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Welsh Government

DRAFT WELSH NATIONAL MARINE PLAN

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DRAFT

Introduction

1. The Welsh marine area comprises diverse and valuable natural resources that underpin our well-being and that of future generations. However, our seas are becoming increasingly crowded, leading to competing demands for space and use of our natural resources. We are committed to sustainably managing our marine natural resources to be healthy and resilient so future generations can benefit from the significant economic and social opportunities they offer.
2. This Welsh National Marine Plan (WNMP; referred to as “this plan” throughout) is the first marine plan for Wales and represents the start of a planning process of shaping our seas to support economic, social and environmental objectives. Its purpose is to guide the sustainable development of our marine area by setting out how proposals for use will be considered by decision makers including, in particular, consenting authorities.
3. This document is a marine plan for the inshore and offshore Welsh marine plan regions and has been prepared and adopted for the purposes of section 51 of the Marine and Coastal Access Act (MCAA) 2009 in accordance with Schedule 6 of the Act and in conformity with the UK Marine Policy Statement. This plan and supporting advice should be used by **applicants** to shape licence applications, by **public authorities** to guide their decision making, and by **other users** to understand Welsh Government’s policy for the sustainable management of those Welsh seas that lie within the Welsh (National) marine plan area.
4. This plan sets out:
 - the vision and plan objectives for Welsh seas;
 - the context for marine planning and our approach to producing this plan;
 - how this plan should be used;
 - general cross-cutting plan policies and policy implementation guidance; and
 - sector-specific plan policies and policy implementation guidance

Scope

Geographical scope

5. The Welsh marine plan area consists of around 32,000 km² of sea, as well as 2,120 km of coastline. This plan covers both the Welsh inshore region (from mean high water spring tides out to 12 nautical miles from shore) and offshore region (beyond 12 nautical miles)¹ in a single document (Figure 1). Unless otherwise stated, policies in this plan apply to both the Welsh inshore and offshore regions.

Functional scope

6. The management of activities in Welsh waters is split between **devolved functions** which are the responsibility of Welsh Ministers, and functions which are

¹ s.322(2)MCAA

retained by UK Government. This plan applies to the exercise of both devolved and retained functions².

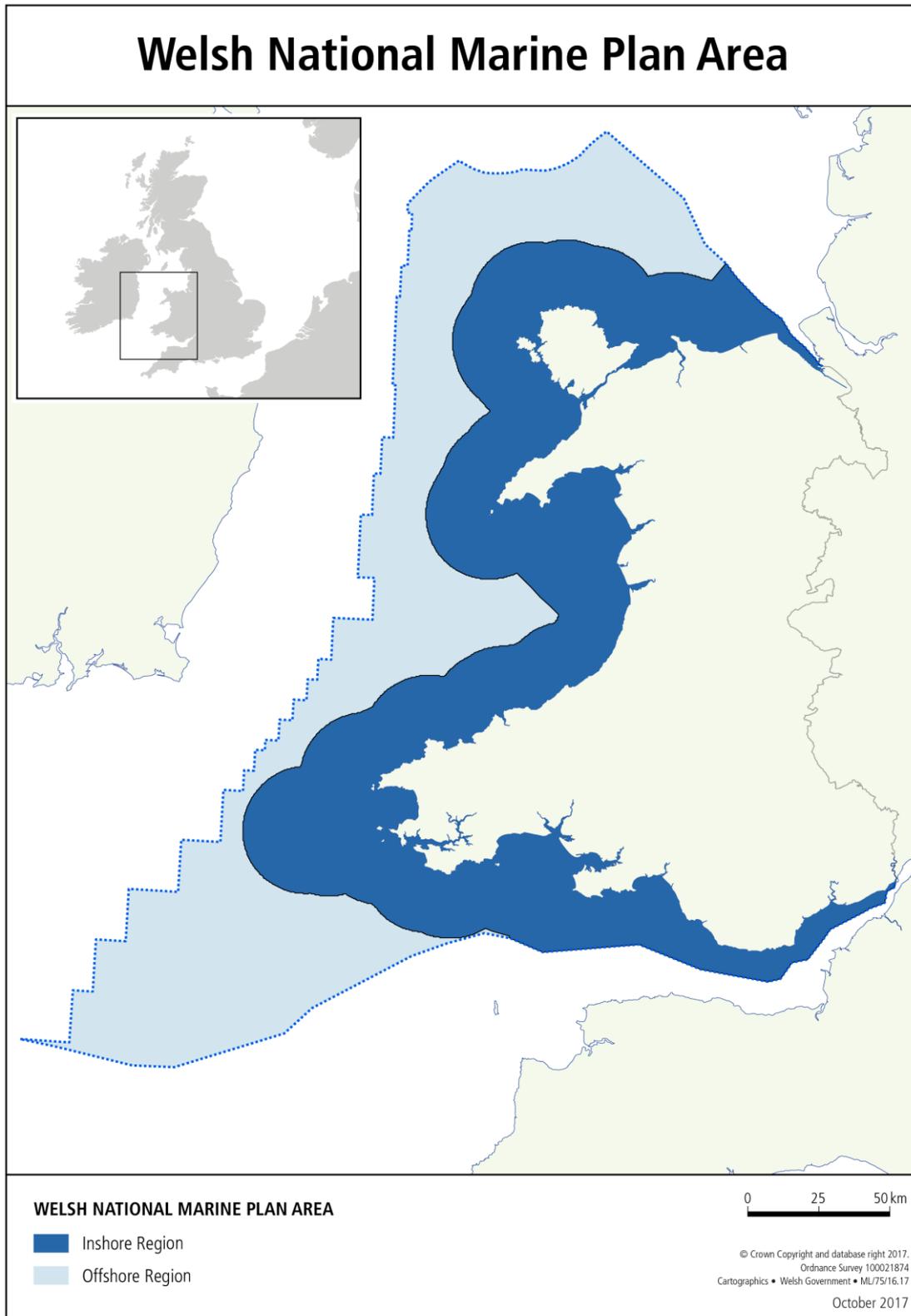
7. The balance of devolved and retained functions may change with time. At the time of writing, further responsibilities are being devolved to the Welsh Ministers (e.g. ports policy, harbour orders and byelaws (with the exception of major trust ports, the only one in Wales being Milford Haven), marine licensing in the offshore area, consenting energy projects up to 350MW).
8. This plan includes provision relating to both devolved and retained functions. In accordance with the Marine and Coastal Access Act 2009 (MCAA) [see **Policy context**], this draft plan has been published with the agreement of the UK Secretary of State for Environment Food and Rural Affairs.

Duration and review

9. This plan takes a 20-year view whilst recognising that certain activities may need to be planned for beyond this time period and that others are likely to change significantly during the lifetime of this plan.
10. Monitoring and reporting is a statutory requirement (MCAA s.61) and an important step in the planning process to ensure that the plan and its policies are effectively contributing to achieving the plan's objectives. We will review and report at least every 3 years on the effects of policies in their plan and their effectiveness at securing the plan objectives. The planning process is iterative; in accordance with the MCAA, future plans will be developed using experience and understanding gained from previous planning processes.

