team have decided to keep these definitions for this plan-level resource safeguarding mapping process as presented in the workshops

Fishing

There were a number of comments across workshops with regards to fishing constraints and proposed datasets. Comments included the **importance of considering fishing gear/ methods** and **encouraging further discussions with fishing industry**.

As a result of comments received, we can clarify that vessels 15 m and over will be captured using total relative value of 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data. As the inshore VMS dataset is currently very limited, with only a full dataset being collected since February 2022, we intend to use the National Inshore Fishing Data Layer (from Cefas 2014), clipped to Welsh waters, to determine intensity across Welsh waters.

Anchorages

Following recommendations in the first workshop **anchorages were split into two separate constraints for all sectors: Shipping Anchorages and Recreational Anchorages**.

There was a general query on **whether anchorages represent 'moorings' and/or 'anchorages in the course of navigation'**. It was confirmed that they represent 'anchorages in the course of navigation'.

Closed disposal sites

Closed disposal sites were generally accepted by stakeholders as a soft constraint, but it was raised that **some sites may have a history of hazardous substances or munitions dumping, thus making them unsuitable for some activities**. The project team recognise this issue and can confirm that such sites would be specifically indicated on any mapping outputs.

Offshore Minerals Evaporites Site Agreements

This **constraint was removed from all sectors** as there are no such agreements in Welsh waters.

Offshore Site Agreements

Offshore Meteorological and Oceanographic Equipment Agreements were initially considered to be a hard constraint for all sectors. Following stakeholder comments received during the workshops **this constraint has been changed to a soft constraint for all sectors**.

Offshore Natural Gas Storage Pipeline Agreements were also initially considered to be a hard constraint for all sectors. Following recommendations during the workshops the project team will **consider changing these to a soft constraint for all sectors except FOW and Tidal Range**.

Subsea Cables and Cable Agreements

Following a number of recommendations and discussions held during the workshops, and recognising this is a plan-level resource safeguarding mapping process, the project team will change the constraints **Subsea Cables, Offshore Wind Cable Agreements, Offshore Wave Cable Agreements, Offshore Tidal Stream Cable Agreement to soft constraints for all sectors.** However, as previously discussed, cable positions will be indicated if present within a SRA.

Recreational boating

It was noted that the **RYA boating Atlas is now quite old and that an updated AIS dataset, together with a new** SafeTrx **dataset, should be ready in a few months**. The project team are communicating with the RYA to enquire about the new datasets and the potential to use them within the SRA mapping project.

There was a general query on **whether the Recreational Sailing encompassed other recreational water users**. It was clarified that the current atlas does not fully encompass other recreational water users as it is based on AIS data; however, the new SafeTrx dataset may do.

A query was also raised on **how areas of low and high recreational boating activity will be distinguished** within the relatively large boating areas. It was clarified that the 'boating areas' represent regions of relatively high recreational use.

Shipping density

There was a query on **whether different Shipping Transit Groups (STGs) will be considered separately**. Currently we intend to use the amalgamated shipping density; however, following initial mapping we may split the data by STG.

Harbour Areas

Harbour Areas are a soft constraint for all sectors. It is noted that potential conflict will be dependent on the relevant Harbour Authority. This will be explored, as required, by the project team once initial mapping outputs are produced.

Historic Assets

While historic assets, such as protected wrecks, are hard constraints at a project level, in terms of this plan-level SRA mapping exercise to safeguard areas of resource, it is proposed that these specific small-scale areas of project-level hard constraint will not be used to define SRA boundaries. This is because, at a project level, operation of aggregates, aquaculture, tidal stream, wave energy, FOW and tidal range could in practice, to varying degrees, avoid impacting these specific small-scale areas of hard constraints.

This approach follows discussions and recommendations from the Royal Commission On The Ancient & Historical Monuments of Wales (RCAHMW) and other stakeholders during the workshops

Historic Assets will therefore be considered as soft constraint for all sectors.

RCAHMW also provided additional dataset recommendations. It was proposed that for completeness, the wrecks and obstructions dataset held by the UKHO (Global Wrecks and Obstructions Text File | ADMIRALTY Marine Data Portal) should also be accessed, as sometimes this is updated faster than the NMRW, and so additional historic assets may be contained within the UKHO data.

Seascape sensitivity

It was suggested that **certain sectors (particularly those on the seabed) would be unlikely to have any impact on seascape.** However, it was clarified by the project team that even sectors which predominantly operate below the surface may still have elements that are required to be emergent and thus have the potential to impact seascape.

An additional dataset was recommended which includes National Marine Character Areas (Lle - National Marine Character Areas (gov.wales)).

Acknowledging comments received and after internal discussion, it was considered that while seascape sensitivity would be best understood at a project level, at a plan-level the consideration of 'visible effects on sensitive receptors' (e.g AONB's, National Parks etc.) would be a more appropriate constraint. This constraint will be 'soft' for all sectors.

Military defence constraints

We are in discussions with MoD about increasing the resolution of available datasets to allow suitable discrimination of defence constraints, such as, 'live surface firing ranges' from other defence activities. Stakeholders from the MoD have expressed the need to discriminate those activities that interface with water surface, specifically activities encompassing live firing or things dropped into the sea. Such activities would be a 'hard' constraint for all sectors (with the possible exception of aggregates, which does not have fixed infrastructure and is the only 'mobile' focus sector, where temporal co-existence may be possible). Other defence activities will be a soft constraint across all sectors.

Environmental considerations

A few general comments were made with regards to **environmental considerations such as the need to acknowledge diving birds for Tidal Stream and general consideration of Marine Protected Areas**. As outlined in the introductory section of this summary report, environmental constraints mapping work is being carried out by NRW in parallel with the SRA mapping process. As the project progresses and the outputs from NRW become available, the project team will discuss internally and with stakeholders how environmental considerations may be utilised to help refine SRA boundaries

Outfalls

A general comment was made on **whether outfalls should encompass not only power station outfalls but other types of outfalls too**. Following this comment 'Diffusers' and 'Submarine pipelines' for wastewater were added as soft constraints across all sectors. With regards to nuclear power station outfalls, it was recommended that **nuclear power station intakes and high thermal plume areas should also be considered**. Whilst we will acknowledge these, it will not have any bearing on the outputs at this time as there are currently no active coastal nuclear power stations in Wales and thus no potential for direct overlap with SRA boundaries

The constraints **outfalls (energy), diffusers (wastewater), and pipelines (wastewater) will be considered as soft constraints across all focus sectors.**

SRA coexistence

It was recognised that **differentiated SRAs for Tidal Stream and Wave Energy had not been included in constraints for respective Tidal Stream and Wave Energy workshops**. This is

because it is assumed that different Tidal Stream (or Wave Energy) technologies could coexist (without constraint) within the relevant SRA for the same broad sector. Thus, Tidal Stream seabed can overlap and coexist without conflict with Tidal Stream surface and so on.

Buffers

It was noted that **understanding buffer zones around constraints will be important and will determine the level of constraint**. Particularly as most users/ activities can generally coexist within an overall SRA but not necessarily where infrastructure may overlap.

Essential fish habitat

It was suggested that **essential fish habitat could be considered as part of socio-economic constraints associated with fishing**. The project team will consider whether it is feasible to incorporate into the socio-economic constraints at this stage. However, it is acknowledged that the SMMNR work and NRW's environmental mapping, specifically looks at spawning/ nursery habitat and fish migratory routes. Furthermore, in line with the WNMP policy framework, it would be considered an 'environmental constraint, because fish habitats are covered by environmental Policy ENV_07, and not by the Fisheries sector policy.

Workshops

The following sections summarise specific outcomes, comments and discussions relevant to individual sectors which occurred during the individual workshops in June 2022. The hard and soft constraints for each sector, as agreed following each workshop, are presented in Table 2 to Table 11. The potential for SRA coexistence between differentiated sectors and the SRAs of other sectors, as suggested by the majority of stakeholders during the workshops, is presented in Table 12.

While we recognise that in reality there are a number of constraints which are highly unlikely to spatially overlap with a given sector (e.g. FOW and outfalls), in drawing up a 'constraints catalogue', we are initially considering that potential overlap of resource use could occur and, if so, assessing the degree of conflict. As we begin to refine the RAs and map the constraints, we will be able to see where the overlaps are occurring and revisit, as required, the specific constraint. However, before we begin this process, we will first apply technical constraints and then the agreed hard constraints to the maps to visibly indicate where these overlaps are taking place.

Aggregates Workshop

The Aggregates Sector workshop took place on 14 June 2022. A total of 16 stakeholders from across nine organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

It was agreed that **major shipping routes and IMO routeing should not be hard constraints for Aggregates**. Both were changed to category 4 soft constraints.

Anchorages were split into two separate constraints: Shipping Anchorages and Recreational Anchorages. **Shipping Anchorages were assigned soft constraint category 3 and Recreational Anchorages soft constraint category 2**.

With regards to **Offshore Tidal Stream Site Agreements** and **Offshore Wave Site Agreements**, it was suggested that areas offered for tidal stream and wave leases are not much bigger than the final development area, and so **these need to remain hard for all sectors**. However, if a lease area gets much bigger than the likely development then these could be considered soft constraints.

Following discussions around seascape sensitivity, we have **reduced the soft constraints category from 4 to 3 for aggregates operations <5km from sensitive terrestrial receptors.**

In terms of **SRA coexistence**, it was mostly agreed that there is very limited potential (category 4) for coexistence between the Aggregates SRA and other sector SRAs. Coexistence with FOW was considered more feasible (category 2) due to only cables needing to be avoided within larger SRA areas. We are considering if the Aquaculture SRA should be a hard constraint for Aggregates due to conflict between accessibility.

The hard and soft constraints for the Aggregates sector, as agreed following the workshop, are presented in Table 2. The potential for SRA coexistence between the Aggregates sector and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Wave Energy Workshop

The Wave Energy Sector workshop took place on 15 June 2022. A total of 16 stakeholders from across 12 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

It was suggested that the **soft constraint category for Recreational Anchorages could be lower** due to these mainly being located within safe harbours and away from locations suitable for wave energy generation technology. The project team are considering this suggestion.

It was suggested that the **soft constraint category for Subsea Cables and Offshore Wind Cable Agreements (and potentially other cable agreements) could be lower for the Wave**

Energy (surface) sector as there are opportunities for these to coexist, whilst needing to account for buffer zones. The project team are considering this suggestion

We have changed **Offshore Wind Site Agreements from a hard to soft constraint** following discussions around the potential for colocation and that the Wind Site agreement areas are much larger compared to the development areas.

In terms of **SRA coexistence**, it was mostly agreed that there is very limited potential (category 4) for coexistence between the **Wave Energy (seabed) SRA** and the Aggregates and Tidal Stream (seabed) SRAs. A low to very limited potential for coexistence was proposed with Tidal Range SRAs.

A good to very good potential for coexistence was considered between FOW SRAs and Suspended Aquaculture (bivalve and seaweed) SRAs. Seabed Aquaculture (bivalve) SRAs were considered to have both a good and a low potential for coexistence with Wave Energy (seabed) SRAs, whereas a range of potential coexistence was suggested by stakeholders for Tidal Stream (surface) SRAs with Wave Energy (seabed).

In terms of **SRA coexistence**, it was mostly agreed that there is good to very good potential (for coexistence between the **Wave Energy (surface) SRA** and the Aggregates, Seabed Aquaculture (bivalve); FOW, and Tidal Stream (both seabed and mid/surface) SRAs. There were quite differing opinions with regards to coexistence with Surface Aquaculture and Tidal Range.

The hard and soft constraints for the Wave Energy differentiated sectors, as agreed following the workshop, are presented in Table 3 (seabed) and Table 4 (surface). The potential for SRA coexistence between the Wave Energy differentiated sectors and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Tidal Stream Workshop

The Tidal Stream Sector workshop took place on 16 June 2022. A total of 15 stakeholders from across 12 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

With regards to navigation and shipping density it was raised **whether the number of transits is the only indicator of potential constraint.** It was clarified that dwell time could be used but the preference would be number of transits.

With regards to Anchorages a query was raised **whether a scale could be determined to capture the level of anchorage use**. While this could be done through AIS it would make sense to see how, if any, SRA overlap occurred first. Then, if required, we could delve deeper into the constraint data. However, we also recognise the degree of caution required, as the level of use may not reflect the importance of the anchorage.

There was **unanimous agreement that Recreational Sailing should be a soft constraint**. It was proposed that the **soft constraint category could be lower (i.e. changed from 3 to 2)** as rerouting or allowance for safe inshore passage is possible. The project team are considering this suggestion.

There was **unanimous agreement that Lifeline ferry routes should be a soft constraint**. This will be progressed as soft constraint category 4.

In terms of **SRA coexistence**, it was mostly agreed that there is very good potential for coexistence between the **Tidal Stream (seabed and surface) SRA** and FOW, Tidal Range and Wave Energy SRAs, although it was recognised that in reality, such developments are unlikely to be co-located.

Recommendations on the potential for **SRA coexistence** between **Tidal Stream (seabed)**, **Aggregates or Aquaculture** (seabed and suspended activities) varied from good to very limited.

Opinions were also very varied with regards to **Tidal Stream (surface)** and coexistence with **Aggregates and Aquaculture** (both seabed and suspended).

It was suggested that as **Tidal Stream resource is fairly limited** relative to wave and wind energy, it **should be given priority** where conflicts occur between other SRAs.

There was a general comment that **SRAs for Tidal Stream do not overlap with those for FOW** given technical constraints such as flow speed and water depth.

The hard and soft constraints for the Tidal Stream differentiated sectors, as agreed following the workshop, are presented in Table 5 (seabed) and Table 6 (surface). The potential for SRA coexistence between the Tidal Stream differentiated sectors and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Aquaculture (Bivalve) Workshop

The Aquaculture (Bivalve) Sector workshop took place on 21 June 2022. A total of 18 stakeholders from across 13 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

It was suggested that it is **possible for commercial shipping to take place over bivalve seabed operations**. However, as there may be accessibility issues, the project team have considered that shipping should remain a hard constraint.

It was recommended that the **soft constraint category for recreational sailing for seabed aquaculture should be moved from 1 to 2**, due to necessary surface equipment for both

seabed and suspended aquaculture such as marker buoys etc. The project team are considering this suggestion.

With regards to **recreational anchorages it was raised that some anchorages may be little used but are vital during bad weather** and therefore usage criteria may not be sufficient.

There were a number of comments with regards to **Several Orders and whether thiese should be a soft instead of hard constraint for seabed aquaculture**. It was clarified that this relates to existing Several Orders which are taken forward as a hard constraint for all sector SRAs.

It was suggested that **open disposal sites could be a soft constraint instead of hard for seabed bivalve aquaculture**. This constraint will remain as hard due to issues with access and potential hazards if co-located.

A number of responses were received with regards to **closed disposal sites, power station outfalls, diffusers and pipelines for wastewater and their soft constraint category for aquaculture.** All of these will remain soft constraints, but the project team will consider possible changes to the soft constraint category.

It was **suggested that Offshore Tidal Stream and Wave Energy Site Agreements should be soft instead of hard constraints**. These will remain as hard constraints as where an agreement is already in place it cannot be assumed that co-location would be possible.

In terms of **SRA coexistence**, it was mostly agreed that there is low to very limited potential for coexistence between the **Aquaculture Bivalve (seabed and suspended) SRA** and the Aggregates, Tidal Stream (seabed and mid-surface) and Wave Energy (seabed and surface) SRAs. Potential for good to very good coexistence was suggested for other Aquaculture, FOW and Tidal Range sectors.

The hard and soft constraints for the Aquaculture Bivalve differentiated sectors, as agreed following the workshop, are presented in Table 7 (seabed) and Table 8 (suspended). The potential for SRA coexistence between the Aquaculture Bivalve differentiated sectors and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop, is presented in Table 12.

Aquaculture (Seaweed) Workshop

The Aquaculture (seaweed) Sector workshop took place on 23 June 2022. A total of 16 stakeholders from across 13 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

It was generally considered that the **soft constraint category for navigation and anchorages should be higher for suspended seaweed aquaculture than for suspended bivalve**

aquaculture due to the requirement of more surface gear for seaweed aquaculture. This will be taken forward by the project team.

It was recognised that **interactions with fishing are quite gear specific**. It was clarified that the amalgamated fishing dataset will initially be used, and data investigated in more detail, including to gear types, if required.

It was suggested that **Offshore Minerals Aggregates Site Agreements could coexist with suspended seaweed aquaculture.** However, despite aggregate activities taking place on the seabed, access over the minerals is required which precludes coexistence. This will remain a hard constraint.

It was suggested **whether 'open disposal sites' should be a soft instead of a hard constraint**. As with aggregate agreements, access is required by dredgers over the disposal site which precludes coexistence with aquaculture activities. This will remain a hard constraint.

Pollution was flagged as an issue with regards to coexistence with outfalls, diffusers and wastewater pipelines. After consideration, the soft constraint categories will remain as originally proposed.

It was **suggested that Offshore Tidal Stream and Wave Energy Site Agreements as well as Offshore Natural Gas Storage Pipeline Agreements should be soft instead of hard constraints**. These will remain as hard constraints as where an agreement is already in place it cannot be assumed that co-location would be possible.

In terms of **SRA coexistence**, it was mostly agreed that there is good to very good potential (for coexistence between the **Aquaculture Seaweed (suspended) SRA** and other types of aquaculture as well as with FOW. Potential for coexistence with Aggregates SRAs was suggested as both very good and very limited, with the need for clear access to the dredge site being the main issue. Suggested potential for coexistence with Tidal Stream, Tidal Range and Wave Energy SRAs was variable, with Wave Energy (surface) suggested to have the lowest potential for coexistence. The consensus was that coexistence with these sectors was dependent on the technology used and the main issues are the equipment deployed and access for maintenance.

It was suggested that **finfish aquaculture and shellfish ranching** should also be considered as soft constraints. It is generally agreed that commercial development of finfish aquaculture **and shellfish ranching** is unlikely to occur over the next 20 years in Welsh waters. These will not be considered within the current constraints lists but future review of the SRA outputs will consider evolving technologies.

The hard and soft constraints for the Aquaculture Seaweed (suspended) sector, as agreed following the workshop, are presented in Table 9. The potential for SRA coexistence between the Aquaculture Seaweed (suspended) sector and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Floating Offshore Wind Workshop

The FOW Sector workshop took place on 28 June 2022. A total of 24 stakeholders from across 22 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

It was suggested that there was **minimal risk of conflict between recreational sailing and FOW**, due to the offshore nature of the FOW sector. However, it was pointed out that some of the existing RA is fairly close inshore and within recreational boating areas. Given the comments from stakeholders the project team will reduce the **soft constraint category from 4 to 3.** This is indicative of the large spaces that exist between FOW turbines but also recognising the increased risk to collision.

Depth considerations were discussed for **inshore vs. offshore FOW**, raising that there is **potential for FOW development inshore**. Various constraints, including recreational sailing and harbours, were discussed in this light.

It was raised that discriminating the **type of fishing gear is important to assess coexistence with FOW sector**. Coexistence may be possible for static fishing gear but is unlikely for mobile gear. The project team have considered this and will split commercial fishing constraints for FOW by broad type (static vs. mobile).

It was suggested that **OSPAR data could be used** to account for non-UK, EU fishing vessels.

There was **disagreement with cable constraints being hard constraints**. It was raised that even though colocation would be naturally avoided, coexistence is possible, and presence of cables should not exclude FOW development. The Erebus project was suggested as a good example of coexistence. **In acknowledgment of comments around cables and cable agreements, all cable constraints across all sectors have been moved to soft** (see Subsea Cables and Cable Agreements).

With regards to **aviation**, it was suggested that technical radar issues could be mitigated and therefore **civil airport safeguarding could be changed from a hard constraint to a soft constraint category 4**. It was also clarified that the 10 km buffer around civil airports relates to flight height. Given comments from stakeholders the project team have changed civil airport from a hard to soft constraint.

It was raised that **military airport safeguarding or military air traffic control/ air defence radars or technical sites have not been considered**. Consideration should also be given to **Areas of Intense Aerial Activity (AIAA)**. The project team intend to include these constraints and will communicate with MoD.

In terms of datasets for aviation it was suggested to additionally use **NATS Safeguarding and NATS Search and Rescue datasets**.

It was suggested that **closed disposal sites, outfalls, diffusers and pipelines could be accommodated within FOW sites** and therefore the proposed category 4 was considered

too high. In acknowledgment of these comments **closed disposal sites have been moved to soft constraint category 3**, with **outfalls, diffusers and pipelines moved to category 2**.

With regards to **Offshore Tidal Stream, Wave and Wind Site Agreements there was general agreement that these should be hard constraints**. Some comments were made around the **length of agreements**; it was clarified that the assumption is that these agreements already exist and could run the length of the WNMP period (up to 2040).

A comment was made to **consult TCE with regards to 5 km buffer around Offshore Wind Site Agreements** and consider including this in the hard constraint. The project team are communicating with TCE on this point.

It was considered that **Offshore Meteorological and Oceanographic Equipment Agreements could be accommodated within FOW sites.** Accordingly, the soft constraint category has been reduced from 4 to 2.

An **additional soft constraint category** (category 1) was suggested for **seascape sensitivity for developments >40 km from the coast**. This category will be applied.

With regards to military constraints, it was raised that **submarine navigation needs to be considered**; this is something that has been flagged in recent FOW projects. Currently there is adequate provision for surface navigation but not for subsurface navigation. As with all sectors, key danger areas are those which interface with surface firing or objects dropped into the sea. **Defence Infrastructure Organisation (DIO) Safeguarding should be taken into consideration**. The project team intend to communicate further with MoD on this point.

In terms of **SRA coexistence**, it was mostly agreed that there is low to very limited potential for coexistence between the **FOW SRA** and Aggregates and Aquaculture SRAs. Potential for coexistence with all wet renewable technologies (Tidal Stream, Tidal Range, Wave Energy) was mostly suggested as very limited.

Some general comments were made stating that it would be **useful to explore constraints again once the initially refined maps have been shared** with stakeholders.

The hard and soft constraints for the FOW sector, as agreed following the workshop, are presented in Table 10. The potential for SRA coexistence between the FOW sector and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Tidal Range Workshop

The Tidal Range Sector workshop took place on 30 June 2022. A total of 17 stakeholders from across 12 organisations attended the workshop, spanning a wide range of organisations such as SNCBs, developers, regulators and environmental non-governmental organisations (eNGOs).

Overall, there was general agreement with the proposed categorisation of constraints and the proposed datasets. Points raised included:

With regards to **major shipping routes**, there was discussion around **lock access through tidal range infrastructure being a solution for coexistence.** However, it was recognised that this would introduce time constraints for passage, and it was agreed that **in principle these should remain as hard constraints**.

It was suggested that **tidal range facilities could enhance recreational sailing** by creating a safe area for sailing. Whilst this may be true where there is currently no recreational sailing, there may be opposition from users of an already established boating area. Additionally, there would still need to be some exclusion areas around turbines and sluices. Given comments from stakeholders the project team have reduce the soft constraint category from 4 to 3.

With regards to cables, it was recommended that **communication cables should also be considered**, not only power related cables. It is clarified by the project team that the dataset to be used encompasses power and communication cables.

It was suggested that **coexistence with aggregates sites should be possible** and therefore Aggregates Sites Agreements should be a soft constraint instead of hard. The project team clarified that this relates to **existing agreements** where there is a need, as set out by WNMP policy, to safeguard resource. After consideration these will continue to be taken forward as **hard constraints**.

It was agreed that **access to meteorological and oceanographic equipment should not be an issue** and therefore Offshore Meteorological and Oceanographic Equipment Agreements could potentially move from soft constraint category 4 to category 3. The project team are considering whether to reduce the soft constraint category.

It was considered that a **tidal coastal impoundment is complementary to coastal defences**. As such, it was suggested to consider lowering the risk of conflict for coastal defences (currently category 4) or to provide a graduated scale of soft constraint. The project team are considering whether to reduce the soft constraint category.

It was suggested that **outfalls, diffusers and pipelines could be a lower soft constraint category**, as normally these can be extended beyond the impounded area to the open sea. The project team are considering whether to reduce the soft constraint category.

It was agreed that **further refinement of Military Practice Areas is required** (see Military defence constraints).

In terms of **SRA coexistence**, it was mostly agreed that there is good to very good potential for coexistence between the **Tidal Range SRA** and Aggregates and all Aquaculture SRAs. This was the opposite of what was suggested in the Aggregates workshop where potential for coexistence with Tidal Range SRAs was considered to be very limited. Potential for coexistence with Wave Energy SRAs was considered to be low to very limited, whereas a wide range of responses were received with regards to coexistence with FOW and Tidal Stream.

The hard and soft constraints for the Tidal Range sector, as agreed following the workshop, are presented in Table 11. The potential for SRA coexistence between the Tidal Range sector and the SRAs of other sectors, as suggested by majority of stakeholders during the workshop is presented in Table 12.

Next Steps

An updated programme for stakeholder communication is presented in Table 1.

Following review of the responses received in relation to technical constraints we will be applying the agreed parameters to initiate refinement of the existing Resource Areas for each differentiated sector. The hard constraints (as agreed) will then be applied. The intention is to provide early mapping outputs of these refinements in August.

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information (inc. list of agreed datasets)	July 2022 (tbc)	n/a	n/a
Refined RA maps (following application of technical constraints)	Information	July/August 2022 (tbc)	n/a	n/a
Unweighted base maps	Information	July/August 2022 (tbc)	n/a	n/a
Progress update	General information on project progress (spatial analyses and sustainability appraisal)	September 2022 (tbc)	n/a	n/a
SRA early mapping outputs	Pre-meeting Information Feedback request	Late October 2022 (tbc)	Yes	November 2022 (tbc)
Stakeholder meeting #3 (early SRA recommendations)	**Present and discuss recommendations**	**November 2022 (tbc)**	**n/a**	**n/a**
Response to SRA recommendations	Post-meeting feedback request	Late November 2022 (tbc)	Yes	Mid December 2022 (tbc)
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	December 2022/January 2023 (tbc)	Yes	Late January 2023 (tbc)
Stakeholder meeting #4 (SRA recommendations)	**Final mapping outputs presented**	**January 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	March 2023	n/a	n/a
SA report	Project output circulated	March 2023	n/a	n/a

* *NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Table 2. Agreed hard (grey cells) and soft (white cells) constraints for the Aggregates sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 3. Agreed hard (grey cells) and soft (white cells) constraints for the Wave Energy (seabed) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 4. Agreed hard (grey cells) and soft (white cells) constraints for the Wave Energy (surface) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 5. Agreed hard (grey cells) and soft (white cells) constraints for the Tidal Stream (seabed) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 6. Agreed hard (grey cells) and soft (white cells) constraints for the Tidal Stream (mid-surface) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 7. Agreed hard (grey cells) and soft (white cells) constraints for the Aquaculture Bivalve (seabed) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 8. Agreed hard (grey cells) and soft (white cells) constraints for the Aquaculture Bivalve (suspended) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 9. Agreed hard (grey cells) and soft (white cells) constraints for the Aquaculture Seaweed (suspended) sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes					Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 10. Agreed hard (grey cells) and soft (white cells) constraints for the FOW sector.

Navigation	Fishing*	Cables	Aggregates	Aviation**	Infrastructure	Energy Resource	Heritage & seascape	Military***
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Helicopter Main Routes	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Civil Airport Safeguarding	Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Civil Radar	Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Military Airport Safeguarding	Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))					Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes						Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging						Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes						Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas								

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military airport safeguarding, military air traffic control/ air defence radars and technical sites as well as Areas of Intense Aerial Activity (AIAA) will be included under aviation constraints in agreement with MoD.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 11. Agreed hard (grey cells) and soft (white cells) constraints for the Tidal Range sector.