² s.60(1) MCAA

Figure 1: Welsh National Marine Plan (WNMP) area



Vision and objectives

11. Our vision for the Welsh inshore and offshore marine planning regions is that during the 20-year view taken by this plan (the plan period):

Welsh seas are clean, healthy, safe, productive and biologically diverse:

- Through an ecosystem approach, our seas are healthy and resilient and support a sustainable and thriving economy.
- Through access to and enjoyment of the marine environment, health and well-being are improving.
- Through Blue Growth more jobs and wealth are being created which is helping coastal communities become more resilient, prosperous and equitable with a vibrant culture.
- Through the responsible deployment of low carbon technologies, the Welsh marine area is making a strong contribution to energy security and climate change emissions targets.

Our vision is being achieved through an integrated, evidenced and planned approach that respects established uses and interests whilst securing the benefits from new opportunities, recognising the importance of ecosystem resilience, the value of biodiversity and the imperative to adapt to climate change.

12. The vision is consistent with the shared UK vision of **clean, healthy, safe, productive and biologically diverse** oceans and seas and of Welsh Government's commitments to Sustainable Development and the Sustainable Management of Natural Resources (SMNR) under the Well-being of Future Generations (Wales) Act 2015 and Environment (Wales) Act 2016 [see **Policy context**]. Annex 1 sets out how the ecosystem approach has been applied in the development of this plan.
13. The vision will be delivered through the plan objectives, set out in Table 1, which are supported by general, cross-cutting policies and sector-specific objectives and policies [see **Overview of this plan's policies and how to interpret them** and individual sector chapters].
14. The plan objectives and sector-specific objectives set out the desired outcomes or changes that this plan is seeking to achieve in order to realise the vision. They support the High Level Marine Objective themes in the UK Marine Policy Statement [see **Policy context**].

Table 1. Plan objectives

HLMO	Objective	
Overarching	1	Support the sustainable development of the Welsh marine area by contributing across Wales' well-being goals, ensuring the Sustainable Management of Natural Resources (SMNR) by taking account of the cumulative effects of all uses of the marine environment.
Achieving a sustainable marine economy	2	Contribute to a thriving Welsh economy by encouraging economically productive activities and profitable and sustainable businesses that create long term employment at all skill levels.
	3	Maximise the opportunity to sustainably develop marine renewable energy resources, helping to achieve the UK's energy security and carbon reduction objectives, whilst fully considering other's interests and ecosystem resilience.
	4	Provide space to support existing and future sustainable economic activity through managing multiple uses, encouraging the coexistence of compatible activities, the mitigation of conflicts between users and, where possible, by reducing the displacement of existing activities.
Ensuring a strong, healthy and just society	5	Reduce poverty and support the development of vibrant, more equitable, culturally distinct, cohesive and resilient coastal communities.
	6	Support enjoyment and stewardship of our coast and seas and their resources by encouraging equitable and safe access to the marine environment, whilst protecting and promoting valuable landscapes, seascapes and heritage assets.
	7	Improve understanding and enable action supporting climate change adaptation and mitigation.
Living within environmental limits	8	Support the achievement and maintenance of Good Environmental Status (GES).
	9	Protect, conserve, restore and enhance marine biodiversity to halt and reverse its decline.
	10	Maintain and enhance the resilience of marine ecosystems and the benefits they provide in order to meet the needs of present and future generations.

Promoting good governance	11	Support proportionate, consistent and integrated decision making through implementing forward-looking policies as part of a plan-led, precautionary, risk-based and adaptive approach to managing Welsh seas.
	12	Apply the Sustainable Development (SD) principle and the principles of Sustainable Management of Natural Resources (SMNR) to decision making as part of a plan-led approach delivered in line with ecosystem approach principles.
Using sound science responsibly	13	Develop a shared, accessible marine evidence base to support use of sound evidence and provide a mechanism for the unique characteristics and opportunities of the Welsh Marine Area to be better understood.

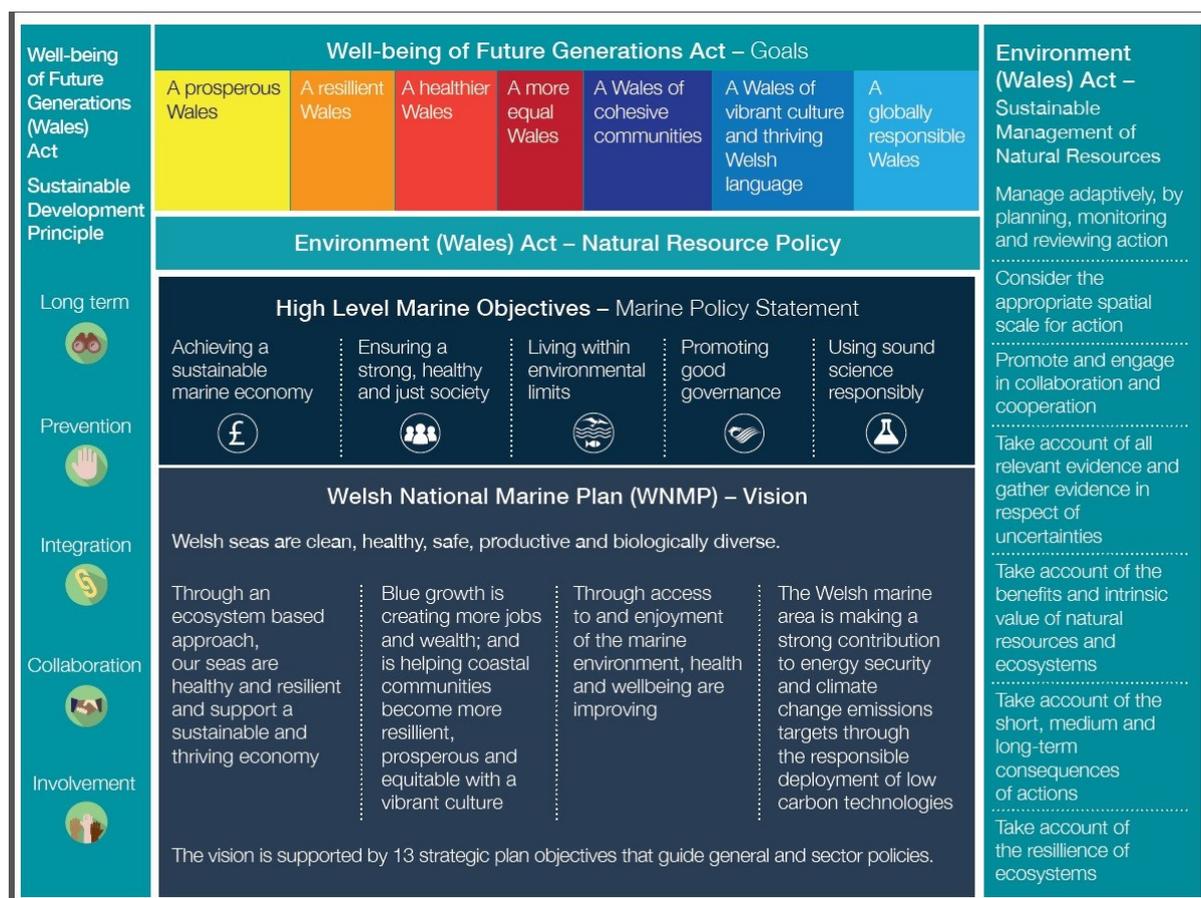
Marine planning policy context

Welsh marine planning policy context

14. This plan, as one of a suite of UK marine plans will contribute to the sustainable development of the UK marine area and support delivery of our shared UK vision. Marine planning for Wales operates within the UK framework and has a distinct Welsh focus reflecting devolved legislative context, responsibilities and commitments.
15. Whilst marine planning will make an important contribution to delivering our vision for our seas, it is only part of a wider picture. There are a wide range of relevant policy and regulatory requirements already in place. This plan has been developed as part of this context (Figure 2) and signposts to them as appropriate. These include, but are not limited to:
16. The **Well-being of Future Generations (Wales) Act 2015** (WFGA) aims to improve the long-term social, economic, environmental and cultural well-being of Wales. The WFGA covers all of Wales including the inshore marine planning region and applies to all devolved policy in this plan. It requires Welsh Ministers and the public bodies listed to apply the Sustainable Development (SD) principle in delivering their functions and act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. It sets out 7 well-being goals (**Wales' well-being goals**) and 5 ways of working (Figure 2). Annex 1 sets out how the marine planning process applies these ways of working and contributes to the delivery of these goals across the plan area. In doing so, this plan:
 - looks to the **long-term** – by taking a 20-year view setting direction for the future use of our seas;
 - encourages early action to **prevent problems** occurring or getting worse;

- takes an **integrated approach** by considering all uses of our seas and the way in which they interact with each other and with our marine natural resources;
- encourages and promotes **collaborative working**; and
- has been developed through **engagement** with interested parties as set out in the Statement of Public Participation.

Figure 2: Marine planning policy context



- The **Environment (Wales) Act 2016** puts in place a legislative framework to promote the **Sustainable Management of Natural Resources (SMNR)**. It applies to all devolved policy in this plan
- SMNR is defined as “using natural resources in a way and at a rate so as to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their needs”. It contributes to the achievement of the well-being goals of the WFGA. SMNR therefore provides a framework for building ecosystem resilience thereby contributing across Wales’ well-being goals.

Principles of the Sustainable Management of Natural Resources

- manage adaptively, by planning, monitoring, reviewing and, where appropriate, changing action;
- consider the appropriate spatial scale for action;
- promote and engage in collaboration and co-operation;
- make appropriate arrangements for public participation in decision making;
- take account of all relevant evidence and gather evidence in respect of uncertainties;
- take account of the benefits and intrinsic value of natural resources and ecosystems;
- take account of the short, medium and long term consequences of actions;
- take action to prevent significant damage to ecosystems;
- take account of the resilience of ecosystems, in particular the following aspects—
 - (i) diversity between and within ecosystems;
 - (ii) the connections between and within ecosystems;
 - (iii) the scale of ecosystems;
 - (iv) the condition of ecosystem (including their structure and functioning);
 - (v) the adaptability of ecosystems.

19. Through sustainable management, and the associated principles, the Act puts the ecosystem approach on a statutory footing, drawing on international best practice and the 12 principles endorsed by the UN Convention of Biological Diversity, one of which is to ensure the integrity of ecosystems. The Environment (Wales) Act deals with the integrity of ecosystems by focussing on ecosystem resilience, which is about taking a positive and proactive approach and building resilience within all of our ecosystems to ensure they do not go beyond their inherent limits.

20. The Act introduces an iterative and interconnected framework for SMNR through the publication and review of the following documents which cover both land and the inshore marine planning region:
- The **State of Natural Resources Report (SoNaRR)** produced by Natural Resources Wales (NRW) sets out the state of natural resources in relation to Wales, and the extent to which SMNR is being achieved.
 - The **Natural Resources Policy (NRP)** produced by the Welsh Ministers sets out their general and specific policies including the key priorities, risks and opportunities for SMNR.
 - **Area statements** produced by NRW help identify how the implementation of the national policy and the related policies in this plan can be achieved at the local level.
 - The SMNR framework complements the marine planning process, ensuring that the management of natural resources in terrestrial and marine environments is fully integrated and joined up.

The Act also places a Biodiversity and Resilience of Ecosystem Duty on public authorities who exercise functions in Wales thereby putting biodiversity at the heart of decision making.

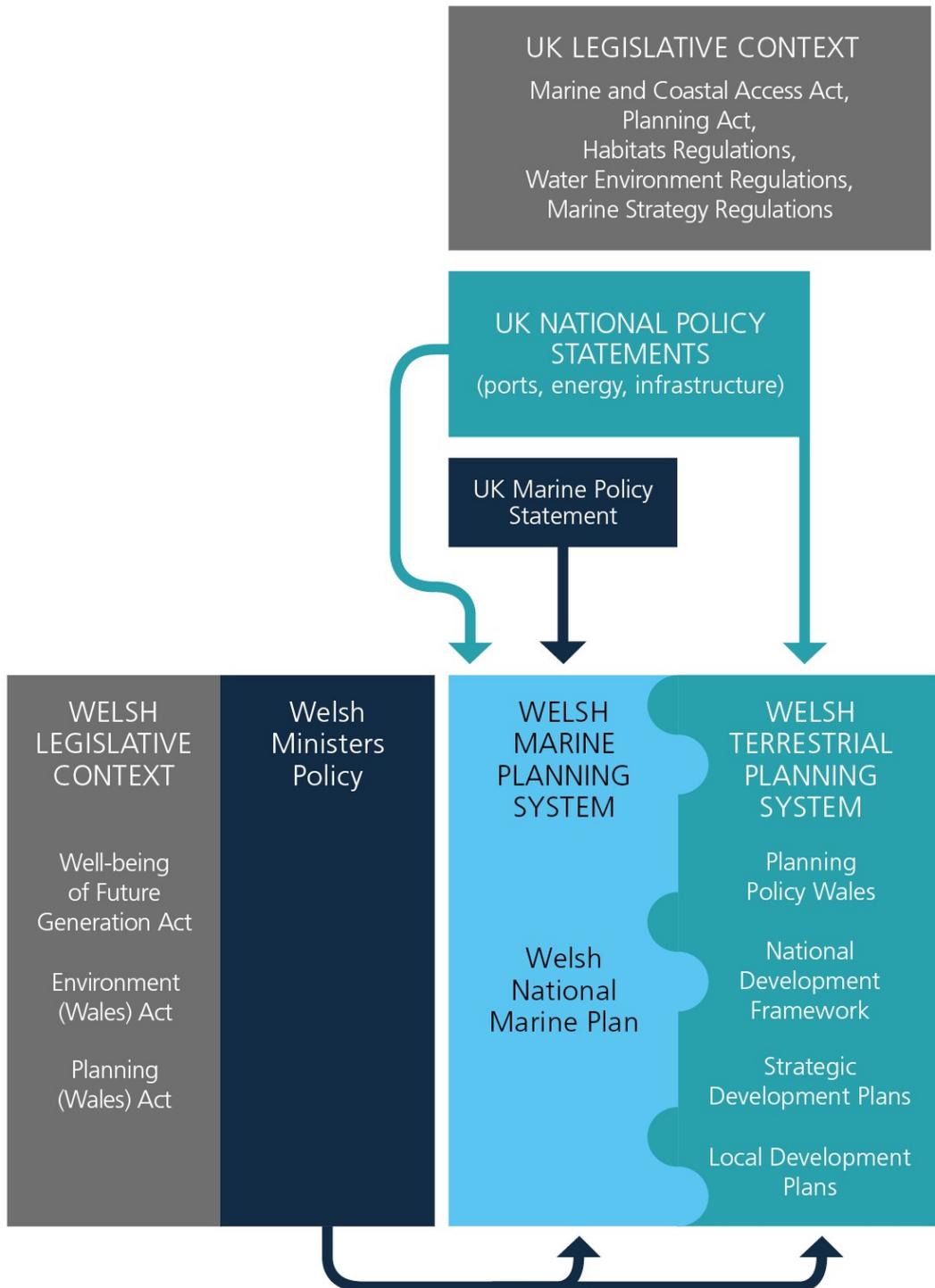
Programme for Government, which is reviewed regularly, provides important up-to-date clarity on Government's strategic priorities and should therefore be an important consideration in decision making.