Navigation	Fishing*	Cables	Aggregates	Infrastructure	Energy Resource	Heritage & seascape	Military**
Shipping density 2019	Fishing Activity UK 15m and Over 2017 (includes value)	Subsea Cables	Offshore Minerals Aggregates Site Agreements	Offshore disposal sites (open)	Offshore Wind Site Agreements	Historic assets	Military Practice Areas (coastal 'live' firing ranges)
Shipping Anchorages	Fishing intensity inshore (<12nm)	Offshore Wind Cable Agreements		Offshore disposal sites (closed)	Offshore Tidal Stream Site Agreements	Seascape sensitivity	Military Practice Areas (offshore)
Recreational Anchorages	Several Orders	Offshore Wave Cable Agreement		Outfalls (energy)	Offshore Wave Site Agreements		
Recreational Sailing		Offshore Tidal Stream Cable Agreements		Diffusers (waste water)	Offshore Natural Gas Storage Site Agreements		
IMO Routeing (excluding Areas to be Avoided (ATBAs))				Pipelines (waste water)	Offshore Carbon Capture and Storage Site Agreements		
Major shipping routes				Coastal Defence	Offshore Meteorological and Oceanographic Equipment Agreements		
Navigational dredging					Offshore Natural Gas Storage Pipeline Agreements		
Lifeline ferry routes					Pipelines, licensed blocks, hydrocarbon fields etc.)		
Harbour Areas							

* Vessels 15 m and over will be captured using total relative 'Effort by KW Hours' or 'Value' across Welsh waters for all gear types combined. However, we are looking at possibly splitting gear types individually for a more nuanced approach or aggregating to mobile and static. We intend to discuss further with the fishing industry and internally within Welsh Government on how best to use the available data.

** Military defence constraints are currently being discussed with the MoD in order to obtain datasets of suitable resolution.

Table 12. Potential for SRA coexistence between differentiated sectors (columns) and the SRAs of other sectors (rows), as suggested by majority of stakeholders. Each column represents the outputs of each sector differentiated workshop against the SRAs of the sectors listed in each row. Good potential = Category 1 or 2; Limited potential = Category 3 or 4.

Sectors	Aggregates Workshop Outputs	Wave Energy (Seabed) Workshop Outputs	Wave Energy (Surface) Workshop Outputs	Tidal Stream (Seabed) Workshop Outputs	Tidal Stream (Mid surface) Workshop Outputs	Aquaculture Bivalve (Seabed) Workshop Outputs	Aquaculture Bivalve (Suspended) Workshop Outputs	Aquaculture Seaweed (Suspended) Workshop Outputs	FOW Workshop Outputs	Tidal Range Workshop Outputs
Aggregates	N/A	Limited	Good	Limited	Good/Limited	Limited	Limited	Good/Limited	Limited	Good
Wave Energy (seabed)	Limited	N/A	N/A	Good	Good	Limited	Limited	Good	Limited	Limited
Wave Energy (surface)	Limited	N/A	N/A	Good	Good	Limited	Limited	Limited	Limited	Limited
Tidal Stream (seabed)	Limited	Limited	Good	N/A	N/A	Limited	Limited	Good	Limited	Good/Limited
Tidal Stream (mid-surface)	Limited	Good/Limited	Good	N/A	N/A	Limited	Limited	Limited	Limited	Good/Limited
Aquaculture bivalve (seabed)	Limited	Good/Limited	Good	Limited	Good/Limited	N/A	Good	Good	Limited	Good
Aquaculture bivalve (suspended)	Limited	Good	Good/Limited	Limited	Good/Limited	Good	N/A	Good	Limited	Good
Aquaculture Seaweed (suspended)	Limited	Good	Good/Limited	Limited	Good/Limited	Good	Good	N/A	Limited	Good
FOW	Good	Good	Good	Good	Good	Good	Good	Good	N/A	Good/Limited
Tidal Range	Limited	Limited	Good/Limited	Good	Good	Good	Good	Good	Limited	N/A

Developing Strategic Resource Areas (Sar's) for Marine Planning

Subject	Stakeholder feedback responses summary and refined mapping outputs
Date sent	31/08/2022
Objective	Stakeholder feedback – Technical Constraints
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which the Welsh National Marine Plan's (WNMP) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range
Tidal Stream
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** opportunities and constraints / considerations in line with the principles of Sustainable Management of Natural Resources (SMNR). In parallel, a Sustainability Appraisal (SA) will be carried out to frame the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is being used to shape the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops have been and will be held over the duration of the SRA mapping project. These are being supported by documentation circulated to stakeholders for feedback and information (Table 7).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

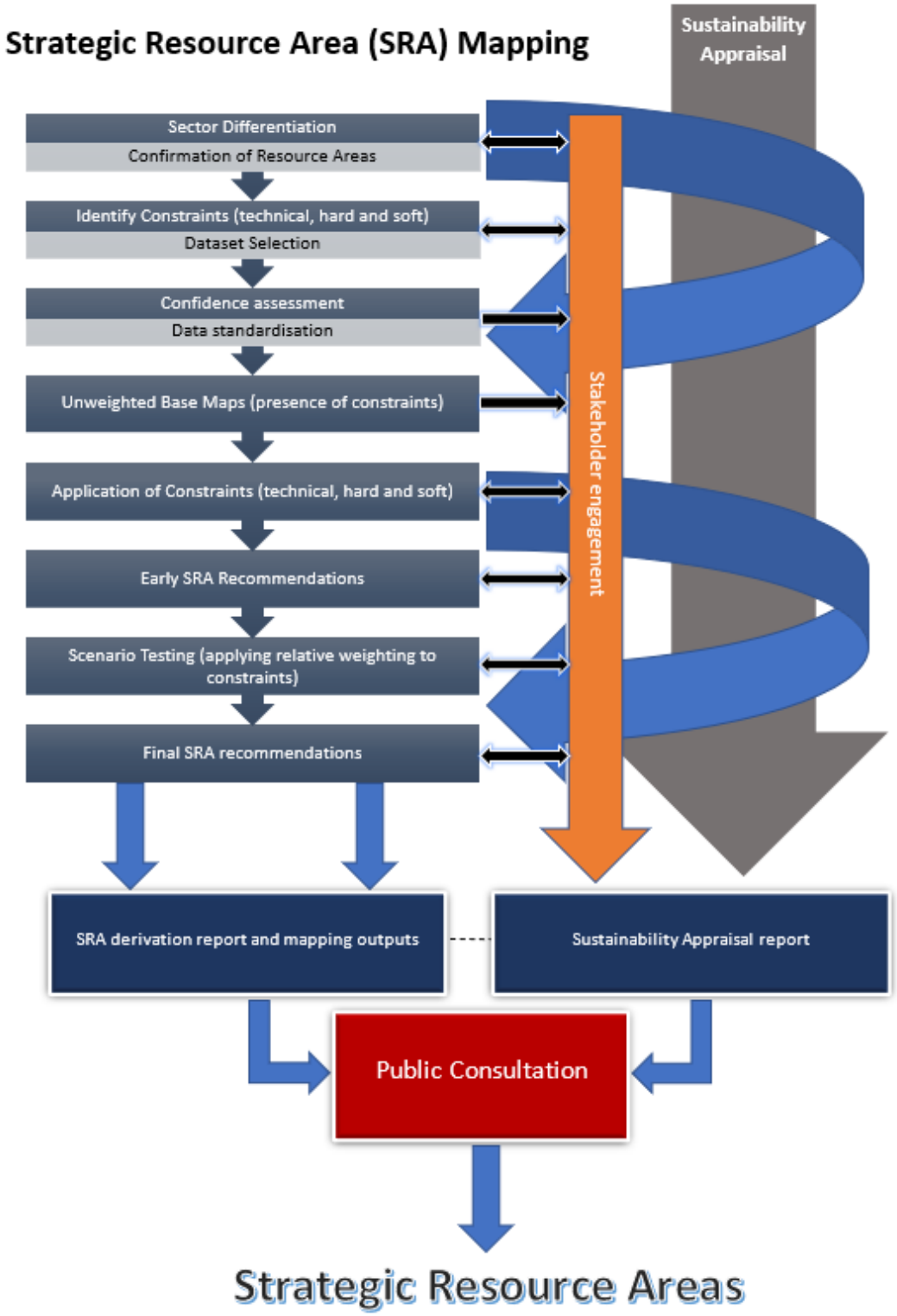

Figure 1: The SRA mapping process

Questions received during this event and the project team's responses were summarised and shared with technical stakeholders on 18 March 2022.

In March 2022, stakeholders were invited to respond on the first three steps of the spatial analysis activity:

Step 1 – Sector differentiation;
Step 2 – Confirmation of Resource Areas (RAs); and
Step 3 – Identify constraints.

A summary of the key themes raised by technical stakeholders in relation to these steps was shared with technical stakeholders and **these steps (1-3) have now all been agreed.**

In May 2022, stakeholders were invited to respond on technical constraints, their parameters and also suitable datasets for informing technical constraints '*Technical Constraint Parameters and suitable datasets to inform these constraints'*.

This paper provides a summary of the stakeholder feedback responses received in relation to Technical Constraints as well as indicating how these have been, or will be, addressed during the SRA mapping process.

Following application of the agreed technical constraints, refined mapping outputs are provided against each of the differentiated sectors.

General Comments/ All Sectors

Some comments were received about environmental considerations, specifically:

> ***Marine Protected Areas should be considered hard constraints, though appreciate that this will be picked up further in the SMMNR project.***
> ***Whilst Marine Protected Areas boundaries may not represent a physical entity/attribute like water depth or distance from shore we suggest they are spatial boundaries that can often come with physical constraints to operations. This is therefore a recommendation for consideration for all SRA development areas.***
> ***Environmental constraints should be included and embedded in the SRA process from the beginning. However, we understand the intention is to do this via the SMMNR project.***

However, as the focus of the workshop was social, economic and sectoral constraints no discussion or agreement was reached on these comments. Detailed responses in relation to environmental considerations were also provided in the previous Stakeholder feedback responses summary document, as shared with stakeholders on 19 May 2022.

In summary, there are two parallel evidence workstreams underway which will be considered and inform the SRA mapping process. These include **environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project, and extending this approach to the SRA focus sectors) being progressed by NRW in its capacity as the SNCB. Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer. Further stakeholder events are being organised to specifically discuss the approach to reflecting environmental considerations (27 September 2022) and then soft constraints, including environmental constraints, in November 2022 (date to be confirmed).

Aggregates

Several comments were received which broadly agreed with the proposed technical constraint parameters listed for the aggregates sector, as well as some recommendations.

Comments received included:

> ***The Crown Estate is currently undertaking work to update its Key Resource Area for Marine Aggregates. The study, both desk-based and informed by survey work will identify with greater certainty, the distribution of accessible and quality aggregate resource on the Welsh and English seabed.***
> ***Is the purpose here to identify a much larger SRA than the existing KRA?***
> ***The distribution of rock (hard substrate) does not indicate suitability of aggregate availability, or quality in areas where the hard substrate is not present.***
> ***Bathymetry is useful to determine feasible dredging depth.***
> ***Specifying a minimum resource depth might be more reasonable than "near seabed surface". We understand a minimum of 50cm of substrate must remain after operational works therefore a starting volume/thickness of resource might reasonable to be stated as a physical constraint.***

We are aware that TCE are currently undertaking work to update Key Resource Areas (KRA) for aggregates and, as previously stated, are communicating with TCE in relation to this work. It is our understanding that the updated KRA outputs will not be available within the timeframe of the SRA mapping project. However, potential SRA maps and outputs from this project will be revisited and reviewed by WG to allow for significant data updates, as appropriate.

It should be noted that the existing Aggregates RA (see WNMP, Figure 11) was established through the KRA work identified by The Crown Estate (2014) in addition to including prospective coarse sand and gravel resource areas, and areas known to contain important sand and gravel resources (see Bide et al. 2013). The consideration of technical parameters for SRA development builds upon the work used to derive the existing RA. In this regard, areas of known or prospective aggregate resource are not being considered, only additional constraints which may lead to refinement of the RA.

After consideration we have removed the physical parameter 'distribution of rock on seabed' from the technical constraints. Bathymetry will be taken forward to refine the RA (see Table 1).

Table 1: List of technical (physical) constraints and parameters being taken forward to inform potential SRA mapping of Aggregates.

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10 – 60m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/

Aquaculture

As outlined in the feedback request paper, the physical data relevant to Aquaculture are already encompassed by the existing RA (and therefore as differentiated into Aquaculture Bivalve (seabed), Aquaculture Bivalve (suspended) and Aquaculture Seaweed (suspended). After consideration of stakeholder feedback by the project team, further work to identify technical constraints and parameters for Aquaculture (as differentiated) is not being taken forward. Therefore, no feedback on technical constraints for aquaculture was requested by stakeholders. However, the following recommendation was received.

> ***The Crown Estate is currently undertaking an evidence-based project to update its Key Resource Areas for Aquaculture, including Seaweed, Finfish, Crustaceans and Bivalve aquaculture. We recognise that the available datasets in Sea Surface temperature can be limiting, however this MMO report highlights the importance of Sea Surface Temperature for the cultivation of Aquaculture and the modelling of Resource Areas.https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/854128/MMO1184_AquaPotential_forPub_191210.pdf***

We agree that SST is an important consideration for Aquaculture and acknowledge that this criterion was not used to derive the existing RAs for Aquaculture, as stated in the feedback request paper. Due to the temperature tolerance range of the various species which could be commercially produced (seaweed and bivalve species), the range of temperature in Welsh waters and the level of data resolution, temperature was not included in the technical constraints.

The range of optimal SST varies considerably between bivalve and seaweed species and is beyond the scope of this work which proposes to identify SRAs for aquaculture which are grouped according to a broad aquaculture activity type, rather than species specific.

Floating Offshore Wind

A characterisation study by TCE encompassing Welsh waters, considered technical constraints for FOW (Everoze, 2020). The existing RA for FOW is based on TCE commissioned work. Hence, additional work to identify technical constraints and their parameters for FOW is **not** proposed.

No comments were received in relation to FOW.

Tidal Range

There was general agreement with the proposed technical constraint parameters for tidal range. However, some additional comments and recommendations were made, these included:

There is no mention of tidal speed; would have thought this would be considered. Each site will need to be reviewed individually on a case by case basis to take into consideration specific site constraints and issues.
TCE KRAs technical constraints to be changed to 5+m Mean Spring Tidal Range.

Following dialogue with technical stakeholders we have amended the maximum depth

As set out in the technical constraints feedback request paper, the existing RAs fundamentally cover potential resource availability (i.e. minimum mean spring peak current velocity of 1.5 m/s), and this was a key element to their derivation. The existing RAs are derived from a number of datasets and focussed reports (see RA_Sector_Derivations). As an early step in the Spatial Analyses methodology (RA confirmation) (see Figure 1) we asked stakeholders to confirm whether the identified RAs are broadly representative of the viable resource for the sector and if any significant areas of resource exist outside the RAs. In relation to Tidal Stream there was no disagreement received around existing RA and thus potential resource availability, as shown. While Minesto mid-water technology may be able to operate at a mean spring tidal velocity of 1.2 m/s, given that the category includes surface technologies and stakeholders have not previously raised an issue on the existing RA, we have not changed the resource parameter.

At a high level, design parameters of existing technologies have been considered as has the feedback received specific to this focus sector, recognising the need to encompass the two broadly differentiated technologies (seabed, mid-water/surface). Having considered the recommendation to increase the minimum depth of water for mid-water/surface Tidal Stream, we have increased this from a depth of 5m to 10m Below Chart Datum (BCD) (see Table 3). For Tidal Stream seabed technology, we have kept to a depth range of 20m to 40m BCD, as originally proposed (Table 4). No comments were made in relation to the suggested inclusion of significant wave height as a constraint or the proposed parameter (Table 3 and Table 4).

Please note that within the technical constraints feedback request paper it was *incorrectly* stated that a maximum distance from shore of 5km was used to establish the existing Tidal Stream RA. The existing Tidal Stream RA extends beyond the 12nm limit. However, we will not be using maximum distance from shore as a technical constraint for this sector.

We are grateful for suggestions regarding suitable datasets to assist determination of technical constraints and their parameters.

Table 3: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Tidal Stream (surface and mid-water technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10-120m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Significant wave height	The average height of the highest 1/3 of waves.	Annual Mean significant wave height <2.0m	ABP Marine Environmental Research (ABPmer) http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp?

Table 4: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Tidal Stream (seabed technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	20m-40m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/
Significant wave height	The average height of the highest 1/3 of waves.	Annual mean significant wave height <2.0m	ABPmer http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp?

Wave Energy

There was general agreement with the proposed technical constraint parameters for wave energy (as differentiated into seabed and surface technologies). However, some additional comments and recommendations were made, these included:

For Wave Energy (surface):
Minimum water depth depends on technology
Additional technical constraints:
Maximum distance from shore/port
Analysis of slope and wave height
For Wave Energy (seabed):
Additional technical constraints:
Maximum distance from shore/port
Analysis of slope and wave height
Introductory paragraph for Wave energy suggests the inclusion of distance from shore as a physical constraint however this is not included within the lists. Can specifics be provided?
Datasets for Wave Energy - BGS, IMARDAS, MEDIN, TCE.

As set out in the technical constraints feedback request paper, the existing RAs fundamentally

and this was a key element to RA derivation. The existing RAs are derived from a number of datasets and focussed reports (see RA_Sector_Derivations). As an early step in the Spatial Analyses methodology (RA confirmation) (see Figure 1) we asked stakeholders to confirm whether the identified RAs are broadly representative of the viable resource for the sector and if any significant areas of resource exist outside the RAs. In relation to Wave Energy there was no disagreement received around existing the RA and thus potential resource availability, as shown. Hence, we have not revisited wave height and are using the existing RA as the starting point and area that represents potential suitable resource for this sector.

We agree that minimum/maximum water depth is dependent on technology type and have assigned different depth parameters for seabed and surface technologies (Table 5 and Table 6).

Please note that within the technical constraints feedback request paper it was *incorrectly* stated that a maximum distance from shore was used to establish the existing Wave Energy RA. The existing Wave Energy RA extends way beyond the 12nm limit to the southwest and to the boundary of Welsh waters. Although wave energy technology is still evolving, we note that many of the demonstration technologies are designed for potential deployment far offshore to harness areas of greatest wave energy. After consideration we will not be using maximum distance from shore as a technical constraint for this sector.

We received a comment about the potential inclusion of slope analysis. While we agree that slope analysis is an important consideration for many wave energy devices, due to the range of variations in technology type in addition to the suitability of seabed slope to that technology, we are not progressing this further within the plan level work.

We are grateful for suggestions regarding suitable datasets to assist determination of technical constraints and their parameters.

Table 5: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Wave Energy (seabed technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10m-50m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/

Table 6: List of technical (physical) constraints and their proposed parameters to inform potential SRA mapping of Wave Energy (surface technologies).

Physical	Description	Parameters	Dataset and Source (and Provider)
Bathymetry	Depth contours (generalised)	10m-200m BCD	EMODnet bathymetry - https://www.emodnet-bathymetry.eu/

Next Steps

An updated programme for stakeholder communication is presented in Table 7.

Following review of the responses received in relation to technical constraints we have applied the agreed parameters to the focus sector RAs to initiate refinement of these areas (see Figure 2 to 11).

In June 2022 we completed a series of technical stakeholder workshops to discuss hard and soft socio-economic constraints for SRA mapping. Stakeholder participation and engagement was high for all workshops and there were some very useful feedback and discussions. The outputs of these workshops were shared with stakeholders in July. Following application of the technical constraints, we will soon be applying the agreed hard constraints (see the document *Stakeholder Outputs from Sector Specific Workshops*) to further refine RAs.

Table 7: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information	July 2022	n/a	n/a
Refined RA maps (following application of technical constraints)	Project output circulated	August 2022	n/a	n/a
Refined RA maps (following application of technical **and** hard constraints)	Project output circulated	September 2022	n/a	n/a
Stakeholder meeting #3 (Environmental Considerations)	**Discuss how environmental considerations can most appropriately be incorporated into SRA mapping**	27 September 2022	n/a	n/a
Summary of meeting conclusions	Information	October 2022	n/a	n/a
Stakeholder meeting #4 (Soft constraints and SRAs)	**Present refined maps (technical and hard constraints applied), consider application of soft constraints (socio-economic and environmental)**	November 2022	n/a	n/a
Summary of meeting conclusions	Information	December 2022	n/a	n/a
SRA early mapping outputs (with consideration of soft constraints as agreed)	Early recommendations Feedback request	December 2022 (tbc)	Yes	January 2022 (tbc)
Response to SRA recommendations	Information	January 2022 (tbc)	n/a	n/a
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	Jan/Feb 2023 (tbc)	Yes	Late Feb 2023 (tbc)
Stakeholder meeting #5 (SRA recommendations)	**Final mapping outputs presented**	**Late March 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	April 2023	n/a	n/a
SA report	Project output circulated	April 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Refined Resource Area Mapping Outputs (after application of technical constraints)

Resource Areas are broad areas that describe, for specific sectors, the distribution of a particular resource that is or has the potential to be used (in terms of technical feasibility). Resource Areas do not indicate any appropriateness of potential sector activity within these areas.

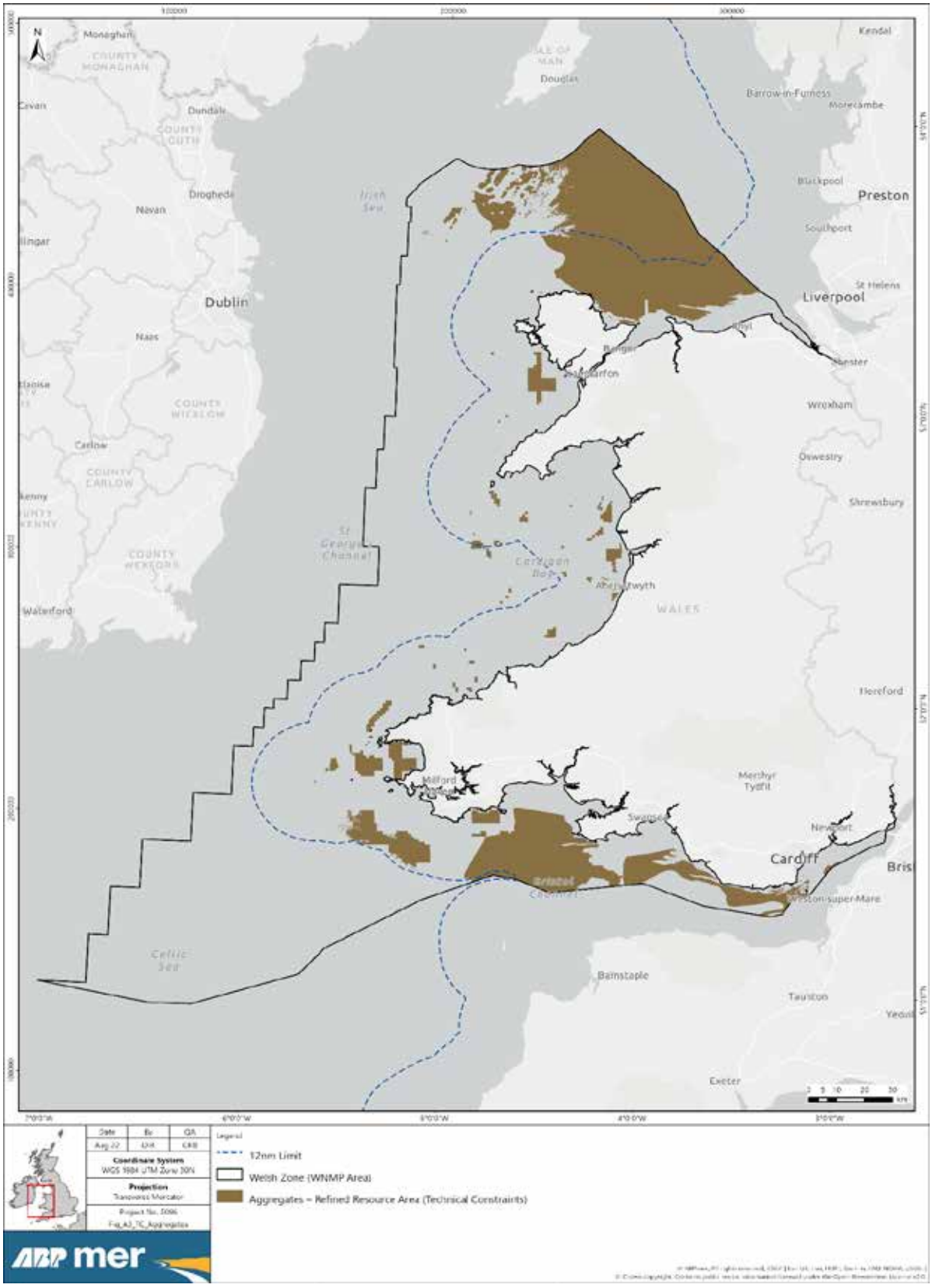

Figure 2: Aggregates Refined Resource Area

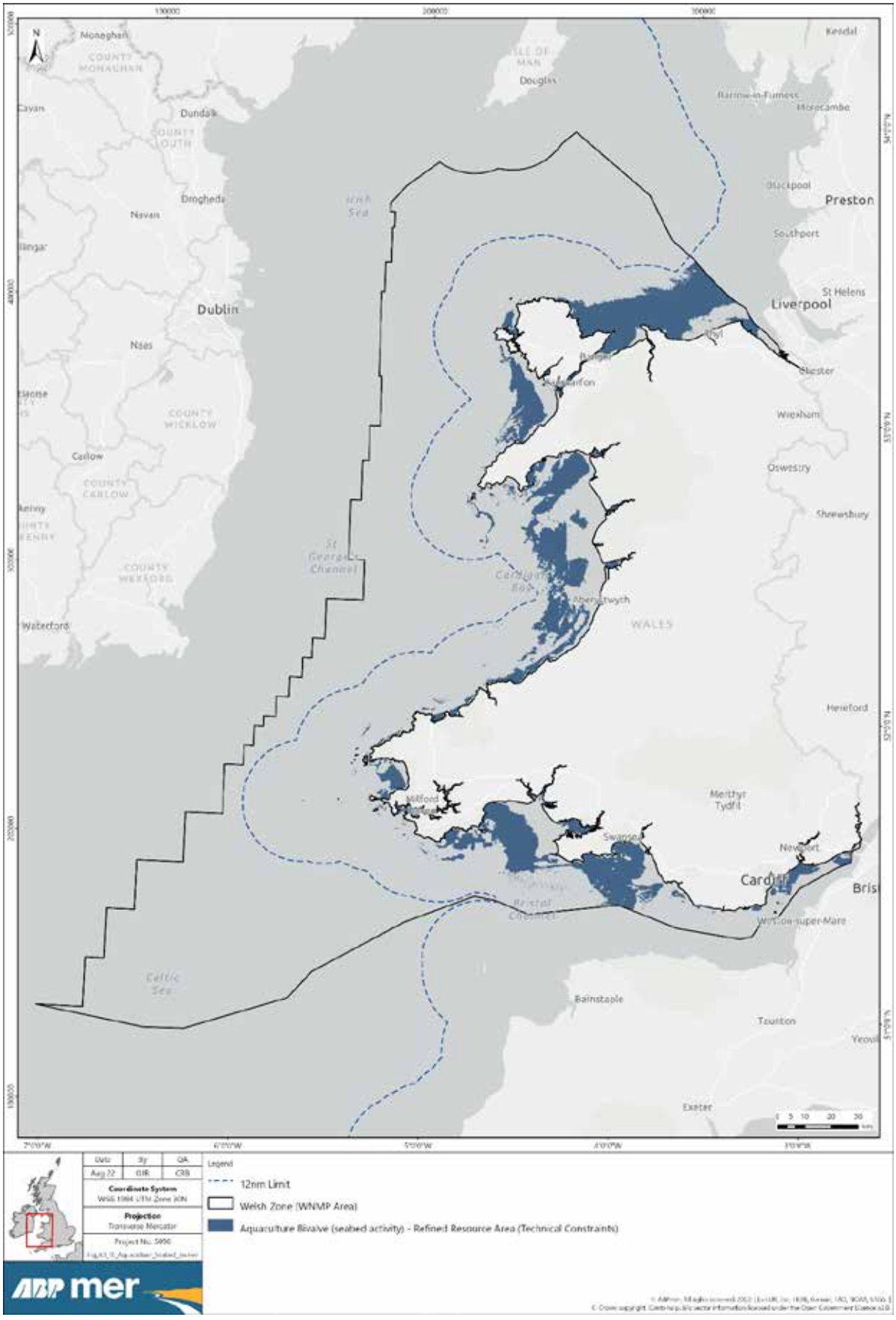

Figure 3: Aquaculture Bivalve (seabed) Refined Resource Area

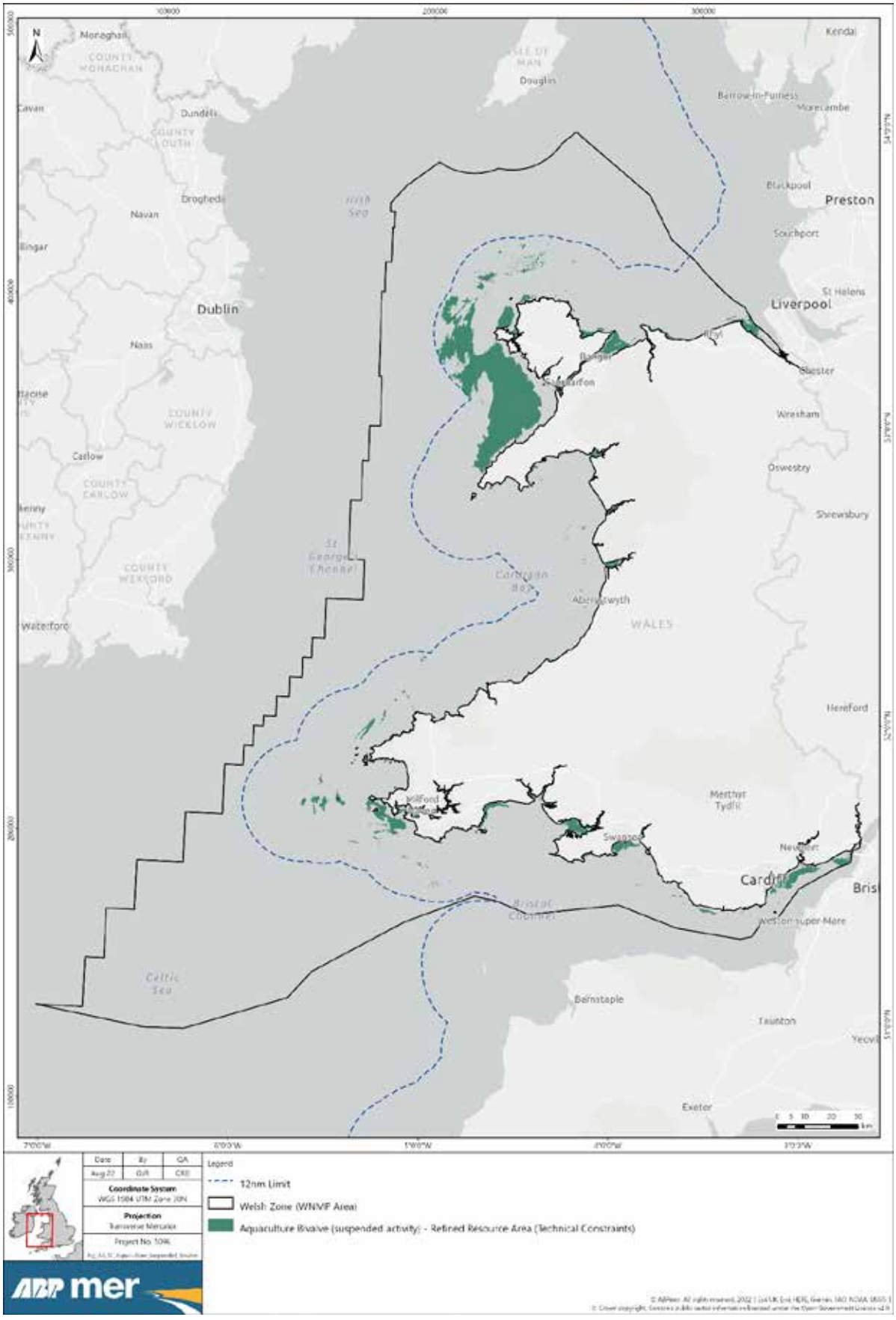

Figure 4: Aquaculture Bivalve (suspended) Refined Resource Area

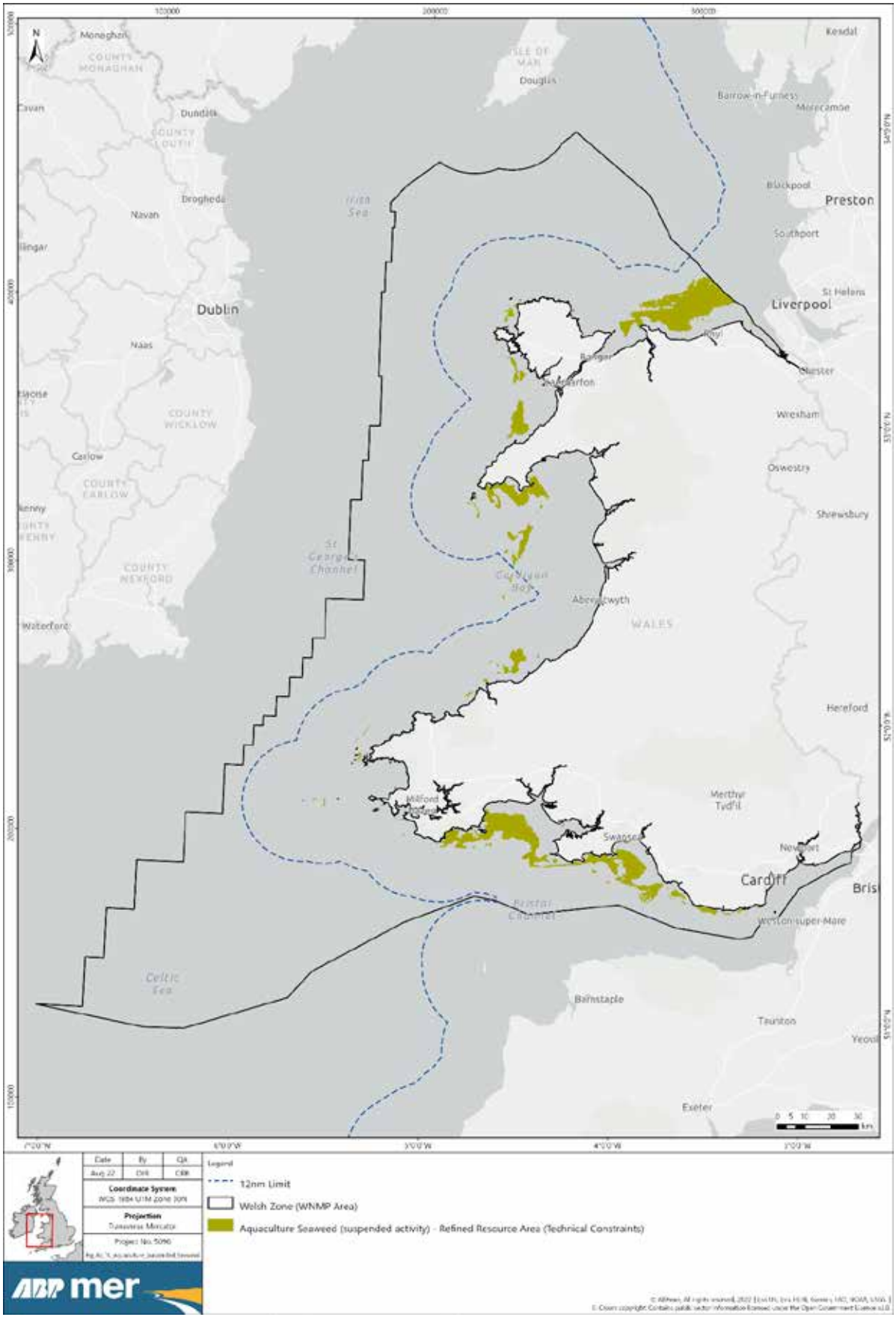

Figure 5: Aquaculture Seaweed (suspended) Refined Resource Area

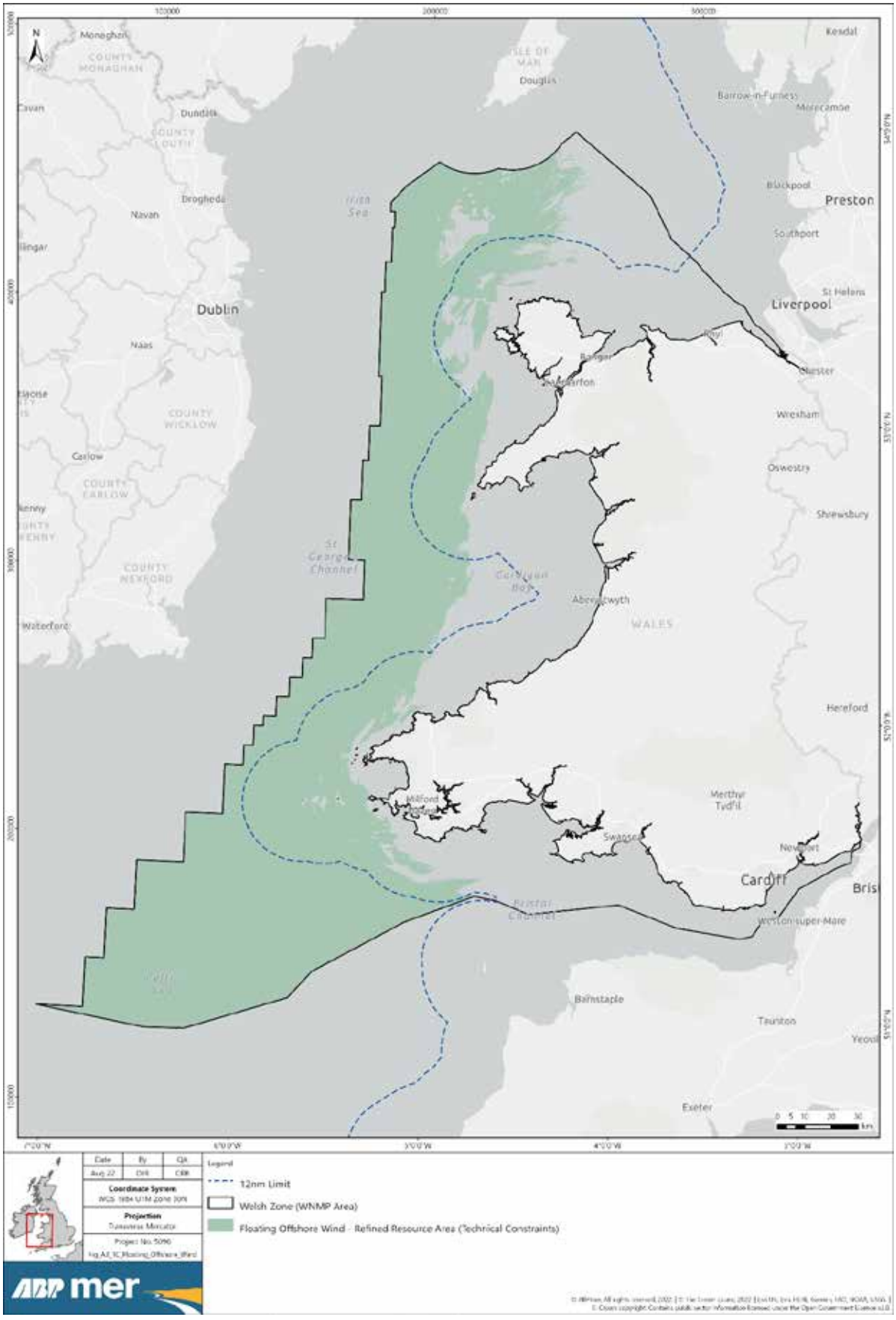

Figure 6: Floating Offshore Wind Refined Resource Area

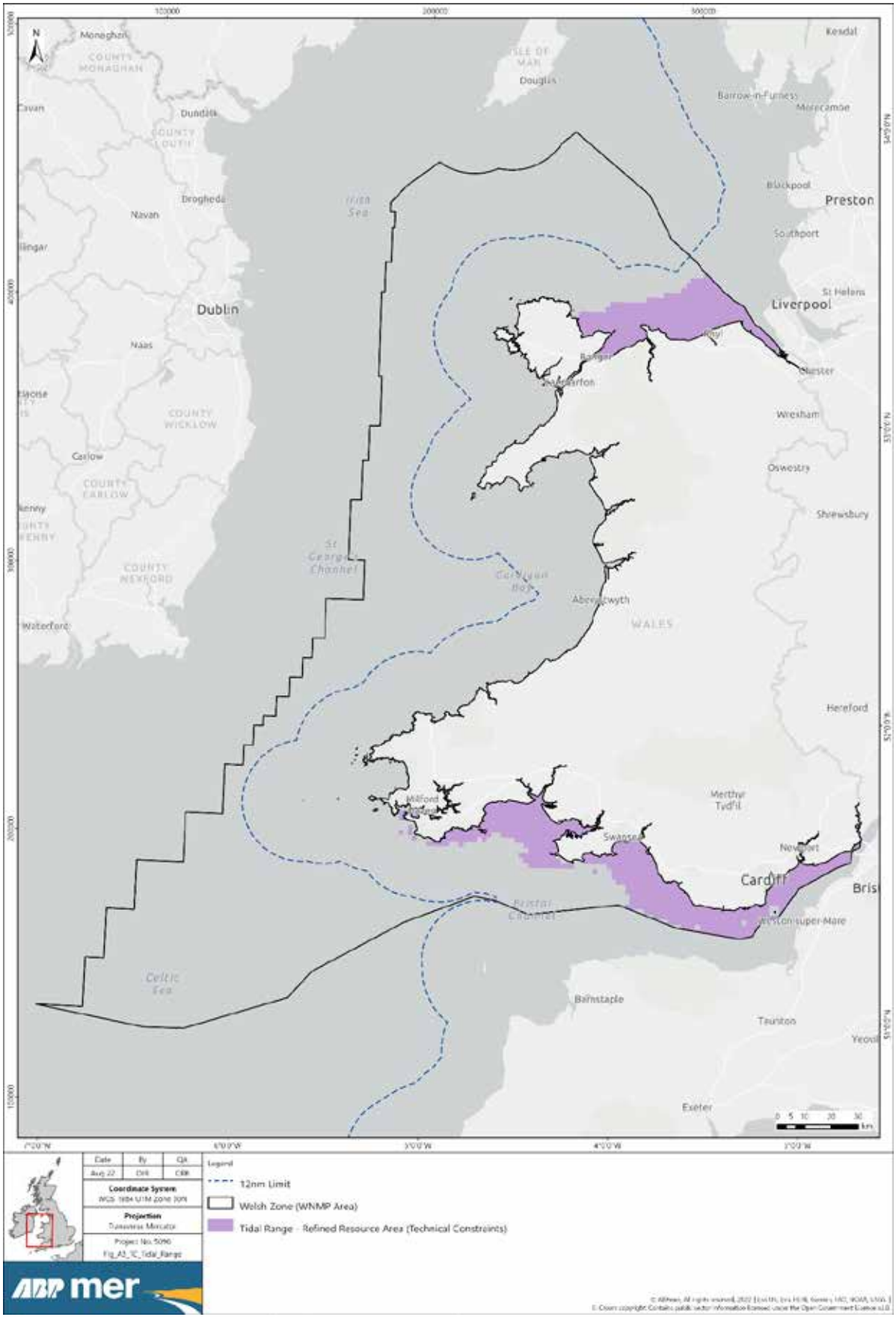

Figure 7: Tidal Range Refined Resource Area

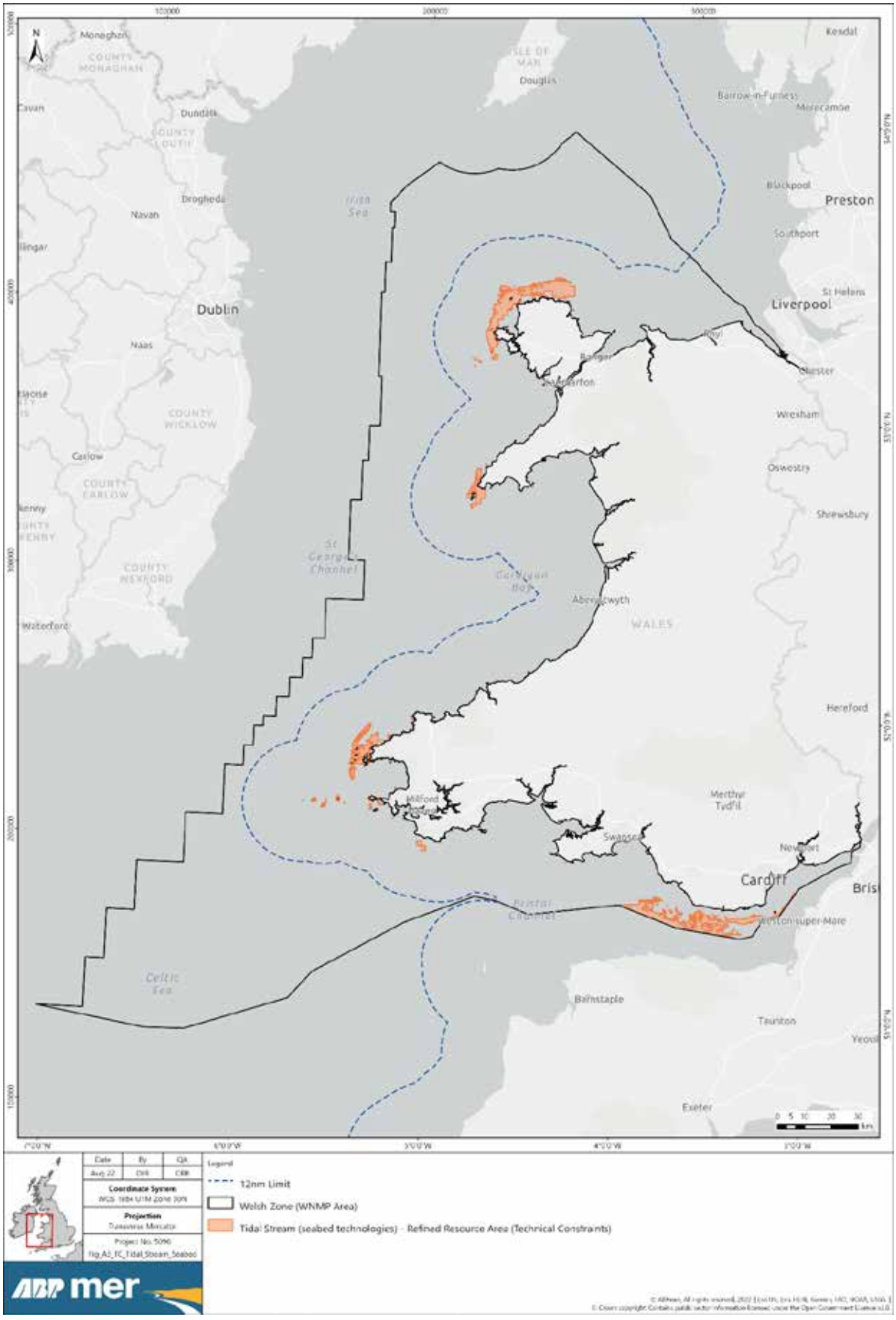

Figure 8: Tidal Stream (seabed) Refined Resource Area

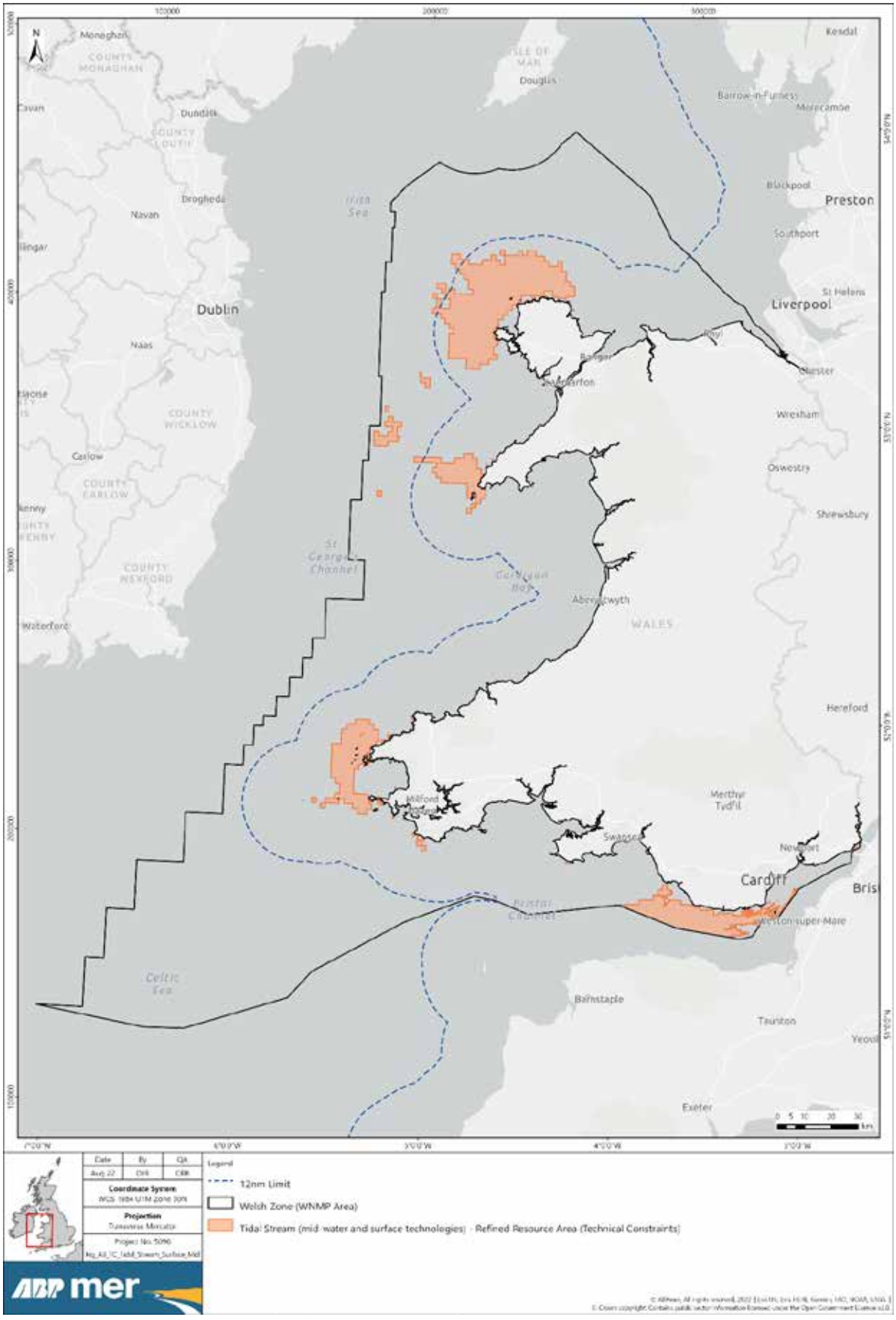

Figure 9: Tidal Stream (surface and mid-water) Refined Resource Area

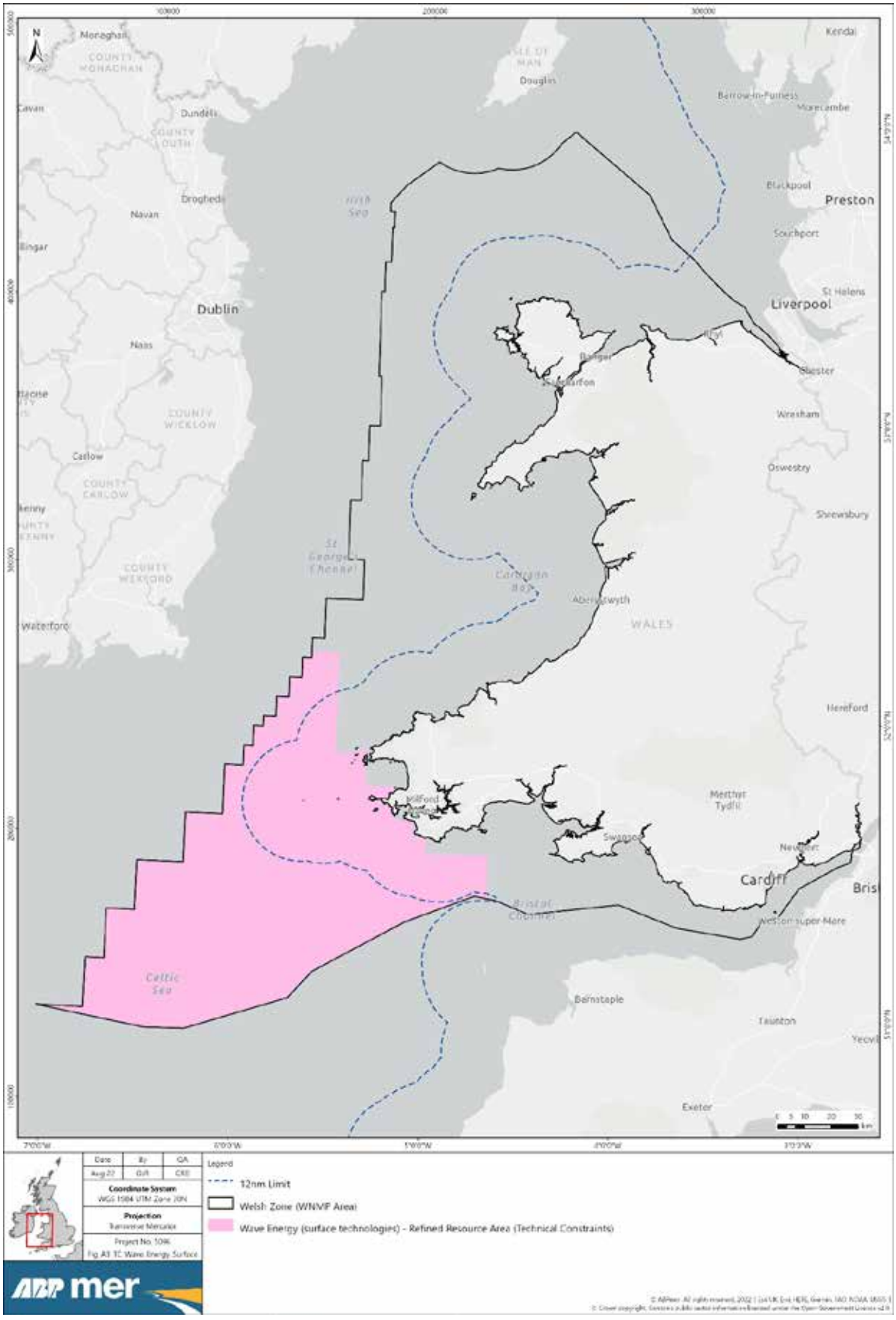

Figure 10: Wave Energy (surface) Refined Resource Area

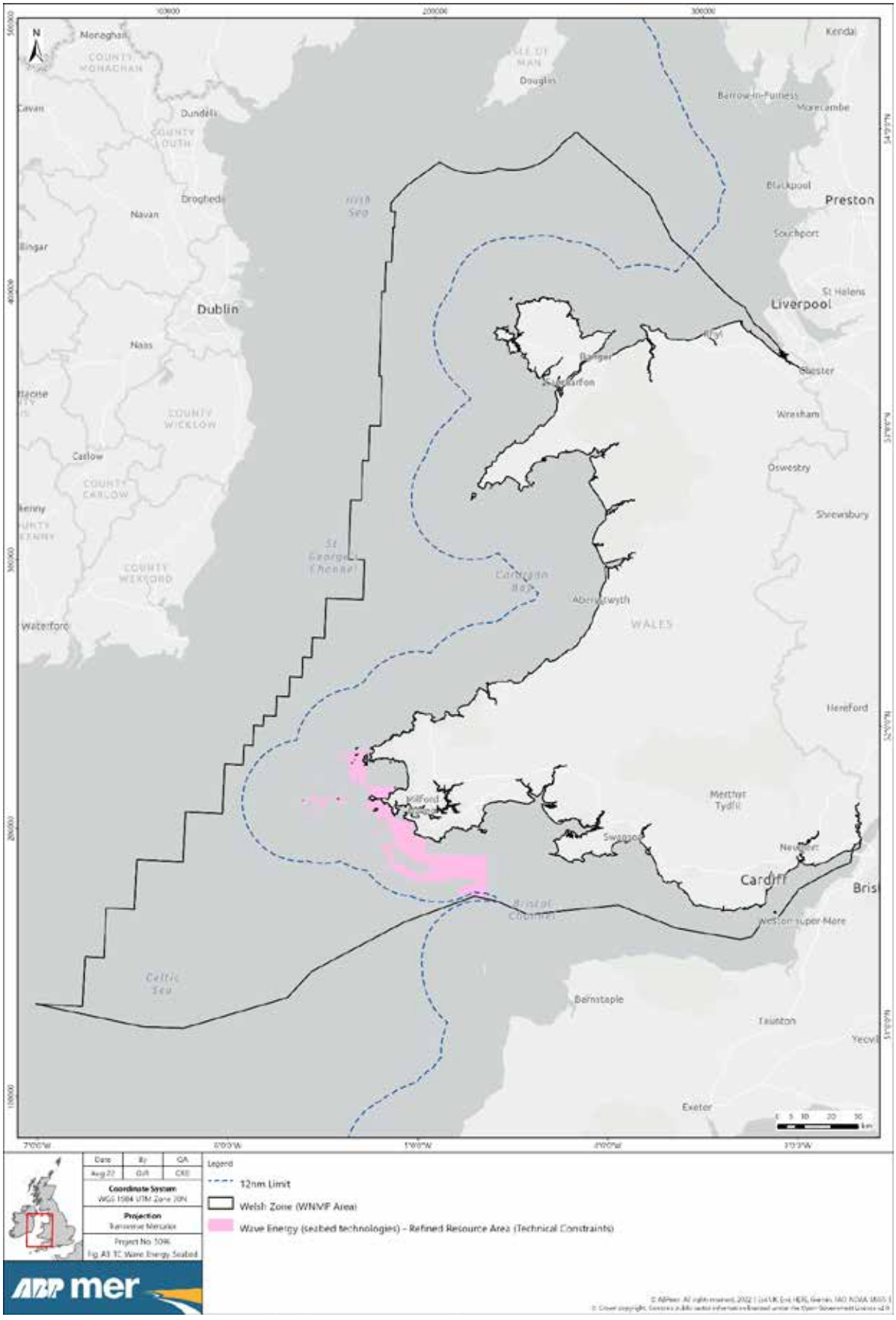

Figure 11: Wave Energy (surface) Refined Resource Area

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Environmental Considerations Event
Date sent	22/09/2022
Objective	Pre-event information
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	Welsh Government and ABPmer
To	Technical stakeholders

Introduction

The SRA mapping stakeholder event on 27 September will discuss the approach to reflecting environmental considerations in relation to activating Welsh National Marine Plan resource safeguarding policy (through mapping Strategic Resource Areas (SRAs)).

This paper provides an overview of SRAs and the SRA mapping project, setting the context for the discussion. It also signposts to key questions to be discussed at the event.

The Welsh National Marine Plan

The **Welsh National Marine Plan** **(WNMP)** establishes a strategic framework of statutory planning policy, directing decision making by public authorities and ensuring environmental, socio-economic and cultural considerations are considered.

The WNMP is supplemented through formal planning guidance, including **Marine Planning Notices (MPNs)**. MPNs provide guidance for implementation of WNMP policies or development in specific areas. MPNs are a material consideration in decision-making by public authorities.

The purpose and function of SRAs

Welsh Government is mapping SRAs to identify and safeguard discrete areas of resource with realistic potential for future use by the focus sectors[1].

[1] Aggregates, Aquaculture, Floating Offshore Wind, Tidal Range, Tidal Stream, Wave Energy, sectors considered to have potential to sustainably expand activity footprints over the WNMP plan period.

This safeguarding would be achieved through activating a single WNMP policy – safeguarding policy SAF_02 – in relation to any SRAs which are introduced.

This would require decision makers, when assessing a proposal located in an SRA against the framework of WNMP policies (including the environmental policies), to add safeguarding policy SAF_02 to this existing assessment.

Activating WNMP safeguarding Policy SAF_02 for an SRA aims to:

- **Ensure other sectors demonstrate how they will address compatibility with potential future resource use by that SRA's focus sector, or**
- **Present a clear and convincing case for proceeding**.

WNMP safeguarding Policy SAF_02, and therefore SRAs:

- Do not confer any rights for use or development.
- Do not imply a scale or rate of development.
- Proposals from the focus sectors would not have to be located in any SRAs identified for those sectors.

Environmental impacts of any developments are and will continue to be picked up through the WNMP's environmental policies and through robust environmental regulations. Identifying and implementing an SRA will have no effect on the consideration of environmental impacts as part of the decision making process.

HRA and SEA screening reports on SRA mapping

In autumn 2021 Welsh Government commissioned Wood Group UK Ltd to prepare Habitats Regulations Assessment (HRA) and Strategic Environmental Assessment (SEA) screening reports in relation to SRA development and the MPN introducing SRAs.

These independent screening reports highlight that:

- The MPN introducing SRAs will be entirely supplementary to the WNMP; it will not introduce any new policies, and cannot conflict with any WNMP policies (including the environmental policies).
- SRAs operate with WNMP policy SAF_02, which safeguards resources against inappropriate sterilisation and was appraised as part of the HRA and the Sustainability Appraisal (SA) and SEA undertaken on the WNMP.
- SRAs do not safeguard resources for any specific development proposals, they will not set the framework for future development consent nor will they promote any development.
- All proposals coming forward within, or overlapping with, an SRA must follow normal authorisation and consenting procedures (including all environmental regulations).
- SRAs will have no bearing on the acceptability (or not) of specific developments; they will not confer any rights, support or provide planning determination benefit; nor imply any scale or rate of development or resource use.

The screening reports did not, therefore, indicate a requirement to engage SEA or HRA Appropriate Assessment processes in relation to resource safeguarding through SRAs. Welsh Government will keep these findings under regular review.

Questions

We would welcome the opportunity to discuss the HRA and SEA screening opinions, in particular:

- **Whether you agree with the HRA and SEA screening opinions that, as formulated, SRAs do not, and cannot, lead to environmental impacts;**
- **If you do not agree with the HRA and SEA screening conclusions, in what ways and how do you consider SRAs will impact the environment?**

Evidence

Welsh Government is developing spatial evidence and mapping to:

- Understand the environmental, cultural and socio-economic factors which need to be taken into account when planning for sustainable sector development in a particular place; and
- Provide spatially specific guidance to help understand what activity is likely to be appropriate in a particular place.

This includes:

- Online storyboard-style environmental mapping and evidence packages for the tidal stream, wave energy and aquaculture sectors[2]. NRW is further developing this work, including by extending the approach to the other focus sectors i.e. tidal range, floating offshore wind and aggregates sectors.
- Sector Locational Guidance (SLG) to help guide the tidal stream, wave energy and aquaculture sectors in planning for future development and to signpost activity towards appropriate areas.

This evidence, together with the evidence and mapping developed through SRA mapping, can inform future work to develop marine planning tools providing greater spatial direction for development.

Mapping SRAs

ABPmer are mapping SRAs using spatial analyses, guided and supported by a Sustainability Appraisal (SA) and stakeholder engagement. Spatial analyses include:

- Applying technical criteria to best represent the resource most likely to be practically and economically viable;
- Applying other sectoral spatial needs to refine the extent of the SRA; and
- Identifying environmental, social and economic constraints.

Constraints are categorised as:

- Hard constraint: a spatial consideration which means, for the lifetime of that constraint, operation of a particular sector is, in practice, not possible.
- Soft constraint: a spatial consideration, which may have a varying degree of relevance to the prospects and nature of sector operation.

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[2] Through the Sustainable Management of Marine Natural Resources (SMMNR) project.

Following an introductory stakeholder event in March, a series of sector-specific technical workshops were held during June. Supplemented by stakeholder feedback exercises, this has enabled:

- Agreement of sector differentiation;
- Identification of technical and hard constraints;
- Identification and weighting of socio-economic soft constraints;
- Production of revised wider Resource Area mapping, reflecting areas of technically viable resource.

Environmental Considerations and mapping SRAs

The WNMP (paragraph 55) states that Welsh Government should "[i]dentify environmental constraints and opportunities relevant to the SRA.

One of the SRA Design Criteria is to take account of soft constraints (e.g. existing activity, environmental considerations, social/cultural considerations) and amend a potential SRA as appropriate.

As part of the SRA mapping process, ABPmer are carrying out a Sustainability Appraisal (SA), framing the mapping of SRAs and the activation of the WNMP safeguarding policy SAF_02 in the context of sustainable development.

Evidence on environmental (and social) constraints and opportunities is being considered as part of SRA mapping, enabling consideration of their potential use to refine proposed SRA boundaries. Maps of environmental (and social) considerations will also be important evidence to be published alongside SRAs, ensuring relevant environmental (and social) constraints and sensitivities are presented and can be considered early in the project development process.

Questions

We would welcome the opportunity to discuss potential approaches for reflecting environmental considerations in the SRA mapping process, including:

> **How you consider that environmental considerations will affect the safeguarding of resources;**
> **If you consider that activating SAF_02 in an SRA has consequences for the environment, how you consider that environmental considerations should be best reflected in SRA mapping.**

Following this event, we aim to hold another stakeholder event in November to consider further how soft constraints (environmental and socio-economic) should be acknowledged and presented within the SRA mapping project.

We would also like to discuss, at both events, how the evidence, spatial analyses and mapping being progressed for SRAs could be used to support future marine planning work to provide greater spatial direction for development.

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Environmental considerations event -overview of comments made by stakeholders
Date sent	12/10/2022
Objective	Stakeholder feedback – environmental considerations
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range Energy
Tidal Stream Energy
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** considerations. In parallel, a Sustainability Appraisal (SA) will be carried out to frame the potential identification of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is shaping the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops are being held over the duration of the SRA mapping project. These are being supported by documentation circulated to stakeholders for feedback and information (Table 1).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

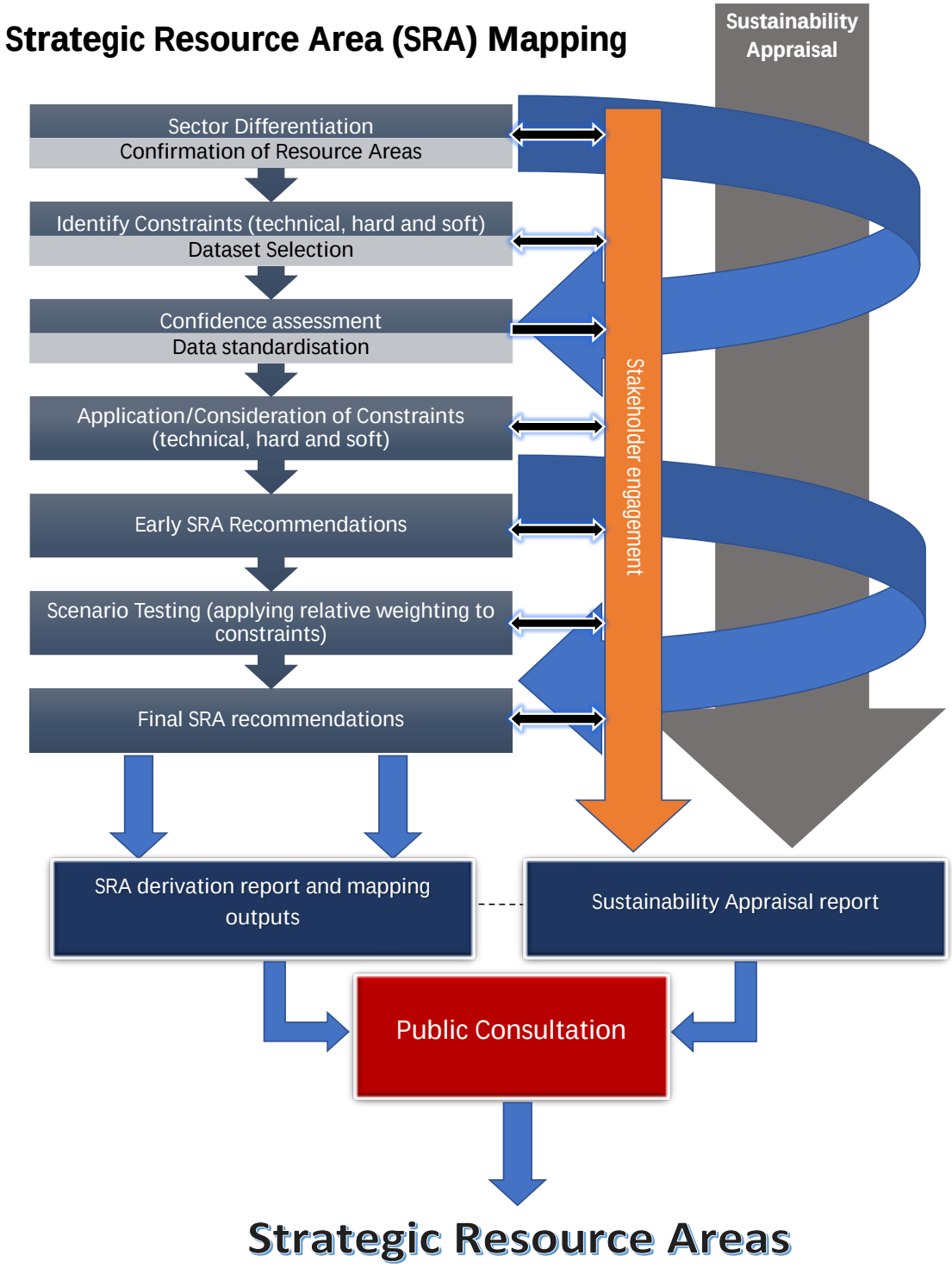

Figure 1: The SRA mapping process

In June 2022 a series of sector specific virtual workshops, the second stakeholder engagement event, were held with technical stakeholders; the key objectives for each workshop were to:

> Agree categorisation of socio-economic constraints (hard/soft; soft category);
> Identify and agree suitable datasets; and
> Agree sector-sector interactions of potential overlap with SRA boundaries.

A summary of the June 2022 workshop outcomes, based on the stakeholder input and discussions held during the June workshops, was circulated to stakeholders.

As previously communicated to stakeholders, there are two parallel evidence workstreams underway which will be considered to inform the SRA mapping process. **Environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project), is being progressed by NRW in its capacity as the Statutory Nature Conservation Body (SNCB). Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer and was the focus of the June 2022 workshops.

The third stakeholder engagement event, which was specific to Environmental Considerations, took place on 27 September 2022. There were 31 attendees from 20 organisations, including environmental non-governmental organisations (eNGOs), SNCBs, developers and regulators. The key objectives of the 'Environmental Considerations' event were to:

> Ensure common understanding of SRAs, SAF_02 and their role in decision making;
> Discuss how Environmental Considerations may be most appropriately incorporated into SRA mapping; and
> Discuss the Habitats Regulations Assessment (Strategic Resource Areas and Marine Planning Notices: Habitats Regulations Assessment | GOV.WALES) and Strategic Environmental Assessment (Strategic Environmental Assessment: screening of the Strategic Resource Area marine planning notice | GOV.WALES) conclusions.

This paper provides a summary of stakeholder comments which were made during the event. Welsh Government is currently considering and reviewing these comments, and is grateful to stakeholders for their time and input.

Event

ABPmer initially provided an overview of the SRA mapping project as well as an update on progress. Welsh Government gave a presentation on the WNMP (including environmental, social, economic and sector specific policies) and how the environment has been considered in WNMP development.