UK marine planning policy context

21. The **Marine and Coastal Access Act 2009 (MCAA)** provides the framework for marine planning in Wales and across the UK. It provides for production of a Marine Policy Statement (MPS) for the UK, sets Welsh Ministers as the marine plan authority for the Welsh inshore and offshore regions, requires the production of marine plans where a MPS is in place and includes requirements for plan implementation, monitoring and review.
22. The **UK Marine Policy Statement 2011 (MPS)** provides the framework for preparing marine plans and provides the high level policy context for marine planning, within which this plan has been developed. It sets out 5 **High Level Marine Objectives (HLMOs)** which have guided the development of this plan:
- Achieving a sustainable marine economy;
 - Ensuring a strong, healthy and just society;
 - Living within environmental limits;
 - Promoting good governance; and
 - Using sound science responsibly.

23. The MPS includes a requirement to apply the **ecosystem approach** to marine planning which establishes a number of principles to help ensure sustainable development. The UK Marine Strategy underpins this approach at a UK level, requiring consideration of marine ecosystems and the management of human pressures, including across administrative boundaries. In Wales, the SMNR framework provided by the Environment (Wales) Act provides an additional statutory focus for implementing the ecosystem approach through this plan. Annex 1 sets out how Ecosystem Approach principles are applied through the Welsh marine planning process.
24. The MPS also includes a requirement to apply **integrated coastal zone management (ICZM)**, recognising the need to join up across land and sea to develop complementary proposals and plans at the coast. Marine planning is not the only mechanism to deliver ICZM; all relevant planning, management and regulatory regimes should apply the principles. This plan includes policies to help ensure such integration, including between neighbouring marine planning authorities. Annex 1 sets out how ICZM principles apply through the wider Welsh marine planning process [see **Annex**].
25. The UK Government produces **National Policy Statements (NPSs)** under the **Planning Act (2008)** which set out Government's policy for the development of national infrastructure for particular sectors. NPSs provide the framework within which inspectors make their recommendations to the Secretary of State with regard to Nationally Significant Infrastructure Projects (NSIPs). NSIPs may cover and apply to the plan area, where they are in place, relevant decisions must be taken in accordance with them and, also, with regard to this plan.
26. There are strong synergies across the requirements of the wide range of legislative instruments, other measures and EU/International commitments of relevance to marine planning. Implementing the policies in this plan will help support delivery of these broader instruments. Figure 3 sets out the relationship between cross cutting international commitments and UK marine and terrestrial planning policy

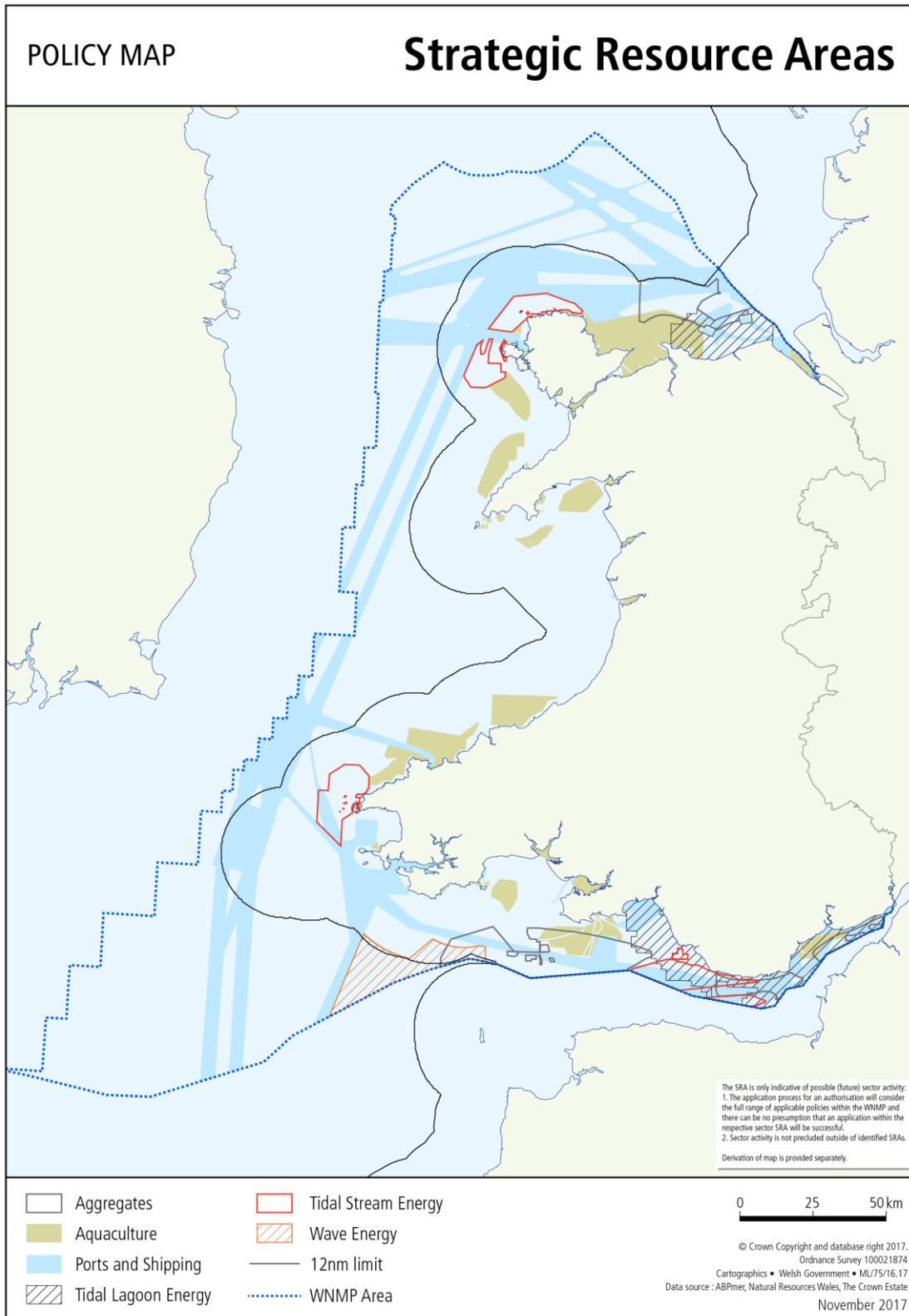
Figure 3: Marine planning and wider planning policy context