The purpose of SRAs was presented and discussed. SRAs are a tool to alert developers that a resource may be sterilised by another activity. This should be a consideration in authorisation decision making alongside the wider framework of WNMP environmental policies and regulatory environmental protections which apply irrespective of SRAs (including project-level HRA / EIA). Finally, environmental considerations in SRA development were discussed.

Stakeholder feedback was requested, in response to specific questions posed during three sessions:

> Interactive Session 1 – questions on HRA and SEA screening conclusions.
> Interactive Session 2 – questions on environmental considerations in SRA development.
> Interactive Session 3 – questions on wider use of the evidence base.

The following sections cover questions posed to stakeholder in each session and provide an overview of points made by stakeholders during the discussion.

Interactive Session 1 - HRA and SEA screening conclusions

Welsh Government provided an overview of the conclusions of the:

> Strategic Resource Area and Marine Planning Notice: Strategic Environmental Assessment: screening of the Strategic Resource Area marine planning notice ; and
> Strategic Resource Areas and Marine Planning Notice: Habitats Regulations Assessment screening.

It was emphasised the conclusions are nuanced, so should be read in full.

In summary, HRA and SEA screening concluded that: "… SRA MPN(s) will have no likely significant effects, alone or in combination, on any European sites …" based on the fundamental characteristics of the MPN, i.e.:

> The intent for SRAs to safeguard resources against inappropriate sterilisation and facilitate proactive dialogue between sectors.
> That SRAs confer no development rights.
> That all proposals coming forward within an SRA must follow normal authorisation and consenting procedures and the overarching WNMP protective policies.
> Case practice from HRA in other sectors.

In consequence, the requirements for SEA under the relevant regulations are not met, so there is no formal requirement to complete a SEA.

However, whilst a Sustainability Appraisal of the SRA MPN need not be undertaken, Welsh Government has chosen to commission one to guide SRA development.

The following questions were posed to stakeholders during Interactive Session 1:

1) **Do you agree with the HRA and SEA screening opinions that, as formulated, SRAs do not, and cannot, lead to environmental impacts? *N.B. The HRA and SEA screening opinions are to be kept under active review and will not conclude until the content of any MPN introducing SRAs is finalised.***

2) **If you do not agree with the HRA and SEA conclusions, in what ways and how do you consider SRAs will impact the environment?**

The following provides an overview of comments made by stakeholders during this session. These comments represent the views and opinions of stakeholders present at the event.

Stakeholders agreed unanimously with the paraphrased HRA and SEA conclusions i.e. that, as formulated, SRAs do not, and cannot, lead to environmental impacts.

In support of this response, a stakeholder noted it's very difficult to say how SRAs can lead to environmental impacts given that the policy they bring into effect purely requires one sector to avoid adversely affecting the future prospects of a safeguarded sector and there is no presumption in favour of development in these areas.

It was also suggested by a stakeholder that, in their opinion, SRAs would not cause environmental impacts but would instead reduce them by encouraging development in more appropriate locations.

It was highlighted by a stakeholder that the phrasing used needs to ensure interpretation is correct by developers; i.e. that the SRAs in themselves do not lead to environmental impacts, and environmental impacts will be assessed through the usual channels (project-level regulatory assessments etc.) and that the assessment of risks to the environment have not been made upfront.

stakeholder noted that the English marine plan HRA was encouraged to go down the Habitats Regulations derogation route, reflecting that supportive policies and / or areas of potential could lead to proposals which themselves may need to go down the derogation route at project level. A stakeholder also queried whether, if areas of strategic resource have been proposed, there should also be consideration of areas of strategic compensation. However, it was emphasised by another stakeholder that the WNMP, including policy SAF_02 (which would be activated in relation to any identified SRAs), has already been subject to HRA and Sustainability Appraisal (also incorporating SEA), which concluded no adverse impact from the WNMP's policies, including the supporting policies. So this discussion is around assessment of activation of MPN(s) (for resource safeguarding SRAs) only.

It was also suggested by a stakeholder that it might be better to have the aspiration that SRAs and the activation of SAF_02 should not lead to impact (noting that there is always likely to be an impact of some sort on some aspect of the environment).

One stakeholder queried whether the existence of SRAs would encourage more developments that would have impacts, and are these impacts then attributable to the SRAs or the developments? It could also be argued that SRAs will not cause impacts but will instead reduce them by encouraging development in more appropriate locations.

Some stakeholders caveated their responses with additional considerations. It was suggested that care is needed with paraphrasing and, due to the nuances, reference to the full wording of the HRA and SEA conclusion is required, to clarify how SRAs will not lead to environmental impacts. Others suggested that it is very difficult to say SRAs cannot lead to environmental impact with any certainty, as the purpose of SRAs is to determine and safeguard areas of potential future use of natural resources by sectors and that use could have direct or indirect environmental impacts.

Interactive Session 2 - environmental considerations in SRA development

In summary, Strategic Resource Areas:

Describe (map) and safeguard discrete areas of resource
Facilitate proactive dialogue between sectors
Ensure plans to expand resource use do not inappropriately constrain other sectors
Provide a step towards more spatially focused and coherent marine spatial planning

They do not:

Confer any rights for use or development
Remove any requirements to comply with environmental regulation (and policies in the WNMP), which continue to apply irrespective of SRAs
Prescribe future development scenarios
Constrain the focus sector to the SRA

During Interactive Session 1, stakeholders agreed unanimously with the paraphrased HRA and SEA conclusions i.e. that, as formulated, SRAs do not, and cannot, lead to environmental impacts. The following questions were posed during Interactive Session 2:

3) **Recognising the purpose of activating safeguarding policy SAF_02 within SRAs, how do you consider that environmental considerations will affect the safeguarding of resources?**

4) **If you consider that activating SAF_02 in an SRA has consequences for the environment, how do you consider that environmental considerations should be best reflected in the mapping of potential SRAs, e.g., are they a hard constraint, soft constraint or evidence to inform interpretation?**

5) **If you consider environmental considerations are to be treated as hard constraints, under which legal mechanism could this be applied?**

6) **What potential unintended consequences might there be if MPAs were to be applied as hard constraints to refine SRA boundaries?**

The following provides an overview of comments made by stakeholders during this session. These comments represent the views and opinions of stakeholders present at the event.

Following unanimous agreement with the paraphrased HRA and SEA conclusions, stakeholders agreed unanimously that environmental considerations could affect the safeguarding of resources. However, there was a wide range of diverging views regarding the suitability of applying environmental considerations as hard constraints for SRA mapping. Many stakeholders were strongly supportive of doing this (see below). Other stakeholders raised concerns about unintended consequences and noted derogations within environmental regulation. Some stakeholders noted the importance of providing evidence specific to

individual SRAs, noting maps of environmental considerations could accompany MPNs, helping developers understand the range of considerations in relation to particular areas of resource.

Consideration of the environment as a hard or soft constraint

A wide range of diverging views were expressed regarding whether environmental considerations should be applied through SRA mapping as hard or soft constraints and no consensus was reached.

It was suggested that environmental considerations could be a hard constraint at project level and a soft constraint overall [at plan level], while noting the importance of reassessing for each scheme / application to allow the nuances / specifics to play out. It was suggested that, depending the SRA focus sector and/or the type of environmental consideration (whether a designated feature or other consideration), the environmental constraint could be either a hard or soft constraint.

It was also noted that there will always be a call for additional evidence and the importance was noted of ensuring clear understanding that a lack of evidence of a specific consideration doesn't necessarily mean it doesn't exist.

It was suggested that environmental considerations must be a hard constraint at project-level but their treatment as a soft constraint at plan-level creates the risk of them being viewed as secondary and that maybe the environment should be treated as a sector in its own right. Another stakeholder suggested that treating environmental considerations as a hard constraint would provide developers with more certainty around considerations for the siting of their sector.

However, it was noted by a stakeholder that it would be difficult to have the environment as a hard constraint, given the derogations e.g. the option of IROPI, afforded by legislation.

SRAs to protect the environment beyond MPAs, e.g. relating to spatial requirements for good environmental status, were suggested i.e. safeguarding areas for environmental restoration.

A question was posted "What are your hard constraints - MPAs, areas for potential restoration? Noting that this needs to be decided and applied to the SRA design principles.

Legislative mechanisms to treat the environment as a hard constraint

It was suggested that there may not be one legal mechanism that applies to all sectors. Stakeholders felt it also depends on which environmental factor you're considering and the nature of devolved and reserved powers. Some species have strict guidance that their shelter / feeding / breeding areas must not be disturbed or destroyed, making them a hard constraint [for development] (this is the same for some habitats). The Wellbeing of Future Generations was also cited as important. For complex situations where there may be overlap (non-conflicting or otherwise), legal mechanisms may not be clear without first seeking advice from counsel.

However, it was noted that Habitats Regulations and the Marine and Coastal Access Act would not be completely a hard constraint in all cases due to derogations, but would set precedent for consideration of environment as its own sector in any SRA. Various cultural heritage / historic assets in the marine environment also have formal legal protection.

Unintended consequences if MPAs applied as hard constraints

A wide range of views were expressed.

Stakeholders noted that Competent Authorities must be able to take proportionate decisions; certain sectors (particularly nationally significant infrastructure projects e.g. energy) may consider treating MPAs as a hard constraint as disproportionate given that there are already developments sustainably operating in and around MPAs. Cumulative impacts are an important issue but these need to be addressed at the appropriate point in the planning process.

Stakeholders also noted that treating MPAs as hard constraints will potentially look very strange when it comes to project level assessments, in that they cannot be considered as a hard constraint at that point. Treating MPAs as hard constraints may also prevent / limit the incorporation of new evidence (e.g. to amend boundaries of SRAs), e.g. on the distribution of species / habitats or new understanding, such as on impact pathways from sectors to receptors, as and when it becomes available. There could also be issues in terms of how future changes to the MPA network could be considered and incorporated into SRAs, i.e. the addition of new designated sites. Also, MPA conditions could improve.

It was also noted that developments may have impacts beyond their footprint. The extent of this zone of influence will depend on the specifics of the development, including the technologies used and the scale of the development. Stakeholders also noted that treating MPAs (and other environmental considerations) as hard constraints could safeguard the resource to the extent that it cannot be accessed and/or squeeze areas of resource potential and make it more difficult for other sectors to not “inappropriately sterilise” a resource. A stakeholder noted that sectors that are not able to develop within another sector’s SRA, or are deterred from doing so, may also be displaced into more environmentally sensitive areas.