Approach

27. This plan has been developed in conformity with the MPS and the requirements of the MCAA.
28. The marine planning process as a whole will support the move towards integrated marine governance by bringing together a wide range of policy interests and stakeholders in relation to the management of our marine environment through a plan-led approach. This plan supports the sustainable management of the marine environment by providing policy to inform decision making. It does so by setting out policies relating to the future use of the plan area with policy which provides spatial guidance where appropriate.
29. Compared to the terrestrial environment, there is sometimes limited evidence on the status of the marine environment and the impact of human activities (pressures) on it, and such evidence can be expensive and technically challenging to collect. This plan provides spatial prescription on the application of policies where appropriate, and supports the strategic collection of evidence so that future marine plan iterations can refine spatial prescription. It has been prepared using the best available evidence (summarised in the Wales' Marine Evidence Report).
30. The policy for some sectors is supported by one or more maps to spatially define policies or for illustrative purposes. As well as showing the broad distribution of resources or patterns of current use, some maps also identify key areas:
 - Resource Areas (RAs) are identified – these are broad areas that describe the distribution of a particular resource that has the potential to be used or is used by certain marine sectors, e.g. aggregates, aquaculture or marine energy.
 - Strategic Resource Areas (SRAs) are identified – they are used to allocate space and focus future use. These are areas of good opportunity for future use by a particular sector over the plan period and beyond. SRAs lie within the related Resource Area. SRA's have been identified at a broad scale, local issues and constraints that relate to the general policies that have a spatial dimension will be taken into account when considering individual proposals.
31. Marine planning spatial policies (those aligned to SRAs) may change as marine planning develops and our understanding improves. Identification of an SRA through this plan will support a process of collating and developing further evidence and understanding to inform decision making at the local scale. All maps in this plan are indicative.

Figure 4: Overview of SRAs



The marine planning process

32. The marine planning process involves a number of steps: evidence gathering, identification of issues and opportunities, policy development, plan implementation, monitoring and review, supported by ongoing stakeholder engagement and impact assessments.

Figure 5: The marine planning process



33. The planning process is iterative, and future plans will be developed using experience and understanding gained from this first marine planning process, incorporating the outputs of any sectoral marine planning and providing a greater level of spatial prescription where appropriate. Information on how to get involved in the planning process is available on the Welsh Government website.

Integration with other planning processes

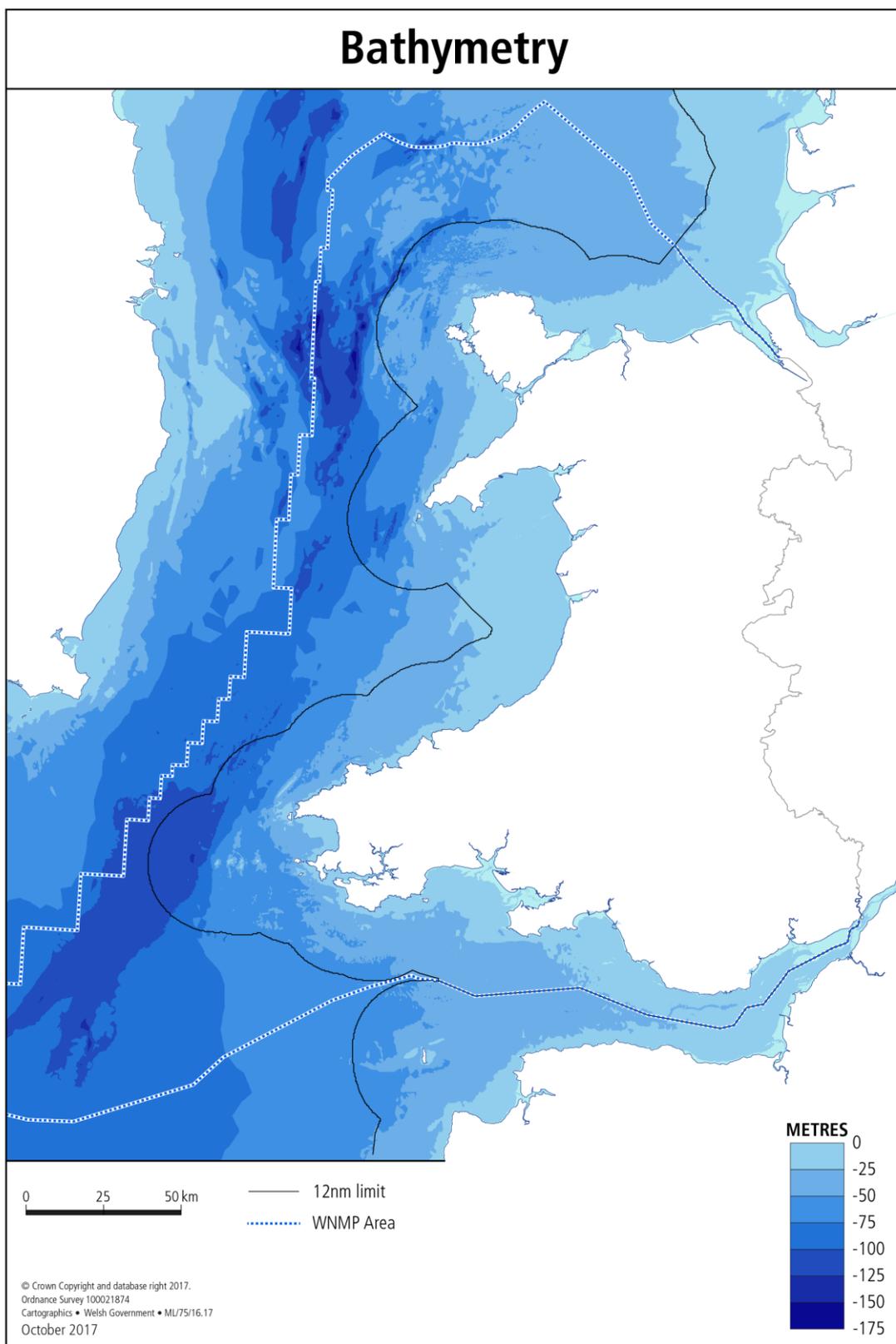
34. Planning decisions in one planning area may impact upon or be affected by those of another. Decisions on land often affect the marine area and vice versa and most activities in the marine environment also have an onshore component or implication. This plan extends up to the level of mean high water spring tides and the waters of every estuary, river or channel, so far as the tide flows at mean high water spring tide. In comparison, land-use planning boundaries generally extend to mean low water spring tides. This plan therefore overlaps physically with terrestrial plans, helping to facilitate integration between land and sea.
35. The Welsh Ministers will produce and keep up-to-date a National Development Framework (NDF) which will:
- set out where nationally important growth and infrastructure is needed and how the planning system - nationally, regionally and locally - can deliver it;
 - provide direction for Strategic and Local Development Plans and support the determination of Developments of National Significance;
 - sit alongside Planning Policy Wales, which sets out Welsh Government's planning policies and provides the context for land-use planning; and
 - support national economic, transport, environmental, housing, energy, cultural and marine strategies and ensure they can be delivered through the planning system
36. Strategic Development Plans (SDPs) will allow issues that cut across a number of local planning authorities to be considered and planned for in an integrated and comprehensive way. At a local level, planning authorities have a statutory duty to prepare a local development plan and keep it under review.
37. National and local terrestrial planning authorities and neighbouring marine planning authorities have played a key role in developing this plan and have therefore helped ensure that this plan has regard to other relevant marine and terrestrial plans. This plan sits alongside and interacts with other relevant marine and terrestrial planning regimes as well as other planning and management processes that relate to the coast and seas around Wales and therefore makes an important contribution to ICZM. To ensure consistency and compatibility in decision making, the WNMP requires planning authorities to take reasonable steps to encourage coherence of plan policies.
38. This plan provides the policy framework for the future use of Welsh seas but recognises that certain sectors may require focussed sectoral marine planning in order to identify future opportunities and provide guidance to industry on where to focus investment. Within this plan's sector chapters, supporting policies encourage further work between relevant authorities to undertake sectoral marine planning in order to contribute to better understanding of opportunities within and the need to refine Strategic Resource Areas (SRAs) [see **Strategic Resource Areas**].
39. Where sectoral marine planning is undertaken it should be developed in line with the SMNR principles, supported by assessments to identify and address potential

adverse social, economic and environmental issues, and should be subject to consultation where appropriate.