Another point raised by stakeholders was that, as SRAs are not hard constraints, why would MPAs be considered hard constraints? However, they could be considered precautionary. However, other stakeholders suggested that, given the difficulty in establishing an understanding of the state of the Welsh marine environment, establishing MPAs as hard constraints would be an appropriate use of the precautionary principle.

Stakeholders also noted that, as marine environments are dynamic and connected, things should not be considered individually but holistically, so there’s a need to consider cumulative effects and whether applying buffers would be appropriate if environmental considerations were to be considered to be hard constraints. Other stakeholders noted that environmental resources are not just confined to MPAs. Other effective conservation measures could be used in future to protect the environment outside of MPAs.

Consideration of the environment as evidence to inform interpretation / understanding

It was suggested by stakeholders that, as part of the SRA mapping exercise, environmental considerations should be used as evidence to inform interpretation / understanding, as they give context to the SRA (and can be considered as their own sector). Maps of environmental considerations could accompany Marine Planning Notices to support the sustainable future use element of Policy SAF_02. Stakeholders noted their belief that this must be iterative, as new MPAs, other effective conservation measures etc. emerge. It was felt that a clause in the SRA design principles / implementation guidance that the most up-to-date evidence is considered would be useful.

Providing evidence specific to individual SRAs was noted as important. Stakeholders felt this would help developers to understand the range of considerations in relation to particular areas of viable resource and may help ensure that the full range of evidence is considered from early in the project planning process. Highlighting the presence of potential constraints within an SRA may help identify where better evidence or mitigation would be beneficial.

A stakeholder suggested that, arguably, there is insufficient information about potential emerging technologies for some sectors (e.g. renewables and aquaculture) and their potential impacts on the environment, to be able to usefully consider them in defining SRA boundaries. A stakeholder suggested that the Five Capitals (including Natural Capital) approach could be used to assess all resources.

How could environmental considerations affect the safeguarding of resources

Again, a range of views were expressed.

It was noted that, if environmental considerations are not incorporated, it will be important for sectors to understand that environmental assessment has not been carried out, so the risk of delay / costs related to environmental considerations when pursuing development remain (even if within an SRA).

A stakeholder noted that, as SRAs do not confer development rights, they did not understand the justification for focusing on mapping environmental constraints, while they felt that no equivalent mapping is being carried out for other areas outside the focus of the SRA mapping project. The stakeholder felt that either environmental constraint mapping shouldn't be progressed or, if it is, that SRAs should be more prescriptive.

Some stakeholders felt that environmental considerations will affect the safeguarding of other resources – yet hopefully go some way to protect the resources that they have been assigned to protect. Others felt that environmental considerations could safeguard a resource to the extent it cannot be accessed. It was noted that there will always be overlap with other resources, so it depends how the resources being protected are prioritised.

A concern was raised by some stakeholders that SRAs are being looked at in isolation, with consideration being given to how each SRA can be assessed against the environmental

considerations but no consideration being given to all of these SRAs having a cumulative impact.

Some stakeholders felt strongly that environmental considerations are essentially another sector in their own right, as nature requires space to function. It was noted that some environmental considerations will have a direct conflict with some of the sectors, for some this will have the added complication of seasonality. Some stakeholders noted that environmental considerations seem to be viewed as a more material factor at project rather than plan level, yet these stakeholders felt that environmental considerations should be considered as a resource area / sector in their own right and treated accordingly at plan level.

It was also noted by some stakeholders that environmental considerations will inform the viability of certain resources in an area and that an area mapped as an SRA for a sector may, in practice, not be feasible due to environmental effects, in combination / cumulative impacts etc.. It is important to be clear that this may happen and to be clear that there are risks to the environment associated with the SRAs. Stakeholders noted their strong view that environmental considerations should inform SRA definition on a sector / activity specific basis to help refine SRAs down to the least environmentally constrained areas that are still technically viable. At a project level, environmental considerations could result in activity being directed to certain areas at the expense of safeguarding SRA resources for a different sector. This should be a key principle of how SAF_02 is applied by relevant authorities.

It was noted that, as environmental constraints have the ability to cause significant delays to developments, they should be considered upfront in the planning process. Some stakeholders noted that, in a way, they felt it would help if resource areas were prescriptive (within a development plan?). They noted that it's understood that SRAs (and activation of SAF_02) is the first step in hopefully a more prescriptive approach. In order to effectively assess environmental constraints and give them their proper weighting, they felt the Welsh marine area should be looked at as a whole system, taking into account interactions between sectors and cumulative impacts, as well as remembering that the marine environment is a resource in itself. From this perspective, there would be no problem with areas being developed, which would provide more certainty for all and resources to be more targeted.

Interactive Session 3 - wider use of the evidence base

Welsh Government posed the following questions to stakeholders during Interactive Session 3, in order to inform considerations around future steps for marine planning:

7) **Do you agree that the evidence, parameters, spatial analyses and mapping being progressed for SRA mapping generates a solid base to support other future marine planning work to provide greater spatial direction for development?**

The following provides an overview of comments made by stakeholders during this session. These comments represent the views and opinions of stakeholders present at the event.

There was unanimous agreement with the question by stakeholders

It was highlighted, however, that there would always be a need for enhanced environmental / species/ habitat mapping and that the evidence base would continually need updating and will evolve as new data collection methodologies come on-stream.

It was also highlighted that current SRA mapping work is restricted to a limited number of sectors and so does not cover the full range of marine users. Some stakeholders noted that any future spatial marine planning work would need to expand on the evidence base to ensure it is fit for purpose.

Finally, a comment was made that whilst agreeing with the question, this solid evidence base cannot be completed in isolated groups such as this.

8) **Welsh Government will also consider opportunities to focus future evidence gathering on any SRAs which are introduced, to improve decision making across all WNMP policies, including the environmental policies. Do you have any suggestions of what such opportunities could be?**

The following opportunities for future evidence gathering were suggested by stakeholders:

Quantified marine net gain.
Identifying and mapping opportunities for restoration and enhancement.
Determination and application of additionality.
Consideration of displacement and cumulative impacts.
Five capitals including Natural capital approach to each SRA.
Wider environmental considerations such as Good Environmental Status, blue carbon, net zero etc.
Carrying capacity of the WNMP area.
Co-location and co-existence of different sectors / activities to get best use of space.
Taking account of different drivers and of the breadth of the WNMP's environmental, social, economic, sector etc. policies.
Extent to which any SRAs are being used, as this would help to know whether to be more prescriptive.
Look internationally for case studies/ support - e.g. An alternative view on allocating space was presented at the UN Oceans Conference in Lisbon (June 2022): the Blue Food for Action idea suggests exploring an alternative approach that would reverse the burden of proof – a reverse listing approach to designate marine exploitable areas. They are looking for countries to trial this approach.

Welsh Government Response

The SRA environmental considerations event has provided Welsh Government with a large amount of detailed and valuable feedback; we are extremely grateful to everyone who participated. We note the unanimous agreement with the paraphrased HRA and SEA conclusions i.e. that, as formulated, SRAs do not, and cannot, lead to environmental impacts. We also emphasise that SRAs are a tool to alert developers that a resource may be sterilised by another activity. This should be a consideration in authorisation decision making alongside the wider framework of WNMP environmental policies and regulatory environmental protections which apply irrespective of SRAs (including project-level HRA / EIA). Alongside this,

we also note and appreciate the range and depth of comments and feedback regarding environmental considerations and SRA mapping.

Given the breadth and, in some instances, divergence of the feedback, rather than reach an immediate conclusion, Welsh Government will consider all points on a case-by-case basis in the ongoing SRA mapping exercise, including in the scenarios components of the SRA project. This reflection and practical consideration is particularly important given the breadth and divergence of feedback which, in some instances, presents directly conflicting views. The next stakeholder event (planned for the 22nd November 2022, see 'Next Steps' below) will focus on initial refined Resource Area maps with technical and hard constraints applied and provide opportunity for discussion on practical consideration of soft constraints and if/how mapping for potential SRA boundary considerations may be further refined.

Next Steps

An updated programme for stakeholder communication is presented in Table 1.

The outputs of the Environmental Considerations workshop will frame considerations on how environmental considerations are presented / communicated in SRA maps, with the draft mapped outputs scheduled for December 2022. The next stakeholder meeting will be held on 22 November 2022, with the following objectives:

Present refined maps (technical and hard constraints applied);
Consider application of soft constraints (socio-economic and environmental); and
Consider process to combine and visualisation of SRA mapped outputs.

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information	July 2022	n/a	n/a
Refined RA maps (following application of technical constraints)	Project output circulated	August 2022	n/a	n/a
Stakeholder meeting #3 (Environmental Considerations)	**Discuss how environmental considerations can most appropriately be incorporated into SRA mapping**	27 September 2022	n/a	n/a
Summary of meeting conclusions	Information	October 2022	n/a	n/a
Refined RA maps (following application of technical **and** hard constraints)	Project output circulated	October 2022	n/a	n/a
Stakeholder meeting #4 (Soft constraints and SRAs)	**Present refined maps (technical and hard constraints applied), consider application of soft constraints (socio-economic and environmental)**	22 November 2022	n/a	n/a
Summary of meeting conclusions	Information	December 2022	n/a	n/a
SRA early mapping outputs (with consideration of soft constraints as agreed)	Early recommendations Feedback request	December 2022 (tbc)	Yes	January 2022 (tbc)
Response to SRA recommendations	Information	January 2022 (tbc)	n/a	n/a
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	Jan/Feb 2023 (tbc)	Yes	Late Feb 2023 (tbc)
Stakeholder meeting #5 (SRA recommendations)	**Final mapping outputs presented**	**Late March 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	April 2023	n/a	n/a
SA report	Project output circulated	April 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023)

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Hard constraint mapping outputs
Date sent	26/10/2022
Objective	Information
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government
To	Technical stakeholders

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range Energy
Tidal Stream Energy
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** considerations. In parallel, a Sustainability Appraisal (SA) will be carried out to frame the potential identification of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is shaping the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops are being held over the duration of the SRA mapping project. These are being supported by documentation circulated to stakeholders for feedback and information (Table 1).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

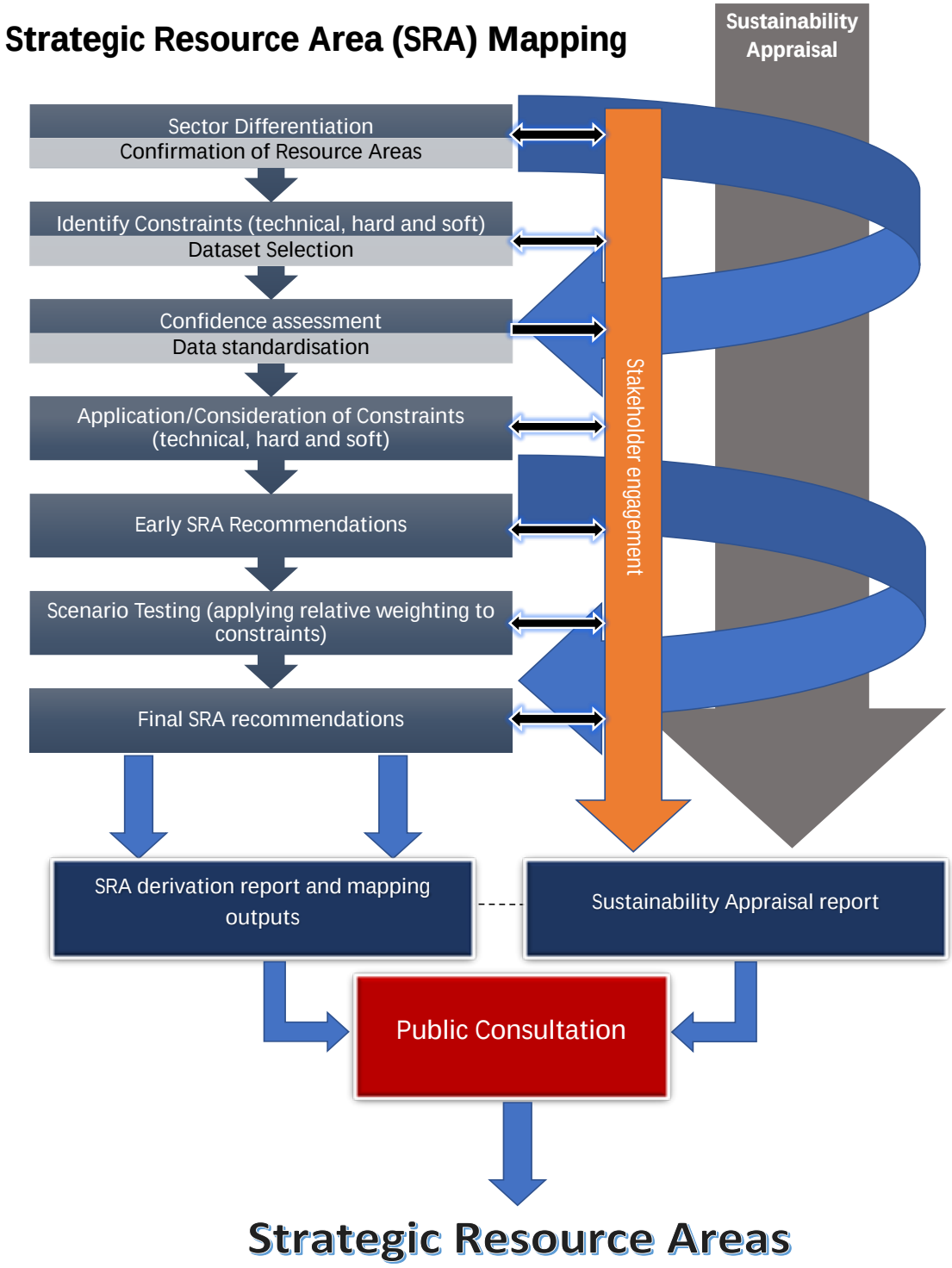

Figure 1: The SRA mapping process

In June 2022 a series of sector specific virtual workshops, the second stakeholder engagement event, were held with technical stakeholders; the key objectives for each workshop were to:

Agree categorisation of socio-economic constraints (hard/soft; soft category);
Identify and agree suitable datasets; and
Agree sector-sector interactions of potential overlap with SRA boundaries.

A summary of the June 2022 workshop outcomes, based on the stakeholder input and discussions held during the June workshops, was circulated to stakeholders.

As previously communicated to stakeholders, there are two parallel evidence workstreams underway which will be considered to inform the SRA mapping process. **Environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project), is being progressed by NRW in its capacity as the Statutory Nature Conservation Body (SNCB). Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer and was the focus of the June 2022 workshops.

The third stakeholder engagement event, which was specific to Environmental Considerations, took place on 27 September 2022, and a summary of the discussions held during the workshop was circulated to stakeholders.

Stakeholder input has also been requested over the last few months in response to specific feedback requests. In May 2022, stakeholders were invited to respond on technical constraints, their parameters and also suitable datasets for informing technical constraints. Following application of the agreed technical constraints, refined mapping outputs were circulated to stakeholders against each of the differentiated sectors in August 2022.

This paper provides the draft early mapping outputs of the refined RAs for each sector, after the application of hard constraints (in addition to technical constraints). The refined RAs, as presented in this document, are likely to evolve as the project progresses. These mapping outputs do not represent indicative SRAs. The mapping exercise has taken into consideration stakeholder input received through responses to the technical parameter feedback request and the discussions held at the sector specific June workshops.

Next Steps

An updated programme for stakeholder communication is presented in Table 1.

The next stakeholder meeting will be held on 22 November 2022, with the following objectives:

Present refined maps (technical and hard constraints applied);
Present soft constraints; and
Discuss options for the application and consideration of soft constraints

Following consideration of how the SRA mapping process would best encompass the agreed soft constraints, it is intended that further mapping outputs will be circulated to stakeholders in January 2022.

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information	July 2022	n/a	n/a
Refined RA maps (following application of technical constraints)	Project output circulated	August 2022	n/a	n/a
Stakeholder meeting #3 (Environmental Considerations)	**Discuss how environmental considerations can most appropriately be incorporated into SRA mapping**	27 September 2022	n/a	n/a
Summary of meeting conclusions	Information	October 2022	n/a	n/a
Refined RA maps (following application of technical **and** hard constraints)	Project output circulated	October 2022	n/a	n/a
Stakeholder meeting #4 (Soft constraints and SRAs)	**Present refined maps (technical and hard constraints applied), consider application of soft constraints (socio-economic and environmental)**	22 November 2022	n/a	n/a
Summary of meeting conclusions	Information	December 2022	n/a	n/a
SRA early mapping outputs (with consideration of soft constraints as agreed)	Early recommendations Feedback request	January 2022 (tbc)	Yes	February 2022 (tbc)
Response to SRA recommendations	Information	February 2022 (tbc)	n/a	n/a
SRA scenario testing inc. potential weighting of soft constraints	Mapping outputs shared – feedback request	February 2023 (tbc)	Yes	Early March 2023 (tbc)
Stakeholder meeting #5 (SRA recommendations)	**Final mapping outputs presented**	**Late March/Early April 2023 (tbc)**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	April 2023	n/a	n/a
SA report	Project output circulated	April 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

Refined Resource Areas (application of technical and hard constraints)

The refined RAs (in Draft), as presented below, are the result of focussed engagement with stakeholders and represent the mapping outputs following a series of steps in the SRA mapping process. These steps included a review of existing RAs, consideration of sector differentiation, identification of suitable and relevant constraints, determination and application of technical constraints, and determination of hard and soft socio-economic constraints.

The mapping work has proceeded according to the process outlined in Figure 1, with several key stages still to follow such as, how soft constraints should be considered in refinement of the RAs and scenario testing.

Hard Constraint Buffers

Direct engagement with relevant stakeholders, in combination with the outcomes of internal team discussions, have been used to derive appropriate buffers for the hard constraints as applied for a specific differentiated sector. As noted above, further evolution of the mapping outputs is assumed with potential for some of these buffers to change should a reasonable justification exist.

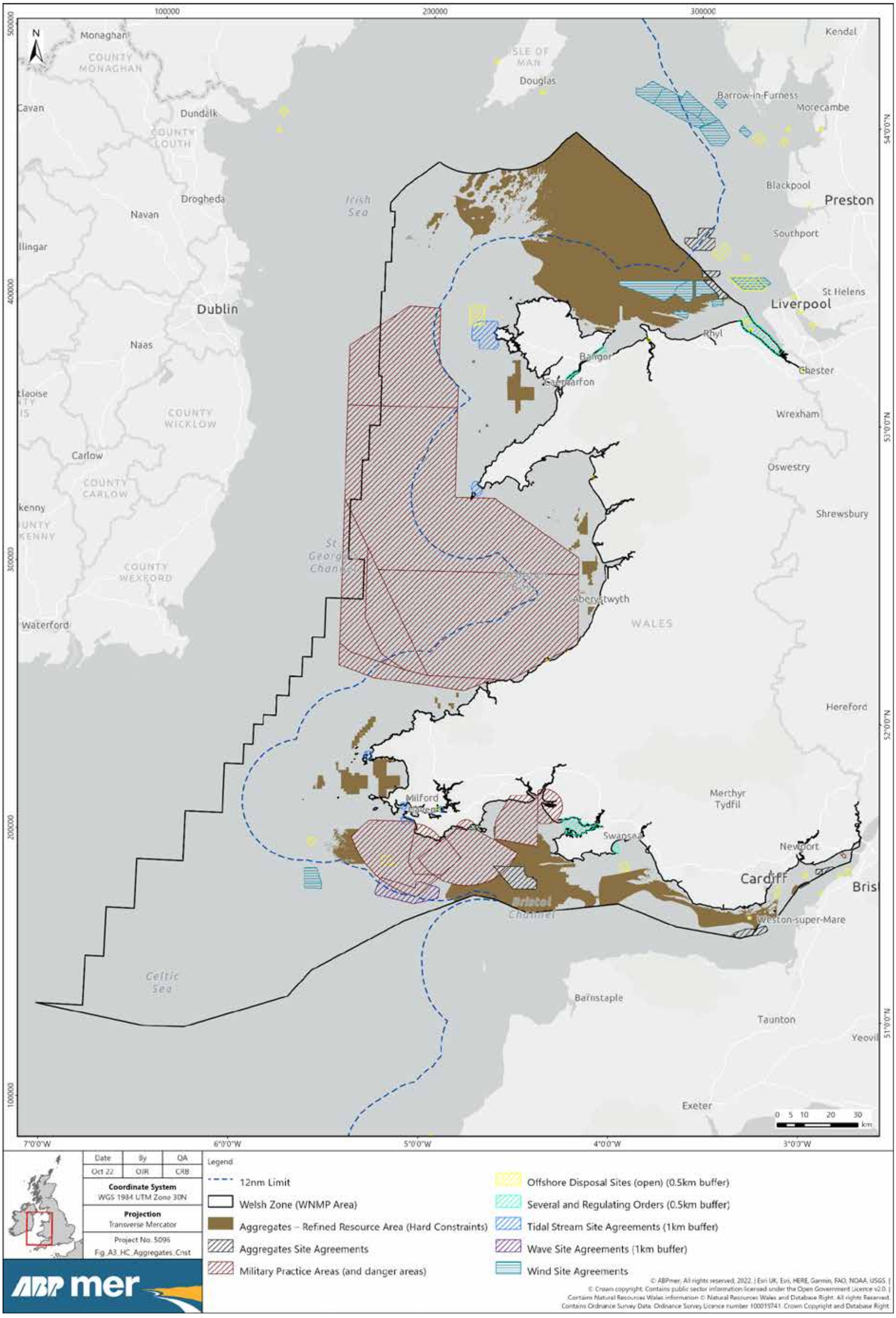

Figure 2: Aggregates Refined Resource Area (Draft)

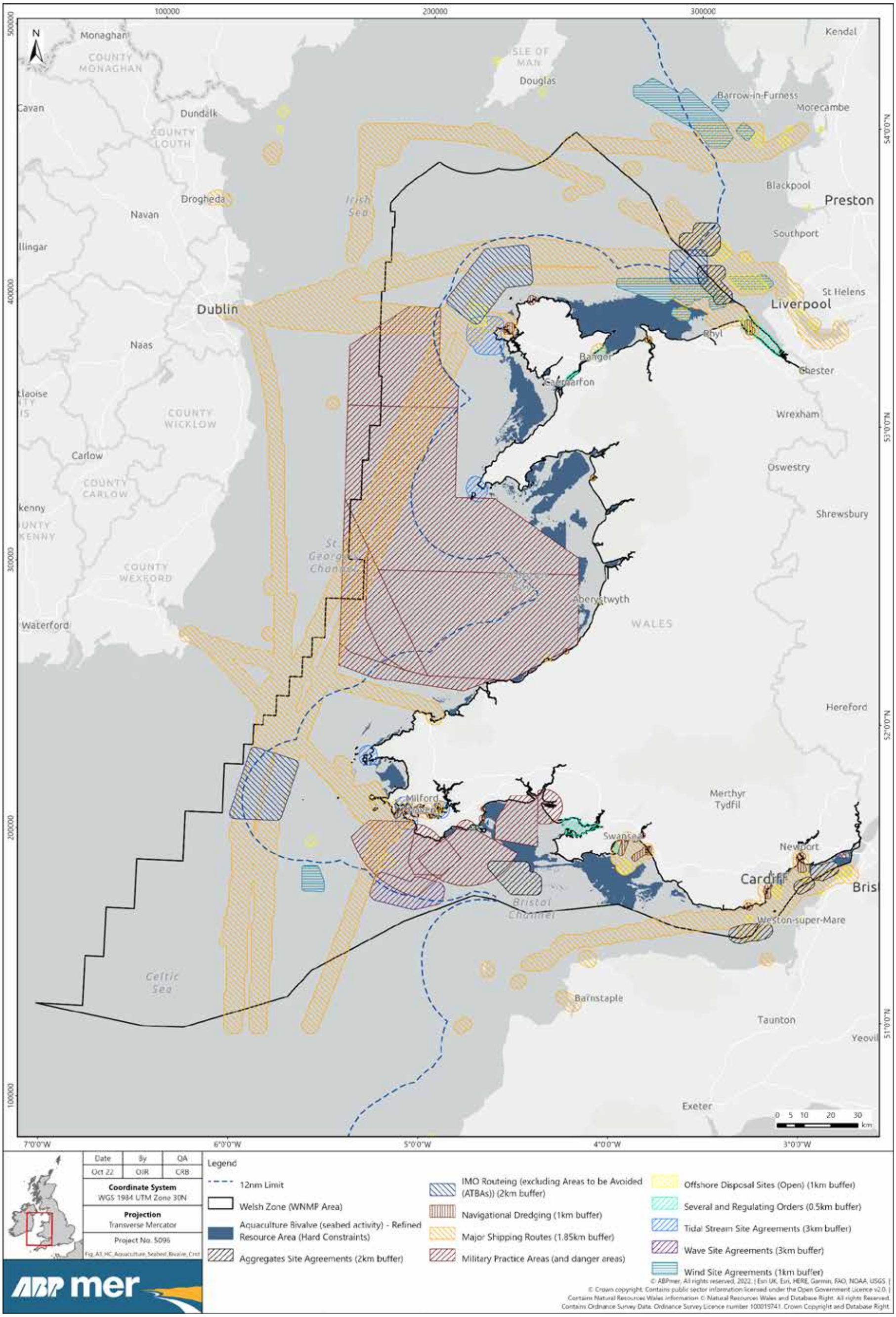

Figure 3: Aquaculture Bivalve (seabed) Refined Resource Area (Draft)

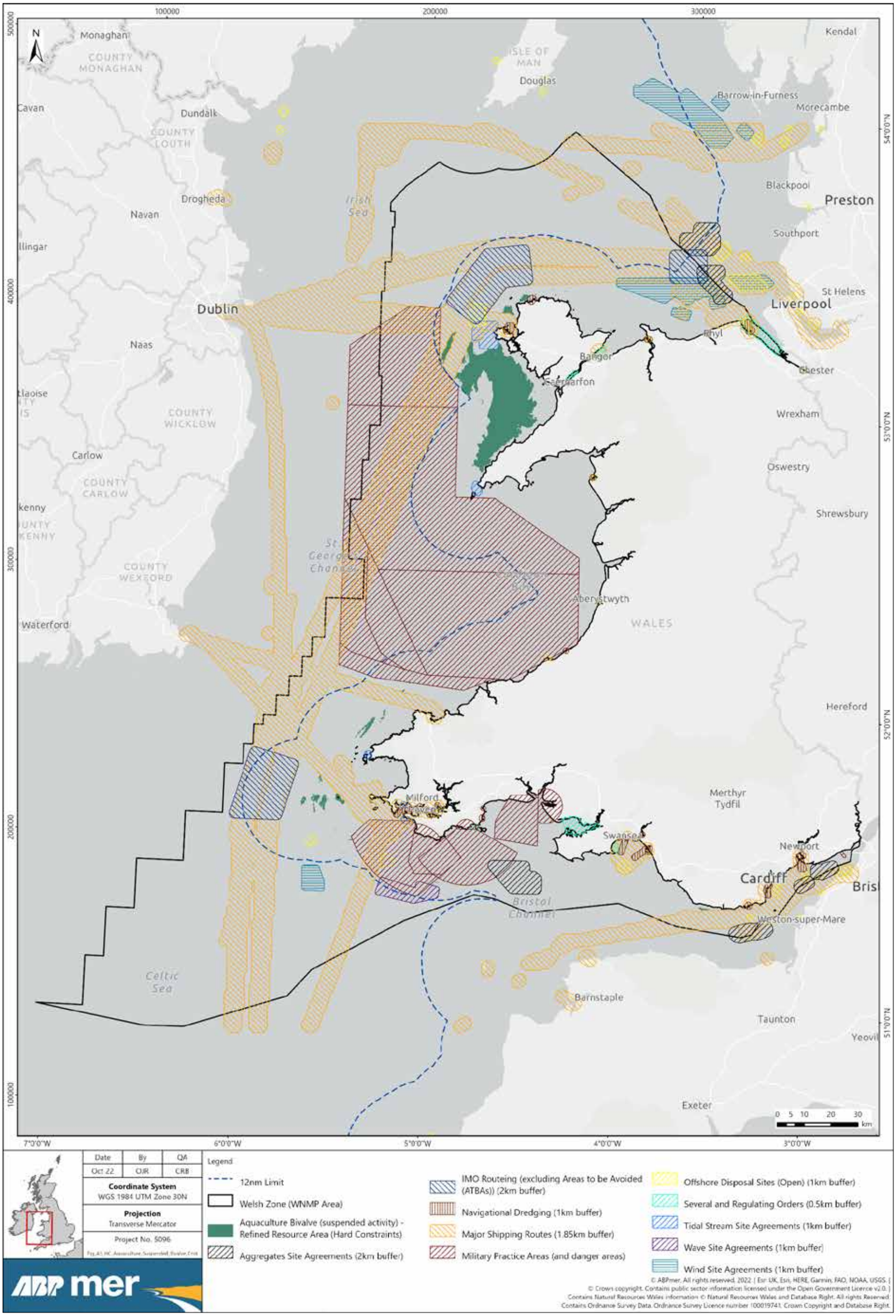

Figure 4: Aquaculture Bivalve (suspended) Refined Resource Area (Draft)