Cross border planning

40. Delivering marine planning for Wales involves working with other administrations and stakeholders to ensure that this plan operates smoothly and consistently across administrative borders. This is particularly important for the cross-border estuaries of the Dee and the Severn and more widely across the Irish Sea.
41. Marine ecosystems function at a range of scales and often work across administrative boundaries. Recognising and planning for the use of marine natural resources as part of wider ecosystem management is an important aspect of marine planning.
42. Co-ordination involves regular liaison and engagement, planning for activities that occur across boundaries and sharing relevant evidence. As planning develops across the UK and beyond, opportunities will be taken to increasingly join up planning practice, particularly in our cross-border areas. Welsh Government will work closely with neighbouring marine plan authorities and put in place, where appropriate, joint working arrangements to support collaboration.
43. The shared marine evidence base collected by a range of monitoring programmes under the UK Marine Monitoring and Assessment Strategy (UKMMAS) will help with the co-ordination of cross border marine planning. At the local level, we will develop and maintain a marine planning evidence base for our shared cross border areas.

Figure 6: Bathymetry



How to use this plan

44. This plan (as well as the UK MPS) will be appropriate marine policy documents for the purpose of the MCAA.
45. **All text in the following section, the General Cross-cutting Policies sections and the Sector Policies sections should be considered as planning policy.**

Who should use this plan

46. This plan provides policy direction and support for a wide range of marine decisions and consents and should be used by both developers and relevant public authorities (who have a decision-making role) in the development of proposals and their consideration for consent. It should also be used by relevant public authorities in making decisions with the potential to affect the plan area.
47. Any authorisation or enforcement decision with the potential to affect the marine plan area, including those related to terrestrial activities, should be taken in accordance with this plan unless relevant considerations indicate otherwise.
48. Action is required by a range of parties to ensure the effective implementation of this plan, including developers, public authorities and the public. Key roles and responsibilities in relation to marine planning include:

The Welsh Ministers (as the marine plan authority)

49. The Welsh Ministers are responsible for setting policy and undertaking marine planning. In doing so they:
 - produce, keep under review and amend marine plans for marine plan regions, setting out Welsh Government policy for the sustainable use of marine natural resources and optimal use of marine space;
 - oversee marine plan implementation;
 - monitor and report on the effectiveness of the marine planning process;
 - contribute to cross-border co-operation between planning authorities (Wales, England, Northern Ireland, the Republic of Ireland and the Isle of Man) and planning processes (both terrestrial and marine);
 - take account of evidence presented through SoNaRR and other relevant evidence to produce the NRP and ensure this relates to marine planning policy; and
 - have regard to this plan and to the MPS in developing policy or making any decision which may affect the plan area; and
 - undertake functions in accordance with the Sustainable Development (SD) principle and the Sustainable Management of Natural Resources (SMNR) principles.

Developers

50. Developers are responsible for ensuring that their proposals are in accordance with this plan. In doing so they should:
- engage early across and between relevant stakeholders;
 - apply the general cross-cutting and sector-specific policies set out in this plan to guide proposals;
 - consider the potential beneficial and adverse impacts of their proposed activity on the economy, society and the environment; minimise adverse effects and maximise opportunities for coexistence and securing multiple benefits;
 - consider relevant sectoral marine planning and contribute to strategic sectoral planning initiatives;
 - supply the information required for the relevant public authorities to assess their proposal(s) including fit with relevant planning policy;
 - ensure that evidence provided is sound and proportionate given the development in question and its associated risks; and
 - support filling evidence gaps by gathering and sharing evidence on the impact of developments and contribute where appropriate to developing understanding of SRAs and future opportunity.

Public authorities

51. Relevant public authorities are responsible for assessing whether proposals are in accordance with this plan in order to make planning, policy, and authorisation decisions. In doing so they should:
- contribute to sustainable development by integrating the need to protect the environment and address adverse impacts whilst supporting blue growth
 - encourage early engagement across and between relevant stakeholders;
 - make any authorisation or enforcement decision in accordance with this plan and the MPS unless relevant considerations indicate otherwise (and state its reasons if it makes any decision which is not in accordance with relevant plan documents);
 - have regard to this plan and to the MPS in making any decision which may affect the whole or any part of the plan area (other than an authorisation and enforcement decision);
 - look favourably on proposals that contribute to this plan's vision and objectives and comply with the relevant plan policies;
 - guide sectors towards SRAs and ensure their sustainable use;
 - safeguard established interests in accordance with this plan;
 - make available relevant evidence and guidance where possible to support plan implementation; and
 - undertake functions in accordance with the SD principle and SMNR principles.

How to apply this plan

52. All proposals, authorisation decisions and enforcement decisions should apply the relevant policies in this plan to project design and related decision making unless relevant considerations indicate otherwise.
53. When an application for a use of the marine area that requires formal authorisation is made to a public authority, the proposal should reflect the relevant policies in this plan and the resultant policy fit should be clearly set out in a proposal [Table 2]. The policies in this plan provide policy guidance to support the development of proposals and related decision making; they do not negate the need to go through the appropriate authorisation process(es).
54. This plan contains both general and sector-specific policies [see **Overview of this plan's policies and how to interpret them**]. **General policies** are cross-cutting plan policies of a general nature and apply to all sectors and activities, though the degree to which they need to be considered depends on the nature of the proposal. They are set out under the UK HLMO themes of the MPS. **Sector-specific policies** operate alongside general policies and relate to a particular type of activity. They include **supporting policies** (to support the development of a given sector) and **safeguarding policies** (to protect a given sector's existing or potential future activities).
55. This plan provides an integrated set of objectives and policies that contribute to the sustainable development and use of Wales' marine area and, as such, **none of the objectives and policies should be considered or applied in isolation.** Equally, policies for each sector should not be applied in isolation. All sector policies should be read in conjunction with the general cross-cutting policies and also with all other relevant sector policies [Table 3]. Policies set out in other relevant documents should also be considered and applied where appropriate [see **GOV_02** and Figure 3].

Table 2: Overview of the process for developing and authorising proposals of relevance to this plan.