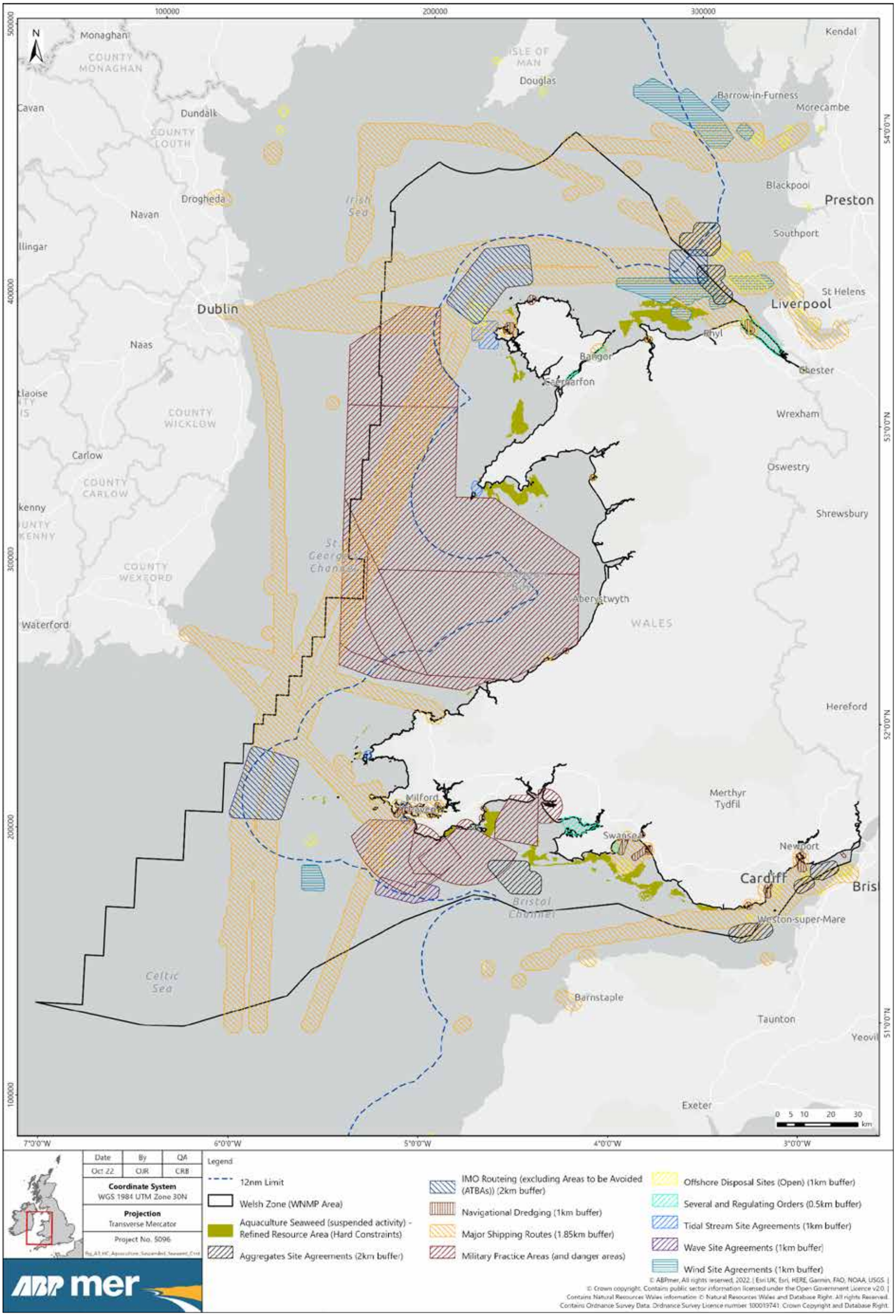

Figure 5: Aquaculture Seaweed (suspended) Refined Resource Area (Draft)

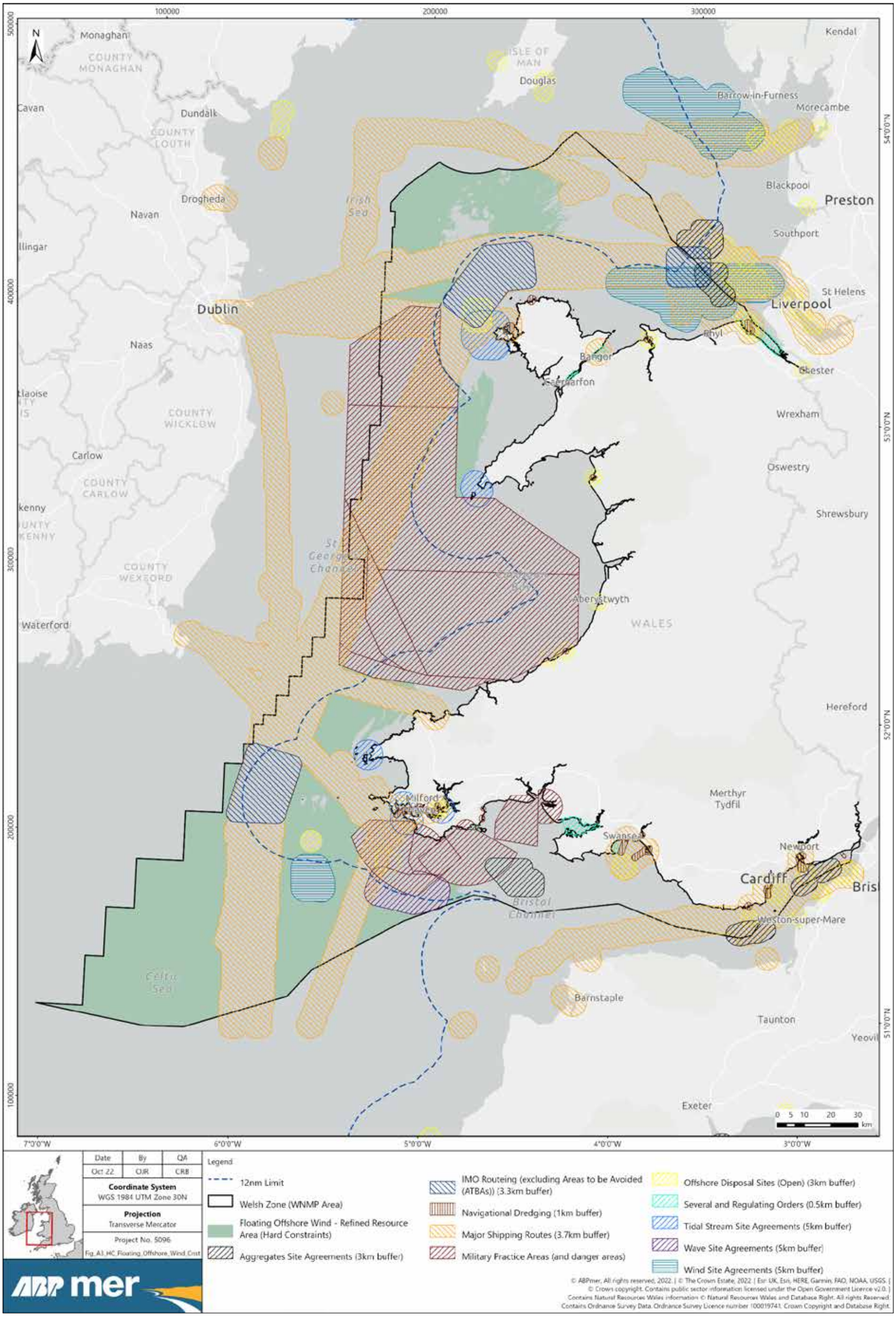

Figure 6: Floating Offshore Wind Refined Resource Area (Draft)

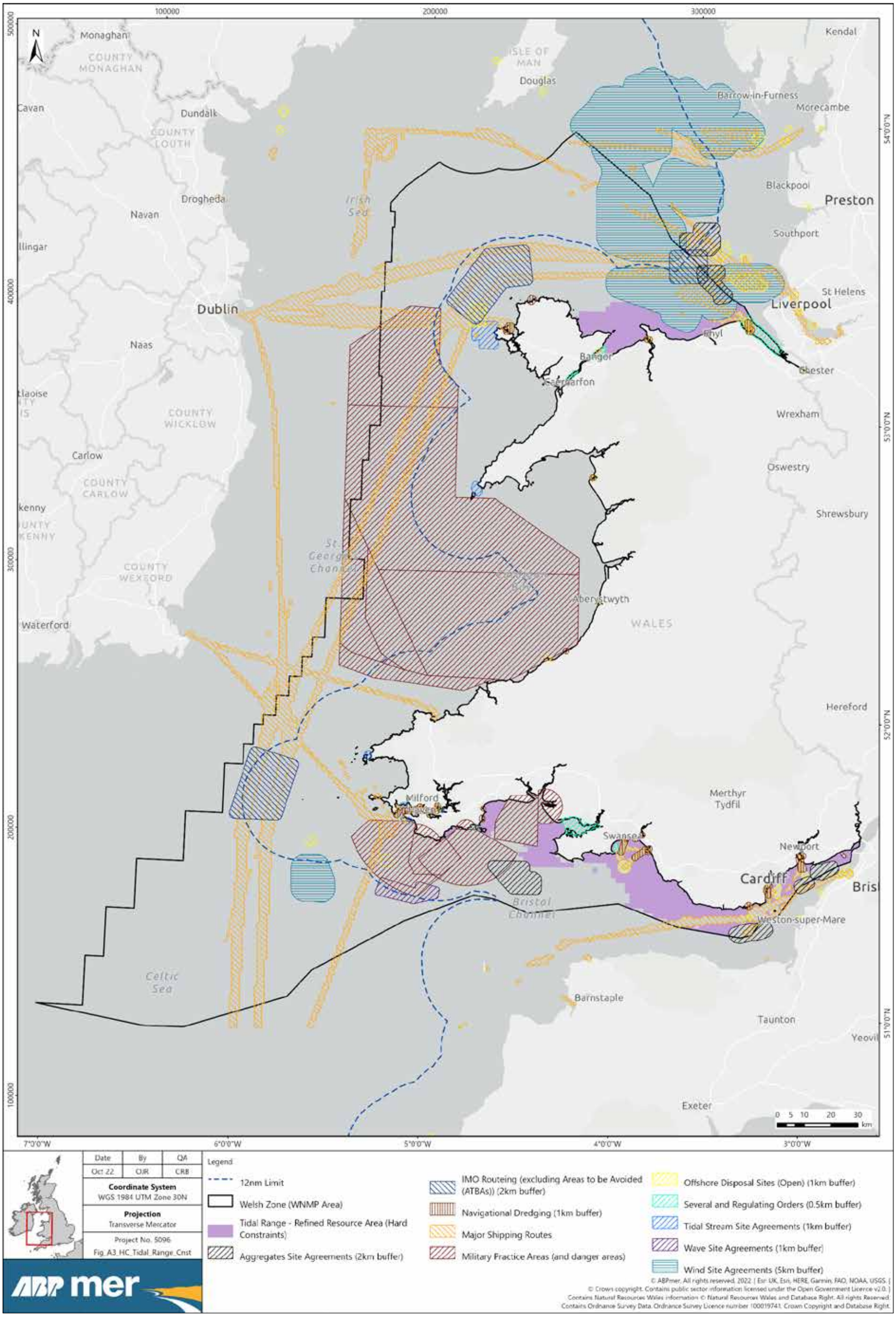

Figure 7: Tidal Range Refined Resource Area (Draft)

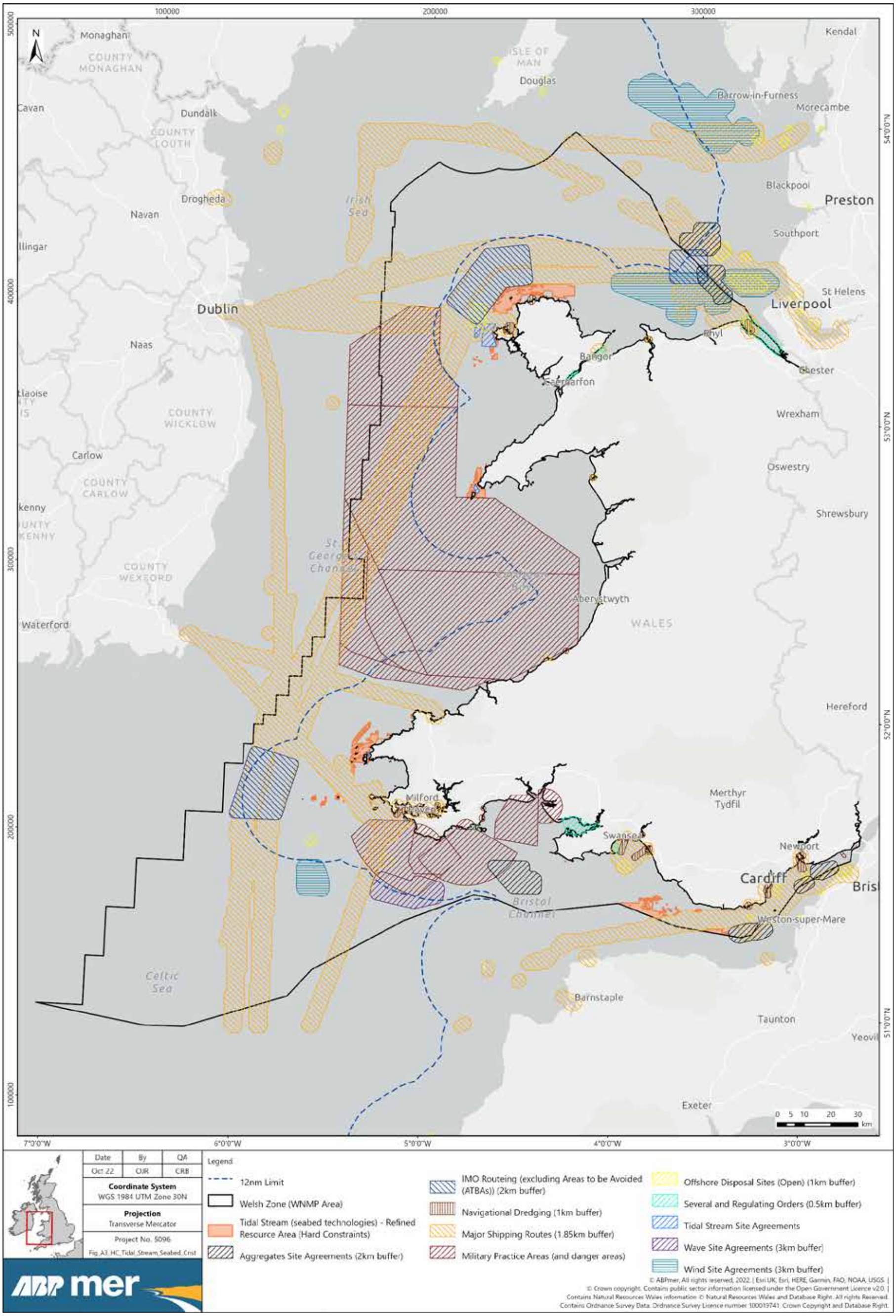

Figure 8: Tidal Stream (seabed) Refined Resource Area (Draft)

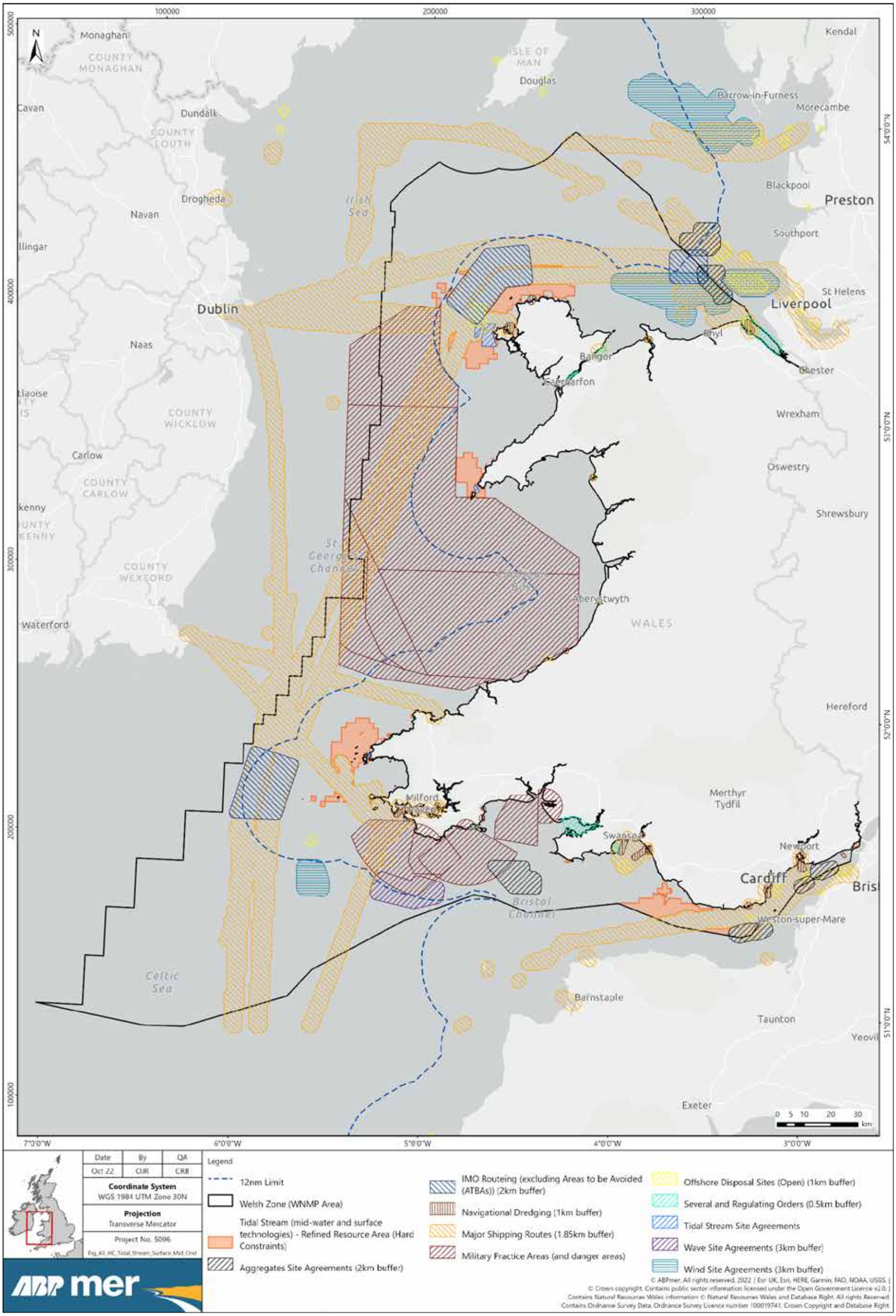

Figure 9: Tidal Stream (surface and mid-water) Refined Resource Area (Draft)

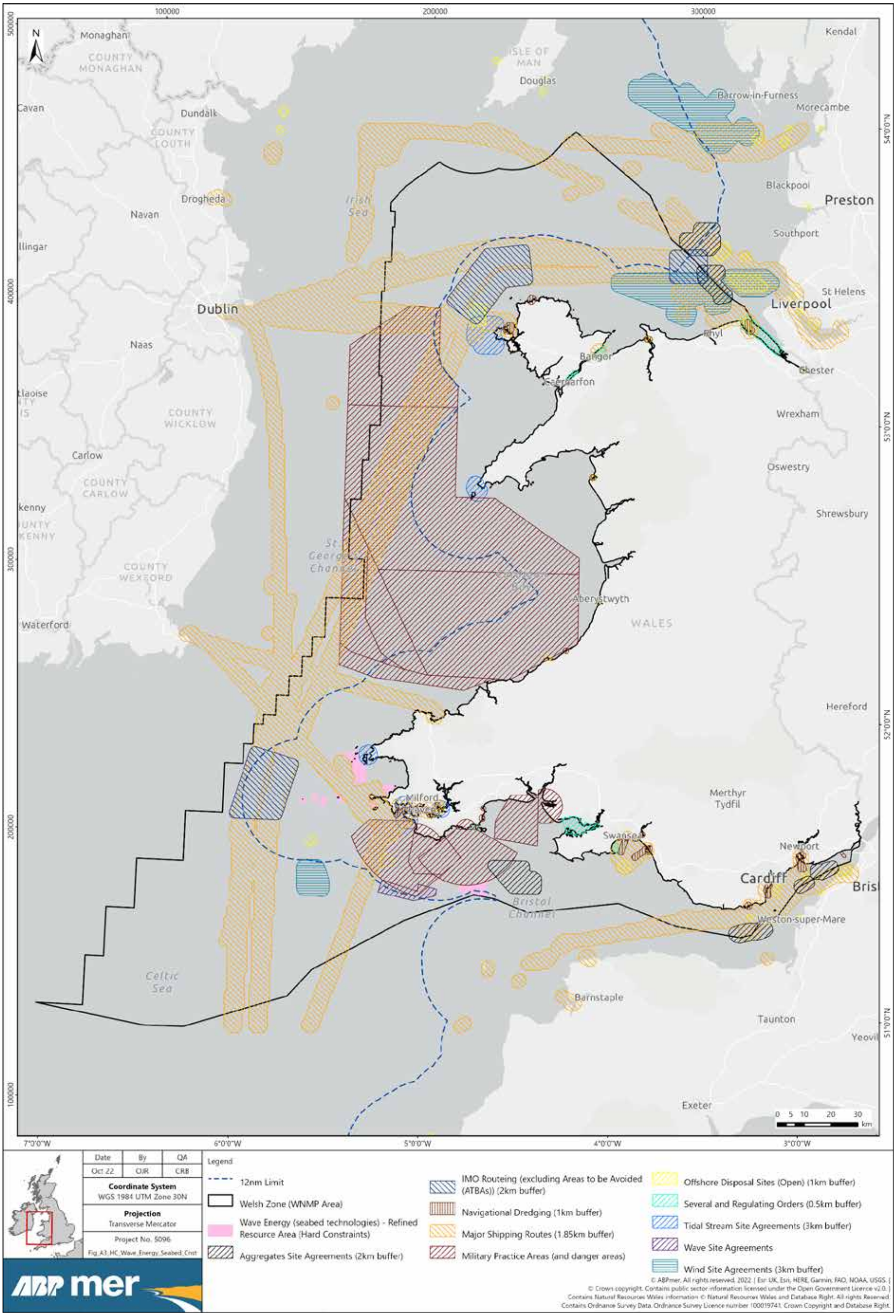

Figure 10: Wave Energy (seabed) Refined Resource Area (Draft)

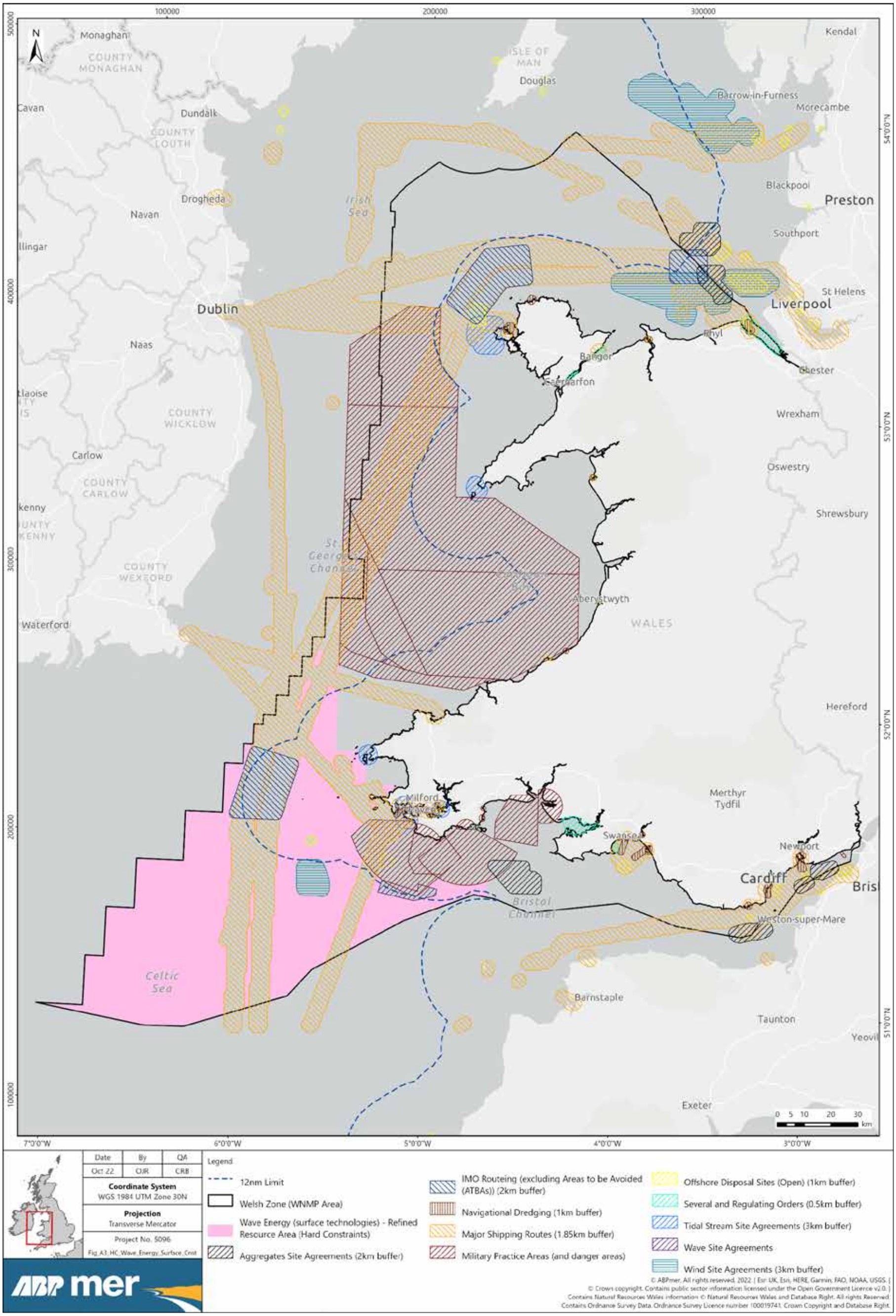

Figure 11: Wave Energy (surface) Refined Resource Area (Draft)

Developing Strategic Resource Areas (SRAs) for Marine Planning

Subject	Soft constraints event - overview
Date sent	28/02/2023
Objective	Stakeholder feedback on the approach to soft constraints
ABPmer project no	5096
Project name	SRA mapping project
Prepared by	ABPmer and Welsh Government

Introduction

The SRA mapping project will provide a set of outputs which Welsh Government can use to identify potential SRAs to which WNMP (Welsh National Marine Plan) safeguarding policy SAF_02 could be applied, safeguarding resource for potential future sustainable use.