Activity	Who	Key consideration(s)
Understanding the context for a proposal potentially requiring authorisation	Developer	<p>Consider the relevant policy framework – this plan, the MPS, relevant terrestrial planning plans, relevant National Policy Statements, neighbouring marine plans, NRP and SMNR principles.</p> <p>Consider the relevant regulatory regime – marine licensing (NRW), Environmental Impact Assessment (EIA), terrestrial planning, mid-size terrestrial project (NDF), NSIP (NPSs).</p> <p>Consider spatial opportunities and potential constraints – this plan’s general policies, supporting and safeguarding sector policies and policy implementation guidance, marine planning portal (natural resources, sea users, current authorisations) and relevant sectoral planning. Other relevant considerations.</p>
<p>If the project requires authorisation from a public authority and has the potential to affect the Welsh marine area then relevant authorisation decisions will be taken in accordance with this plan</p>		
Develop and refine the proposal – pre-application	Developer	<p>Where appropriate, engage with the relevant public authority, as well as adjacent public authorities, to discuss the scale and nature of the proposal and the proportional implementation of WNMP policies – relevant public authorities and Welsh Government marine planning officials.</p> <p>Assess existing evidence, identify key issues and further evidence needs, collect and apply evidence – marine planning portal (natural resources, sea users, current authorisations), other evidence sources, locational guidance where available.</p>

		<p>Where appropriate, engage with other sea users to understand and manage opportunities and potential conflicts.</p> <p>Consider relevant advice and guidance produced by public authorities and / or industry bodies.</p> <p>Gather any outstanding evidence including, if necessary, desk or site study.</p>
Provide public authority with proposal and supporting evidence	Developer	<p>Submit application providing clear evidence for policy compliance (based upon best available evidence).</p> <p>Describe any residual policy conflicts, including any conflicting sector interactions and justifications.</p>
Assess proposal	Public authority	<p>Consider how proposal complies with WNMP policies.</p> <p>Consider the relevant regulatory regime or statutory requirement, eg, Habitats and Birds Directives, Water Framework Directive, Environmental Impact Assessment Directive, Environmental (Wales) Act (S. 6 & 7), Well-being of Future Generations (Wales) Act.</p> <p>Incorporate other relevant considerations – new / other evidence, planning policy updates, sectoral planning.</p> <p>Determine licence conditions in accordance with the MPS and relevant marine plan policies and other relevant considerations.</p>

Make determination	Public authority	Make determination in accordance with the WNMP unless relevant considerations indicate otherwise and if this is the case set out why.
Post authorisation	Developer and Public Authority	Comply with any authorisation conditions, including undertaking any necessary monitoring and report findings. Make evidence available to inform future policy development and developments.

57. The MCAA requires that a public authority (s.322(1) MCAA) make any authorisation or enforcement decision in accordance with the appropriate marine policy documents (this plan and the MPS), unless relevant considerations indicate otherwise. The MCAA also requires public authorities to have regard to the appropriate marine policy documents in making any decision which relates to the exercise of any function capable of affecting the whole or any part of the UK marine area which is not an authorisation or enforcement decision.
58. However if to any extent a policy stated in this plan conflicts with any other statement or information in the plan, that conflict must be resolved in favour of the policy. Where there is the potential for conflicts to arise between plan policies, decisions should be made on a case-by-case basis to best support the delivery of the objectives of this plan.
59. If a public authority makes any authorisation or enforcement decision which is not in accordance with these documents, it should state its reasons. Relevant considerations might include but are not limited to:
- relevant national policy;
 - policies in relevant development plans including the NDF, SDPs and Local Development Plans (LDPs);
 - pre-application planning consultation carried out by, or on behalf of, the applicant;
 - wider Government marine planning policy – legislation, policy, guidance and advice;
 - previous appeal decisions and any Independent Inquiry report;
 - principles of case law held through the courts; and
 - new evidence which was not available at the time of plan development, for example in relation to SRAs.
60. The Welsh Ministers may, from time-to-time, issue policy or guidance which would constitute a relevant consideration in relation to this plan or clarification relating to this plan and its implementation.
61. As well as informing decisions directly related to the sustainable development and use of the area covered by this plan, the policies in this plan should also inform

the development and implementation of related plans, including but not limited to any neighbouring marine plans, land-use plans and Shoreline Management Plans.

62. Not all activities in the marine area require a formal authorisation by a public authority. For example, some activities are not covered by the marine licensing provisions of the MCAA. Also, certain activities are subject to an exemption order (and therefore do not require formal authorisation). Whilst the policies of this plan apply to decisions made by public authorities, they also provide a context for marine users to understand how they relate to and can contribute to Welsh Government's strategic planning policy for the marine plan area.
63. As a marine plan authority, The Welsh Ministers have a duty to keep relevant matters under review. Evidence collected once a proposal has been authorised should feedback into the evidence base to support further iterations of this plan and help ensure the effectiveness of this plan's policies can be assessed [see **Using sound science responsibly**].

Proportionate application of this plan and its policies

64. It is unlikely that a particular decision on a proposal will involve a single policy in this plan or all policies; instead it is likely that several plan policies will apply. Public authorities working with applicants and others as necessary will determine which plan policies (and associated maps) apply to a particular decision.
65. The level of detail required to demonstrate compliance should be proportionate to the project's scale, potential impacts and thus risk (in accordance with policy **GEN_02** of this plan).
66. Similarly, the level of assessment and engagement undertaken for any project should be proportionate to the scale and impact of the project as well as the sensitivity of the environment concerned and undertaken in accordance with any relevant project assessment requirements.
67. For practical purposes, relevant authorities may consider it appropriate that proposals be categorised into "bands" to guide understanding of the level of detail likely to be required in proposal design and decision making.

Categorisation of proposal types to support understanding of the practical application of this plan's policies, for example:

Band One activities are low risk and little or no additional evidence is likely to be required to demonstrate compliance with this plan.

Band Two activities are medium risk. Some evidence is likely to be required to demonstrate compliance with this plan. The level of evidence required will be based upon the level of risk associated with the project.

Band Three activities are higher risk, including projects that require formal project assessment processes. A greater level of evidence is likely to be required to demonstrate compliance with this plan. For large scale developments it is likely that most of the policies in this plan will apply.

Proposals falling into Bands Two and Three should include a clear supporting statement on which plan policies are relevant, the extent to which the proposal complies with these policies and how the proposal contributes to the overall plan vision and objectives.

68. Advice on the banding of project types and relevance of plan policies should be sought from the relevant public authority or marine planning policy officials in Welsh Government.

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Overview of this plan's policies and how to interpret them

Summary of general cross-cutting policies

Table 3: Summary of general cross-cutting policies

General cross-cutting policy	Page no(s)	Map no(s)
<p>GEN_01: Overarching planning policy There is a presumption in favour of the sustainable development of the plan area in order to contribute to Wales' well-being goals.</p>	52	
<p>GEN_02: Overarching planning policy Relevant public authorities should take a proportionate, risk-based approach to application of relevant marine planning policies in decision making.</p>	52	
<p>ECON_01: Blue growth Proposals for economically sustainable activities are encouraged, particularly where they contribute to:</p> <ul style="list-style-type: none"> • a more resilient economy; • employment opportunities particularly for coastal communities; • generating wealth; • allowing people to take advantage of the wealth; • protecting and creating employment at all skill levels; • maintaining communities with a high-density of Welsh speakers; • tackling poverty by supporting deprived coastal communities; and / or • the sustainable management of natural resources thereby supporting ecosystem resilience. 	56	
<p>ECON_02: Coexistence Proposals that consider opportunities for coexistence with other compatible sectors are encouraged in order to optimise the value and use of the marine area and marine natural resources</p>	58	
<p>SOC_01: Access to the marine environment Proposals should maintain or enhance access to the marine environment.</p>	61	
<p>SOC_02: Well-being of coastal communities Proposals that contribute to the well-being of coastal communities are encouraged.</p>	63	7
<p>SOC_03: Marine pollution incidents Proposals should minimise their risk of marine pollution incidents.</p>	65	
<p>SOC_04: Welsh language and culture Proposals that contribute to the promotion and facilitation of the use of the Welsh language and culture are encouraged.</p>	66	