Welsh Government intends to explore the potential identification of SRAs in relation to:

Aquaculture
Aggregates
Floating Offshore Wind (FOW)
Tidal Range Energy
Tidal Stream Energy
Wave Energy

To achieve this, the SRA mapping project will carry out spatial analyses to map potential SRAs, which will involve identifying and taking account of **environmental, social and economic** considerations. In parallel, a Sustainability Appraisal (SA) will be carried out to frame the potential identification of SRAs and the activation of the WNMP safeguarding policy SAF_02.

Stakeholder input is shaping the project. To facilitate stakeholder input, a combination of stakeholder meetings and dedicated workshops are being held over the duration of the SRA mapping project. These are being supported by documentation circulated to stakeholders for feedback and information (Table 1).

The first stakeholder engagement event was held virtually on 15 March 2022 with 45 attendees from 28 organisations. During this event the proposed SRA mapping approach was outlined (see Figure 1).

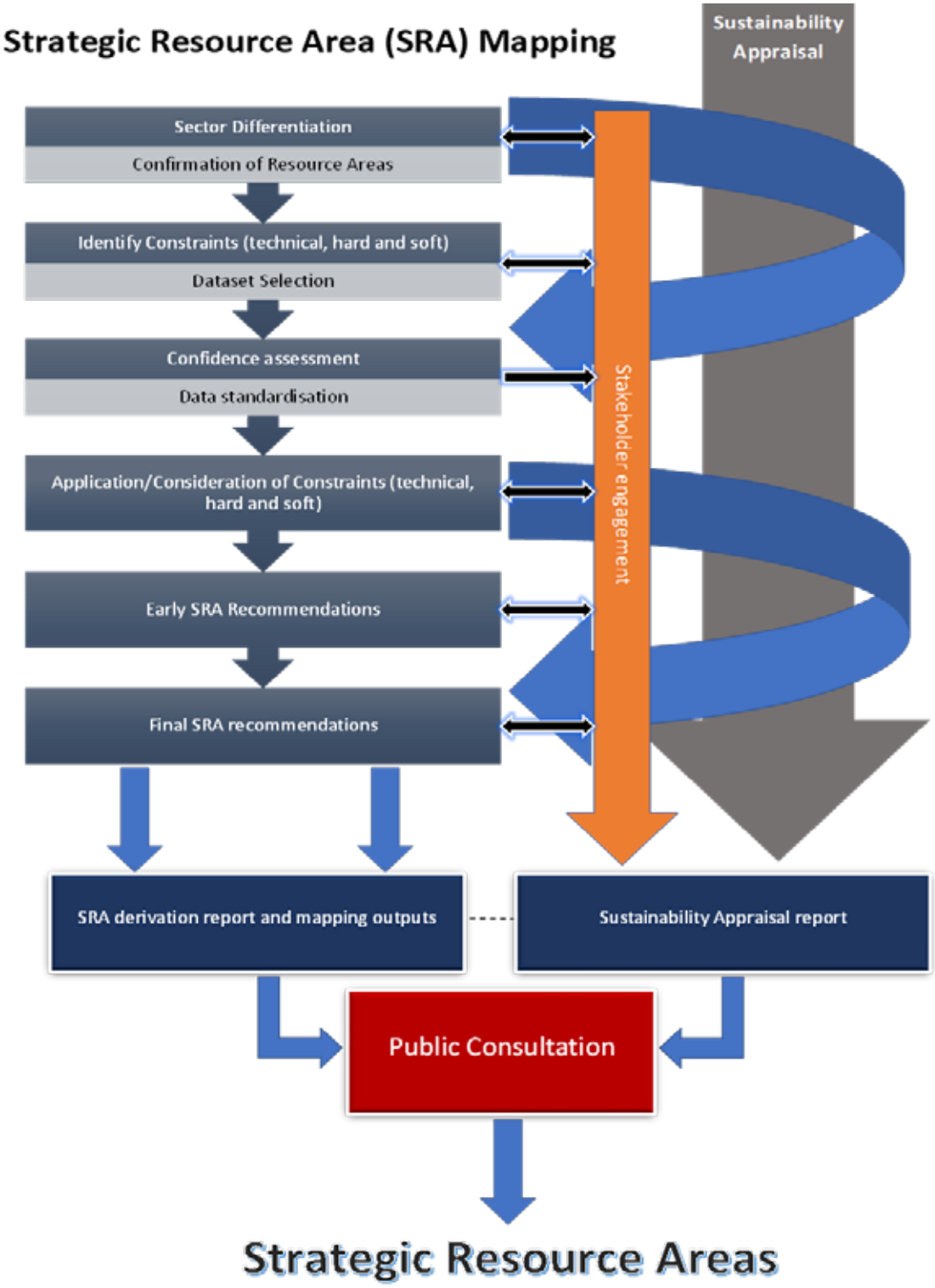

Figure 1: The SRA mapping process

In June 2022 a series of sector specific virtual workshops, the second stakeholder engagement event, were held with technical stakeholders; the key objectives for each workshop were to:

> Agree categorisation of socio-economic constraints (hard/soft; soft category);
> Identify and agree suitable datasets; and
> Agree sector-sector interactions of potential overlap with SRA boundaries.

A summary of the June 2022 workshop outcomes, based on the stakeholder input and discussions held during the June workshops, was circulated to stakeholders.

As previously communicated to stakeholders, there are two parallel evidence workstreams underway which will be considered to inform the SRA mapping process. **Environmental** constraints mapping work (building on the Sustainable Management of Marine Natural Resources (SMMNR) project), is being progressed by NRW in its capacity as the Statutory Nature Conservation Body (SNCB). Alongside this, work on identifying **social, economic and sectoral** constraints is being progressed by ABPmer and was the focus of the June 2022 workshops.

The third stakeholder engagement event, which was specific to Environmental Considerations, took place on 27 September 2022, and a summary of the discussions held during the workshop was circulated to stakeholders.

The fourth stakeholder engagement event focused on Soft Constraints and was held on 11 January 2023. There were 35 attendees from 19 organisations, including environmental non-governmental organisations (eNGOs), SNCBs, developers and regulators. The key objectives of the event were to:

> Present and discuss refined resource area maps (with technical, hard and soft constraints applied); and
> Consider approaches to reflecting soft constraints (environmental and socio-economic) within SRA mapping.

This paper provides a summary of stakeholder comments which were made during the event and how these have been or will be considered in the SRA mapping project.

Event

Welsh Government initially provided an overview of the SRA mapping project. ABPmer provided an update on progress and presented the refined hard constraint mapping outputs. ABPmer described the potential application of soft constraints and the options for consideration of soft constraints within SRA mapping (Option A and Option B)[1]. This included an outline of the potential benefits and limitations of each option.

[1] The PowerPoint presentation was sent to stakeholders on 16 January 2023.

Option A considered sector to sector interactions with the potential for further Resource Area (RA) refinement through the management of marine activities (as represented by soft (economic) constraints) with RA's. A key objective to SRAs is about managing sector interactions and thus the rationale for proposing this option. Specific consideration was given to marine activities (economic constraints) with the highest relative potential for conflict with SRAs.

Option B provided contextual information. As the justification for Option A was attributed to an objective of SRAs, the only real alternative, as considered, was a contrasting approach to spatially present all soft constraints as contextual/informative only i.e. no refinement of RAs would occur based on the interaction with soft constraints, whether they represent marine activities or otherwise.

Stakeholder feedback was requested, in response to specific questions:

1) Which option do you feel would best benefit consideration of soft constraints for SRA mapping and why? Option A (sector sector) or Option B (contextual)?

2) Are there any benefits/limitations with Option A (sector-sector) which have not been identified?

3) Are there any benefits/limitations with Option B (contextual) which have not been identified?

4) Is there an alternative option for reflecting soft constraints in safeguarding resource and why?

Subsequent sections of this paper summarise the responses received by stakeholders during the discussion.

Following the discussion on soft constraints, NRW provided an update on the distinct environmental considerations mapping project. Welsh Government then informed stakeholders on the approach being taken to acknowledge wider SRA Design Principles, before closing the meeting with an overview of the project's next steps.

Question 1 - Which option do you feel would best benefit consideration of soft constraints for SRA mapping and why? Option A (sector-sector) or Option B (contextual)

Stakeholders unanimously agreed that Option B (contextual) would be the most appropriate option for considering soft constraints in SRA mapping.

It was felt that if soft constraints were applied as spatial layers (i.e. Option A) there is a danger they would be viewed spatially in the same context as hard constraints. This could result in refining SRAs based on soft constraints which would reduce the potential for coexistence. It was pointed out that many soft constraints may be managed at the project level and do not therefore need to be shown as a spatial restriction in line with Option A. Additionally, stakeholders thought it would not be appropriate to constrain SRAs based on soft constraints

(Option A) as the data that underpin them may become out of date and/or evolve in the future. It would also be difficult to apply some soft constraints based on available evidence and data (e.g. unidentified wrecks).

Stakeholders thought it would be useful to make information on soft constraints relevant to all policies within the Plan available to all users and thus help inform decisions. This would allow information to be more easily updated. For example, as more evidence becomes available or if spatial distribution of sector activities changes.

Question 2 - Are there any benefits/limitations with Option A (sector-sector) which have not been identified?

The following limitations were identified for Option A (sector-sector):

1) Limitations on available data and evidence;

2) Makes an assumption that soft constraints weighted 1 or 2 pose no risk to development - risk that soft constraints scored 1 or 2 are excluded from consideration (i.e. contextual information around these is still required);

3) At the plan level, it is uncertain whether there is the appropriate level of detail/information to justify using a relatively higher weight soft constraint (i.e. 3 or 4 weighting) to refine potential SRA boundaries;

4) Could discourage discussion around potential for coexistence; and

5) SRAs are not predefined areas. There is a risk that Option A perceives this more as predefined areas.

The main benefit of Option A was use as a mapping/planning tool which could enable developers to identify usable space both horizontally and with depth.

Question 3 - Are there any benefits/limitations with Option B (contextual) which have not been identified?

The following benefits were identified for Option B (contextual):

1) It could enable an accepted evidence base to be derived;

2) Avoids over constraining SRAs and shows the potential for development of a sector (FOW, tidal) more broadly in a given area; and

3) Greater potential for coexistence.

It was agreed through discussion that weighting information (as previously assigned to the constraints during June workshops)[2] needs to be as visible as possible in the Welsh Marine Planning Portal layers.

Question 4 - Is there an alternative option for reflecting soft constraints in safeguarding resource and why?

It was suggested that a hybrid option could be implemented, where the amalgamated layer produced in Option A does not refine the RAs but is instead shared as contextual information alongside the individual soft constraints within the portal. It was felt that it would be helpful to have the detailed contextual information to interrogate further.

It was also suggested that SRAs could be based on Option A but with an extended area showing soft constraints where coexistence is possible or relatively more likely to be achievable. However, there would be a risk at project level as to whether coexistence could be achievable.

Approach taken forward

After careful consideration of the stakeholder responses and further internal discussions, the decision has been made to proceed with Option B (contextual) for the consideration of soft constraints as part of the SRA mapping process.

Next Steps

An updated programme for stakeholder communication is presented in Table1.

It is intended that the last stakeholder event will be held in April 2023. During this event, potential SRAs will be presented and stakeholders given another opportunity to provide feedback.

[2] Information on these workshops and the weighting assigned was sent to stakeholders on 22 July 2022.

Table 1: Indicative programme for stakeholder communication*

Stakeholder Comms	Description	Date	Response Requested	Date Response
Outline Approach	Pre-meeting information	8 March 2022	n/a	n/a
Sector Differentiation	Feedback request	8 March 2022	Yes	14 April 2022
Stakeholder meeting #1	**Introduction to project, objectives, approach**	**15 March 2022**	**n/a**	**n/a**
Resource Area confirmation	Feedback request	16 March 2022	Yes	14 April 2022
Constraint Lists (technical, hard and soft)	Pre-workshop information Feedback request	16 March 2022	Yes	14 April 2022
Method Statement (draft)	Project output circulated (live document)	1 April 2022	n/a	n/a
Summary of stakeholder responses received (up to 14 April 2022)	Project update and information (inc. list of agreed constraints)	w/c 23 May 2022	n/a	n/a
Technical constraint parameters	Feedback request	w/c 16 May 2022	Yes	10 June 2022
Stakeholder meeting #2 (series of sector specific constraints workshops)	**Categorise agreed constraints (social, economic, sector-sector), identify suitable datasets for technical, hard and soft constraints**	**June 2022 (14 – 30 June)**	**n/a**	**n/a**
Summary of outputs from workshops	Project update and information	July 2022	n/a	n/a
Refined RA maps (following application of technical constraints)	Project output circulated	August 2022	n/a	n/a
Stakeholder meeting #3 (Environmental Considerations)	**Discuss how environmental considerations can most appropriately be incorporated into SRA mapping**	27 September 2022	n/a	n/a
Summary of meeting conclusions	Information	October 2022	n/a	n/a
Refined RA maps (following application of technical **and** hard constraints)	Project output circulated	October 2022	n/a	n/a
Stakeholder meeting #4 (Soft constraints and SRAs)	**Present refined maps (technical and hard constraints applied), consider application of soft constraints (socio-economic and environmental)**	11 January 2023	n/a	n/a
Summary of meeting conclusions	Information	February 2023	n/a	n/a
Stakeholder meeting #5 (SRA recommendations)	**Potential SRAs presented**	**18 April 2023**	**n/a**	**n/a**
SRA Derivation Report	Project output circulated	June 2023	n/a	n/a
SA report	Project output circulated	June 2023	n/a	n/a

* NB. Timings adjusted as the project progressed to fit with the revised completion date for the project (Summer 2023).

B Technical Constraint Parameters

Full detail of the outcomes from this element of the SRA mapping project are covered within the stakeholder feedback response summary (31 August 2022) (see Appendix A).

The following technical constraint parameters were applied to initially refine RAs for Aggregates, Tidal Range, Tidal Stream (surface and mid-water; seabed), Wave Energy (surface; seabed), see Table B1 overleaf.

Table B1. List of technical (physical) constraints and parameters being taken forward to inform derivation of SRAs

Parameter	Physical	Description	Parameters	Dataset and source (and Provider)
Aggregates	Bathymetry	Depth contours (generalised)	10-60 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/
Tidal Range	Bathymetry	Depth contours (generalised)	≤25 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/
Tidal Range	Tidal Range		Mean Spring Tidal Range 6+ m	Atlas of UK Marine Renewable Energy Resources. 2008. ABPmer https://www.renewables-atlas.info/
Tidal Stream (Surface and mid-water technologies)	Bathymetry	Depth contours (generalised)	10-120 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/
Tidal Stream (Surface and mid-water technologies)	Significant wave height	The average height of the highest 1/3 of waves.	Annual Mean significant wave height <2.0 m	ABPmer http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp?Layername:nmp:WaveHeight
Tidal Stream (Seabed technologies)	Bathymetry	Depth contours (generalised)	20-40 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/
Tidal Stream (Seabed technologies)	Significant wave height	The average height of the highest 1/3 of waves.	Annual mean significant wave height <2.0 m	ABPmer http://msmap1.atkinsgeospatial.com/geoserver/ows/nmp?Layername:nmp:WaveHeight
Wave Energy (Seabed technologies).	Bathymetry	Depth contours (generalised)	10-50 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/
Wave Energy (Surface technologies).	Bathymetry	Depth contours (generalised)	10-200 m BCD	EMODnet bathymetry https://www.emodnet-bathymetry.eu/

C Hard Constraint Catalogue

The catalogue indicates which socio-economic constraints were classified as hard for each of the differentiated sectors. A description of the hard constraint, the buffer applied (where applicable), the source and link to the data along with the licence details are provided.

D Soft Constraint Catalogue

The catalogue indicates which socio-economic constraints were classified as soft for each of the differentiated sectors. A description of the soft constraint, the scoring assigned (1-4), the source and link to the data along with the licence details are provided.

E Hard Constraint Mapping Outputs

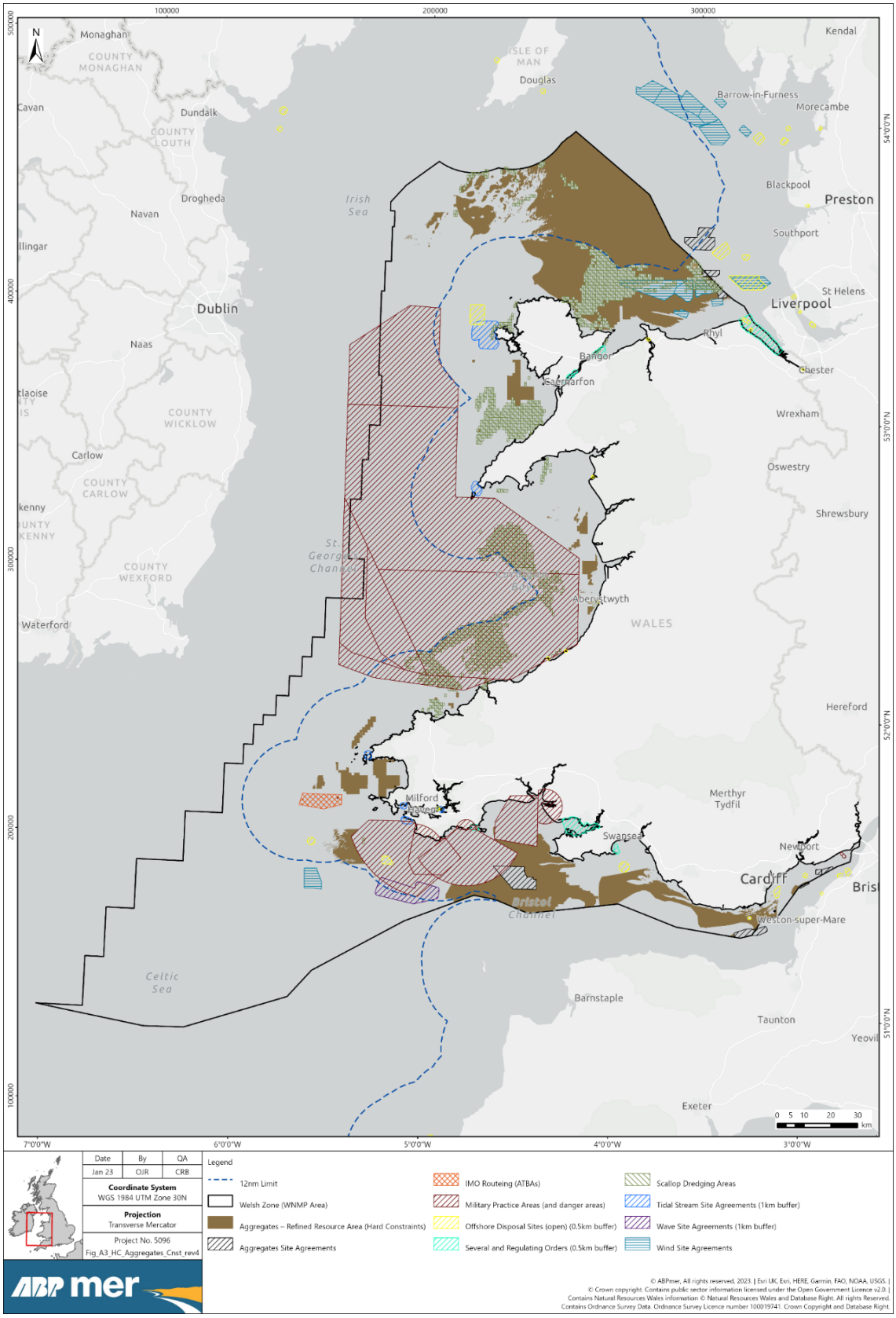

Figure E1. Aggregates initially refined RA indicating hard constraints

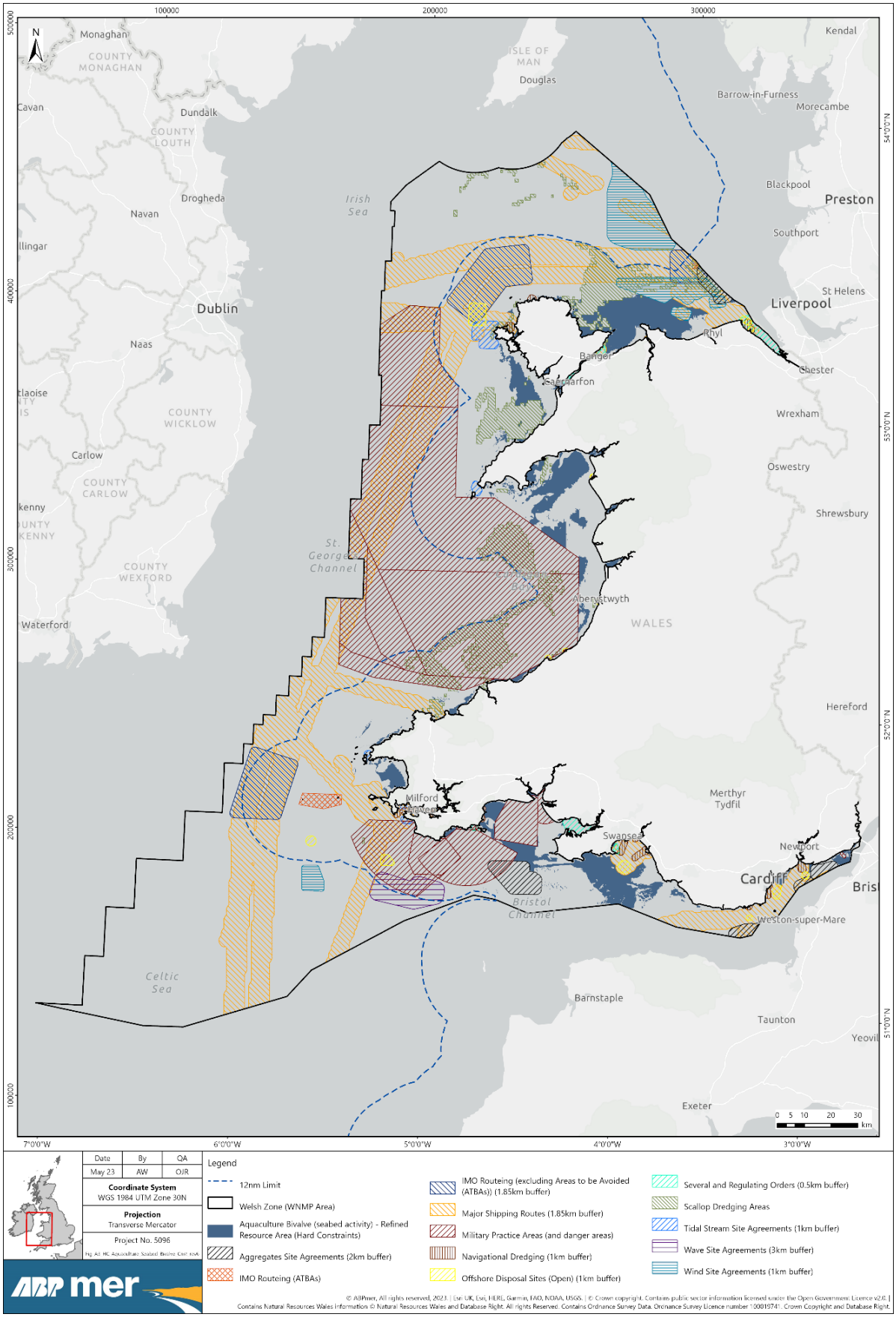

Figure E2. Aquaculture bivalve (seabed) initially refined RA indicating hard constraints

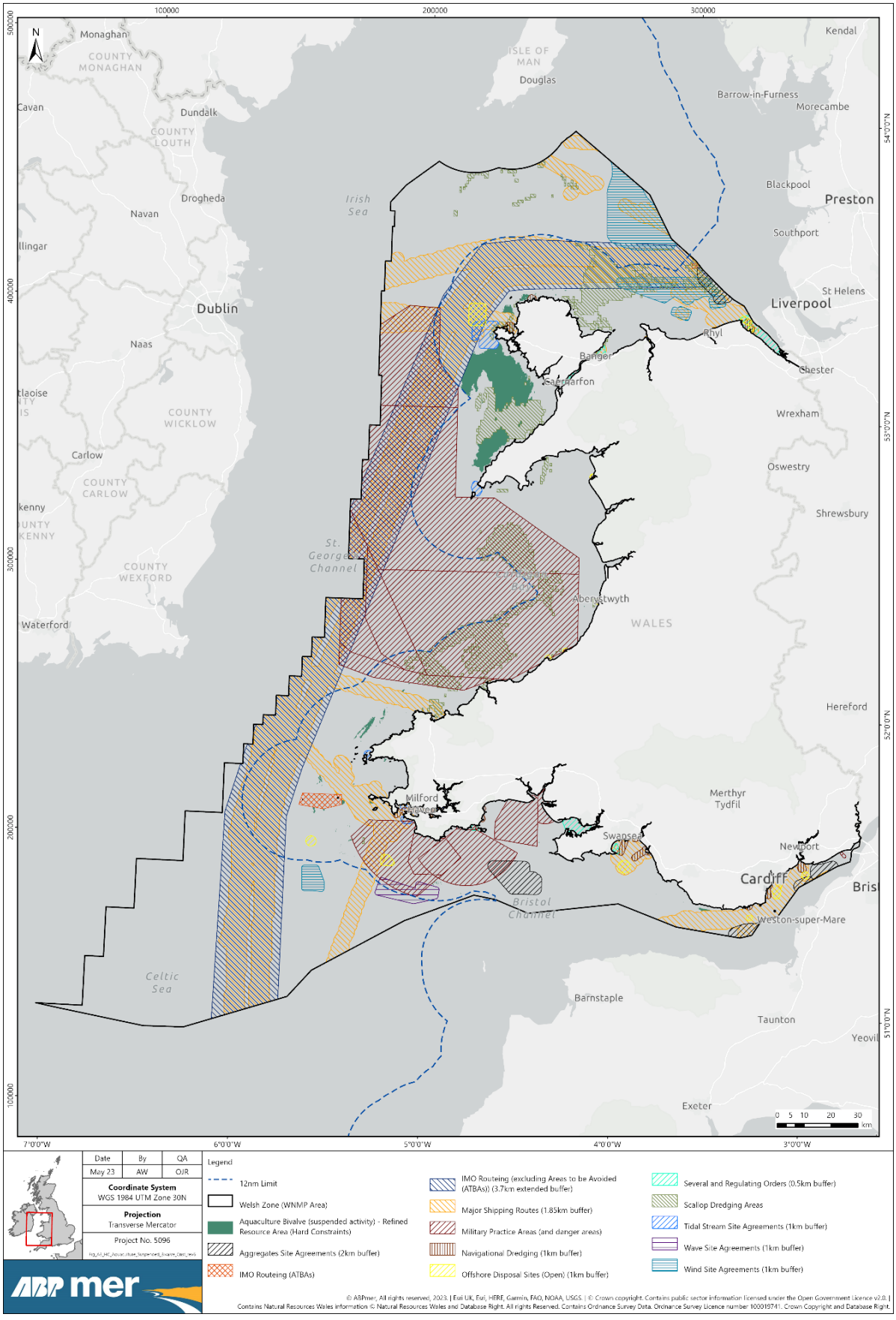

Figure E3. Aquaculture bivalve (suspended) initially refined RA indicating hard constraints

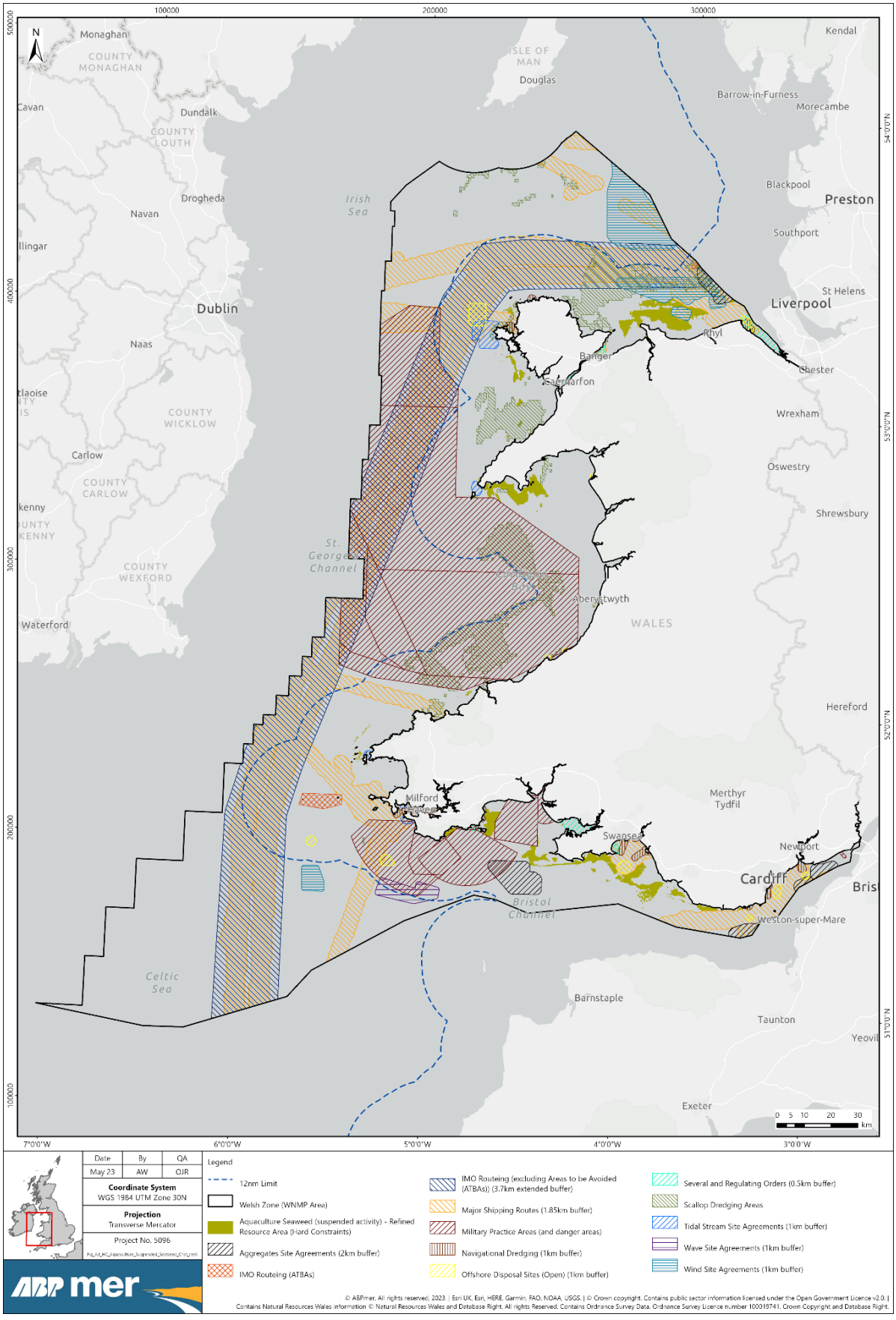

Figure E4. Aquaculture seaweed (suspended) initially refined RA indicating hard constraints

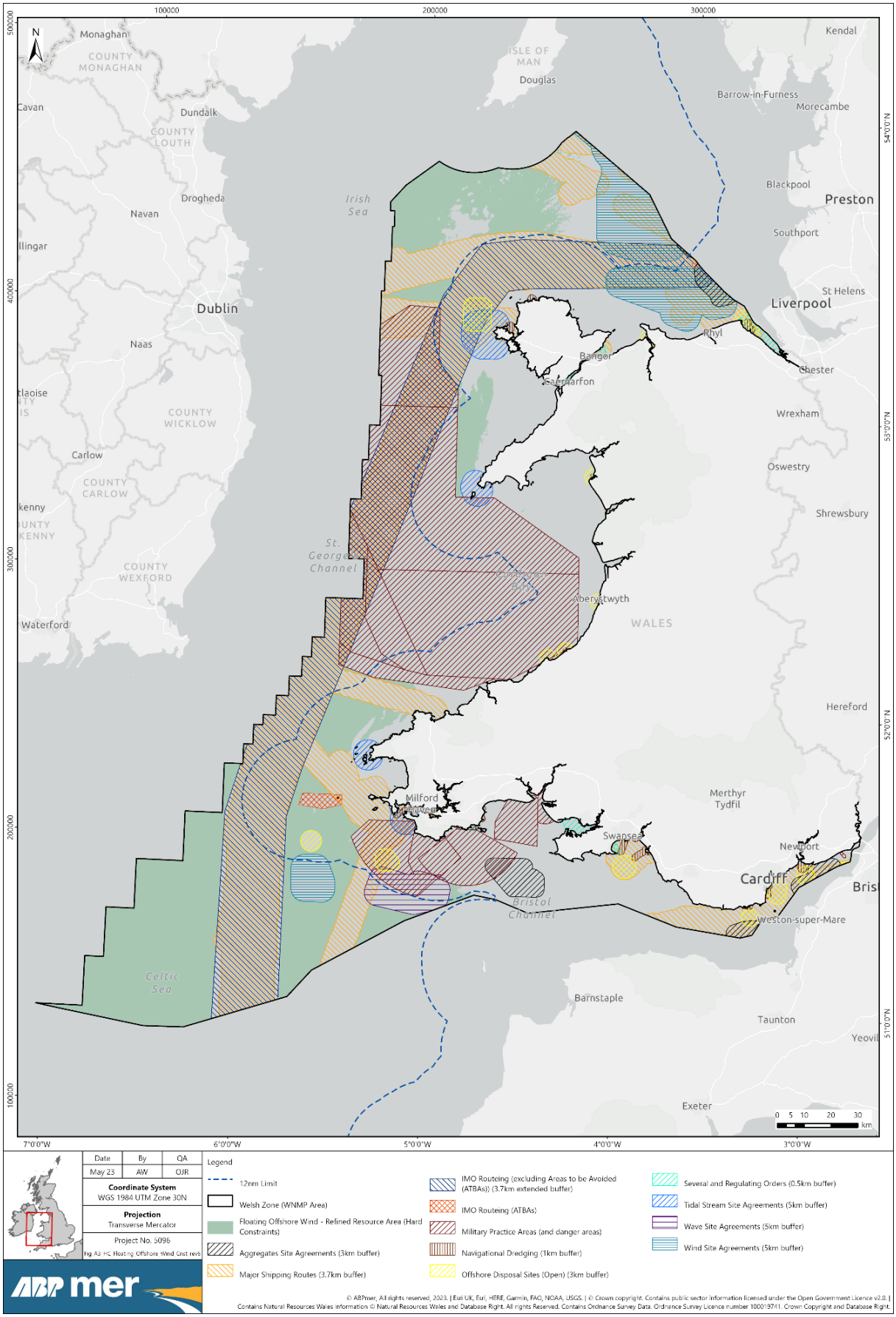

Figure E5. FOW initially refined RA indicating hard constraints

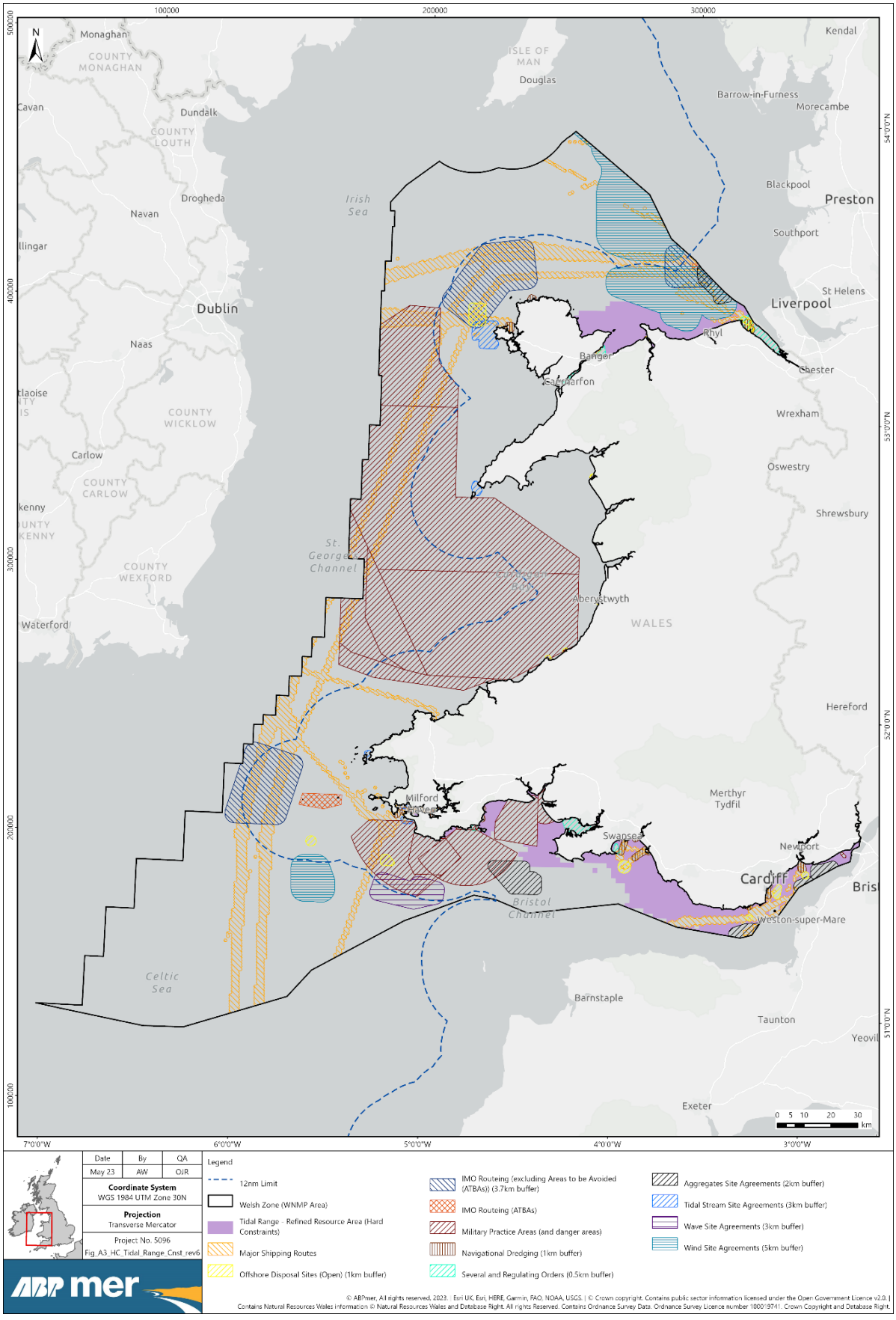

Figure E6. Tidal Range initially refined RA indicating hard constraints

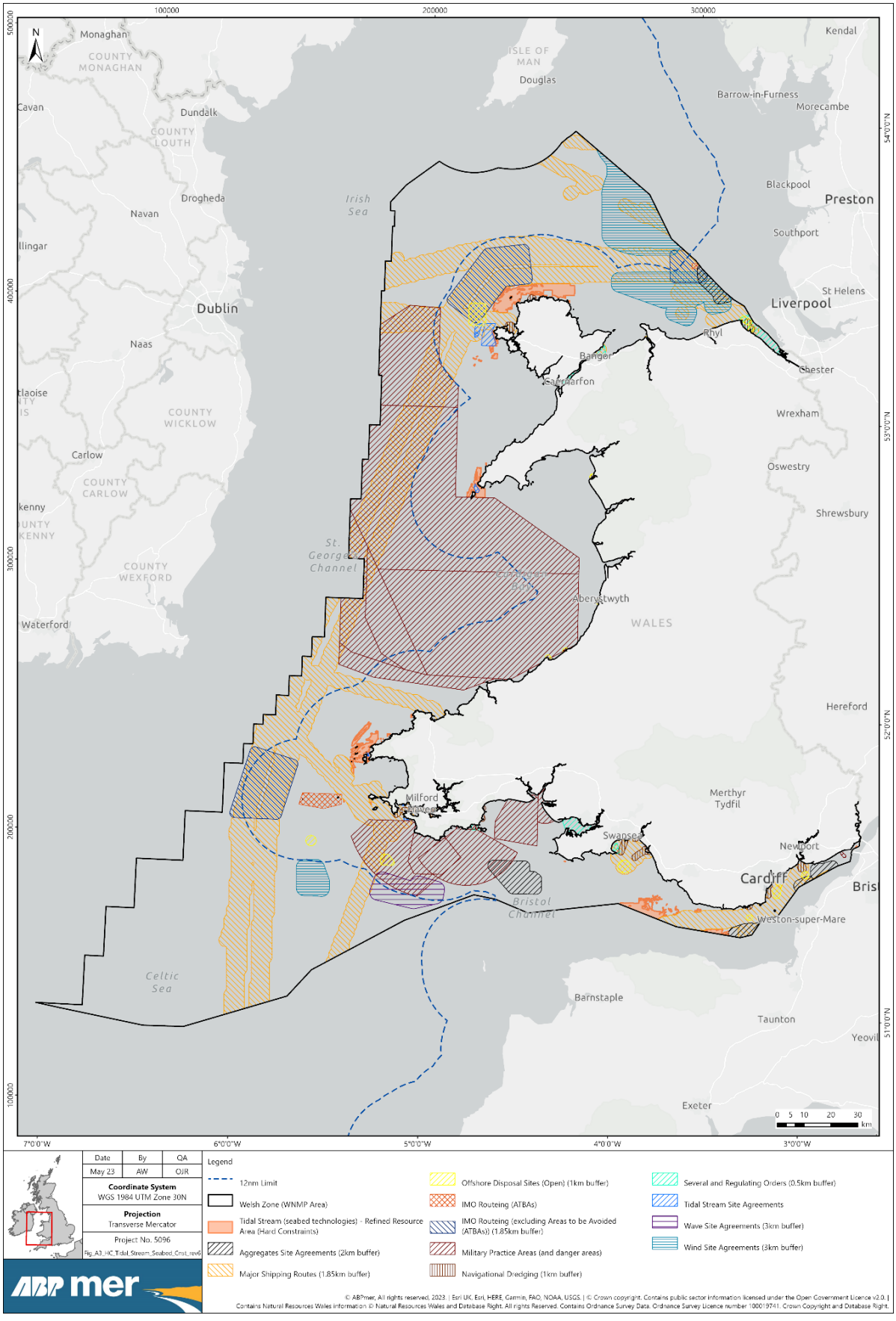

Figure E7. Tidal Stream (seabed) initially refined RA indicating hard constraints

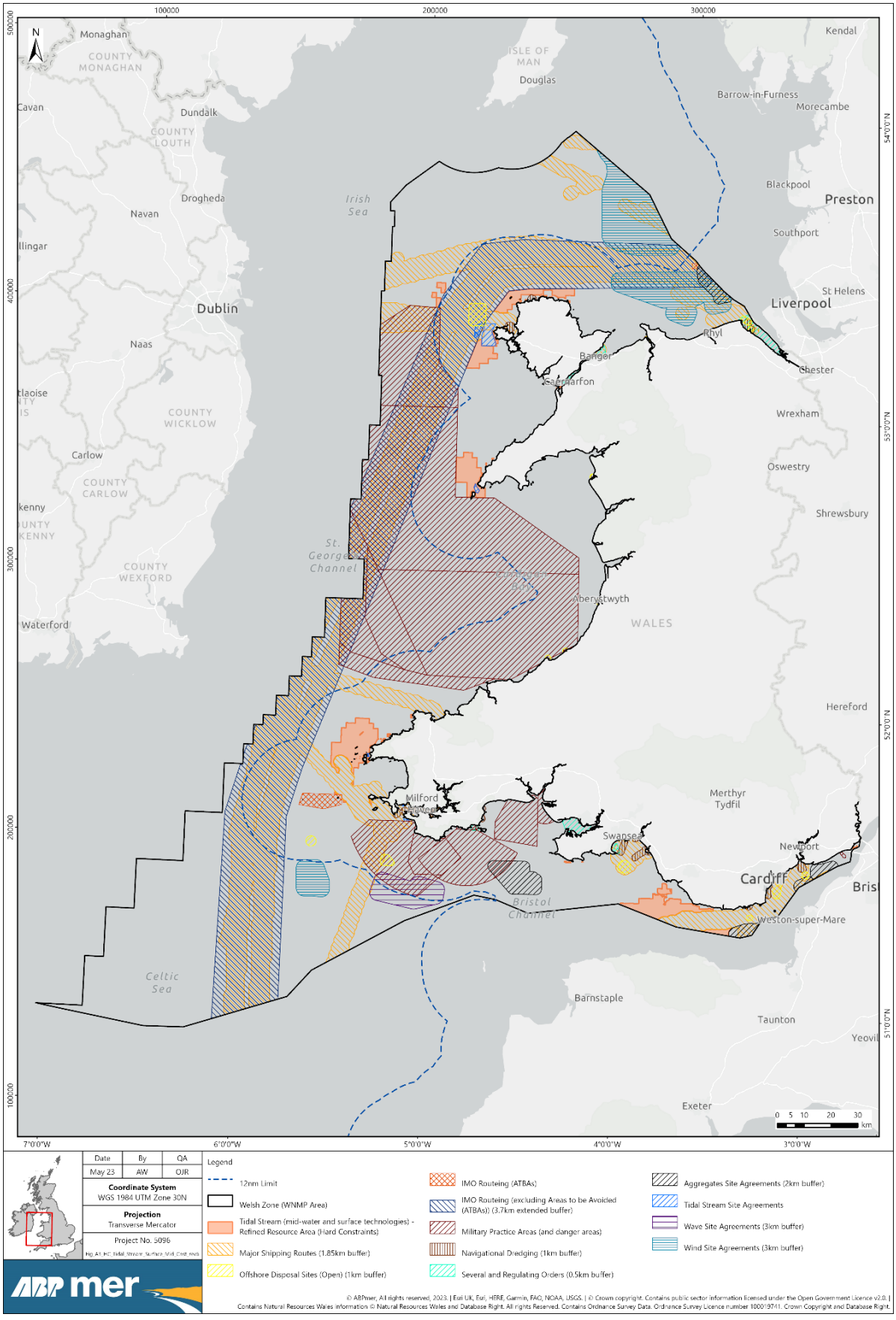

Figure E8. Tidal Stream (mid water and surface) initially refined RA indicating hard constraints

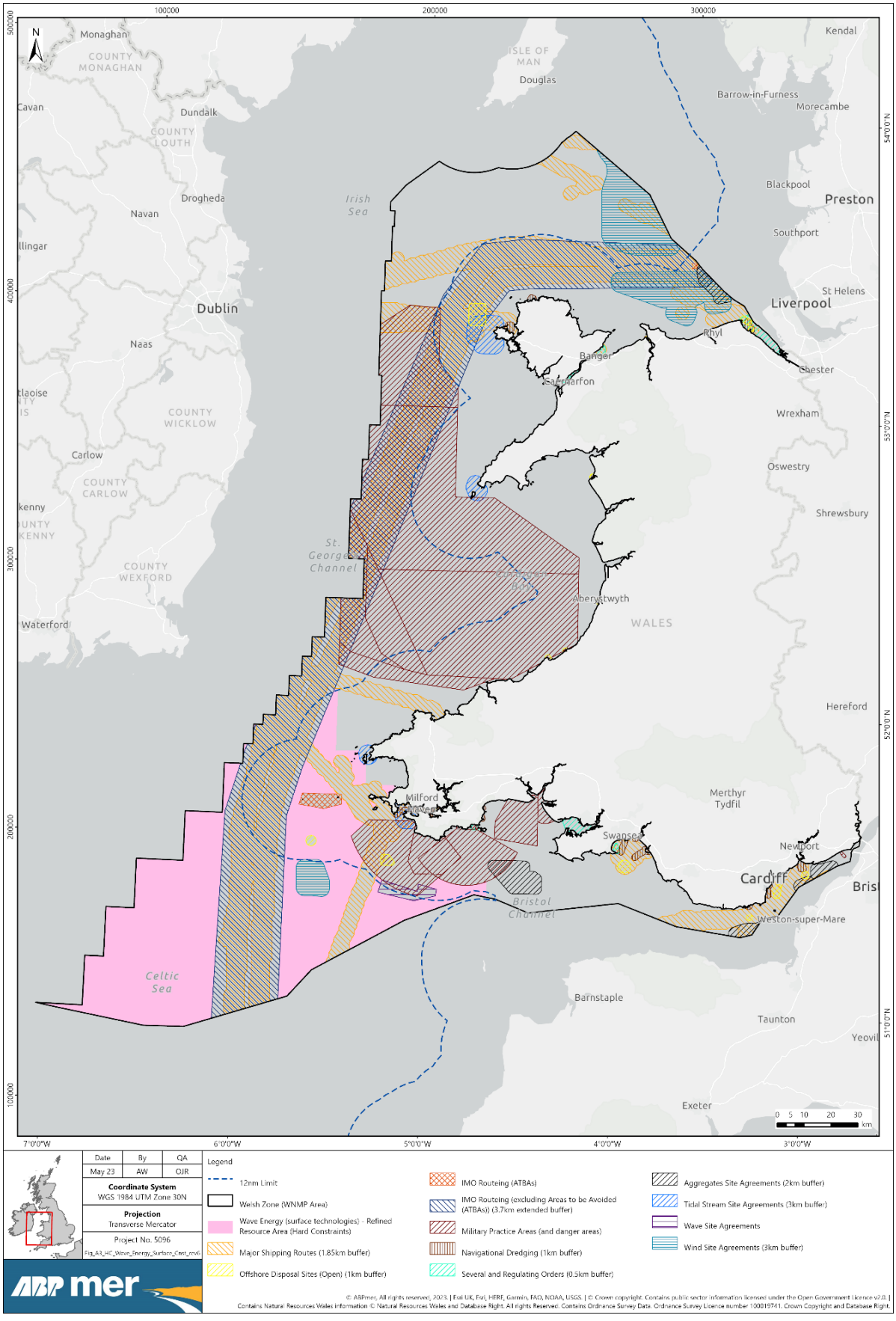

Figure E9. Wave Energy (surface) initially refined RA indicating hard constraints

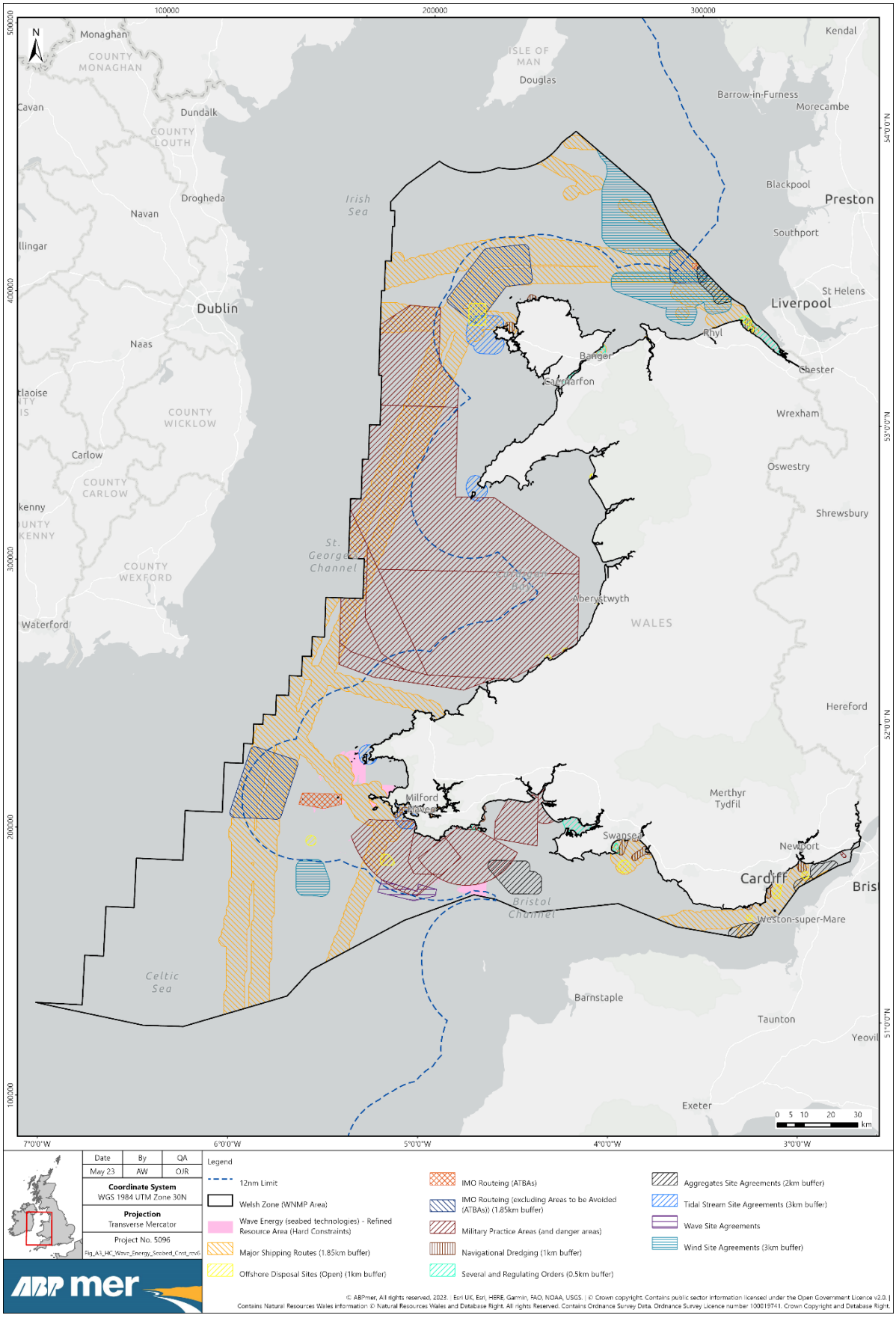

Figure E10. Wave Energy (seabed) initially refined RA indicating hard constraints

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