<p>SOC_05: Historic assets Proposals should demonstrate how potential impacts on historic assets and their settings have been taken into consideration at an early stage and should, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts on historic assets and their settings; and/or b) minimise impacts where they cannot be avoided; and/or c) mitigate impacts where they cannot be minimised. <p>If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding. Opportunities to enhance historic assets are encouraged.</p>	67	8
<p>SOC_06: Designated landscapes Proposals that demonstrate that they are compatible with the purposes and special qualities for which National Parks or Areas of Outstanding Natural Beauty have been designated are encouraged.</p>	69	8
<p>SOC_07: Seascapes Proposals should demonstrate how potential impacts on seascapes have been taken into consideration at an early stage and should, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts on seascapes; and/or b) minimise impacts where they cannot be avoided; and/or c) mitigate impacts where they cannot be minimised. <p>If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding. Opportunities to enhance seascapes are encouraged.</p>	72	9
<p>SOC_08: Resilience to coastal change and flooding Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.</p>	79	10
<p>SOC_09: Effects on coastal change and flooding Proposals are encouraged that:</p> <ul style="list-style-type: none"> • demonstrate that they have no significant adverse impact upon coastal processes; • minimise the risk of coastal change and flooding; and • align with the relevant Shoreline Management Plan. 	82	11(a) 11(b)

<p>SOC_10: Minimising climate change Proposals should, in order of preference:</p> <ul style="list-style-type: none"> • avoid the emission of greenhouse gases; and/or • minimise them where they cannot be avoided; and/or • mitigate them where they cannot be minimised. <p>Where significant emission of greenhouse gases cannot be adequately addressed, proposals for regulated activities should present a clear and convincing justification for proceeding.</p>	83	
<p>SOC_11: Resilience to climate change Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaption measures, taking into account Climate Change Risk Assessments for Wales.</p>	84	
<p>SOC_12: Support for wider resilience to climate change Relevant public authorities should support opportunities that contribute towards climate change adaptation and/or mitigation.</p>	84	
<p>ENV_01: Resilient marine ecosystems Proposals should demonstrate how they contribute to the protection, restoration and/or enhancement of marine ecosystems.</p>	89	
<p>ENV_02: Marine Protected Areas Proposals should demonstrate how they:</p> <ul style="list-style-type: none"> • avoid adverse impacts on individual Marine Protected Areas (MPAs) and the coherence of the network as a whole; • have regard to the measures to manage MPAs; and • avoid adverse impacts on non-marine designated sites. 	91	12
<p>ENV_03: Invasive non-native species Proposals should include biosecurity measures to reduce the risk of introducing and spreading invasive non-native species.</p>	94	
<p>ENV_04: Marine litter Proposals should demonstrate that they:</p> <ul style="list-style-type: none"> • avoid the deliberate introduction of litter into the marine plan area; and • minimise the risk of accidental release. 	95	

<p>ENV_05: Underwater noise Proposals should demonstrate that they have considered man-made noise impacts on the marine environment and, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts; and/or b) minimise impacts where they cannot be avoided; and/or c) mitigate impacts where they cannot be minimised. <p>If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding</p>	<p>96</p>	
<p>ENV_06: Air and water quality Proposals should demonstrate that they have considered their potential air and water quality impacts and should, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts; and/or b) minimise adverse impacts where they cannot be avoided; and/or c) mitigate adverse impacts where they cannot be minimised. <p>If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.</p>	<p>98</p>	<p>13</p>
<p>GOV_01: Cumulative effects Proposals should demonstrate that they have assessed potential cumulative effects and, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse effects; and/or b) minimise effects where they cannot be avoided; and/or c) mitigate effects where they cannot be minimised. <p>If significant adverse effects cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.</p> <p>Proposals that contribute to positive cumulative effects are encouraged.</p>	<p>102</p>	

<p>GOV_02: Wales' well-being goals Relevant public authorities should seek to maximise the contribution to the achievement of the seven well-being goals for Wales and make their decisions in accordance with the sustainable development principle. In doing so they should have regard to:</p> <ul style="list-style-type: none"> • any applicable policy in a relevant marine plan; • any applicable policy in relevant terrestrial plans or related documents; • the Natural Resources Policy; • any relevant local well-being plan(s) (including the local well-being assessment); and • any relevant area statement(s) produced by Natural Resources Wales (NRW). 	<p>103</p>	
<p>SCI_01: Risk-based decision making Relevant public authorities should make decisions using sound evidence and a risk-based approach. Where appropriate they should apply the precautionary principle and consider opportunities to apply adaptive management.</p>	<p>106</p>	

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Summary of sector policies
Table 4: Summary of sector policies

Supporting	Page no(s)	Safeguarding	Page no(s)	Map no(s)
<p>AGG_01: Aggregates (supporting)</p> <p>Proposals for aggregate extraction in Strategic Resource Areas are encouraged within any permitted tonnage limits that may be defined for that area.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:</p> <ul style="list-style-type: none"> • aggregate Strategic Resource Areas; and • wider marine aggregate natural resources; <p>in order to support the sustainable growth of the aggregate sector through marine planning.</p>	132	<p>AGG_02: Aggregates (safeguarding)</p> <p>Proposals potentially affecting areas where a marine licence and production agreement for aggregate extraction has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <ol style="list-style-type: none"> a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>	134	14

		<p>AGG_03: Aggregates (safeguarding)</p> <p>Proposals potentially affecting areas where an exploration or option agreement has been offered or is in place for aggregate extraction should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:</p> <ul style="list-style-type: none"> a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>	134	
		<p>AGG_04: Aggregates (safeguarding)</p> <p>Proposals potentially affecting Strategic Resource Areas for aggregate extraction should demonstrate how they, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts on future potential aggregate extraction in 	135	

		<p>those areas; and/or</p> <p>b) minimise impacts where they cannot be avoided; and/or</p> <p>c) mitigate impacts where they cannot be minimised; and</p> <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>		
<p>AQU_01: Aquaculture (supporting)</p> <p>Proposals for aquaculture activities in Strategic Resource Areas are encouraged.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:</p> <ul style="list-style-type: none"> • aquaculture Strategic Resource Areas; and • wider natural resources that provide aquaculture potential; <p>in order to support the sustainable growth of the aquaculture sector through marine planning.</p>	147	<p>AQU_02: Aquaculture (safeguarding)</p> <p>Proposals potentially affecting areas where:</p> <ul style="list-style-type: none"> • an application for a Several Order or production rights for aquaculture has been granted or formally applied for; • a documented formal agreement is in place between the sea-bed owner and an aquaculture operator; • or an Aquaculture Production Business registration is in place or has been applied for, <p>should not be authorised unless compatibility with the existing, authorised or proposed aquaculture activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <p>a) avoiding adverse impacts on those</p>	149	15

		<p>activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised.</p> <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p> <p>AQU_03: Aquaculture (safeguarding)</p> <p>Proposals potentially affecting Strategic Resource Areas for aquaculture should demonstrate how they, in order of preference:</p> <p>a) avoid adverse impacts on future potential aquaculture activity in those areas; and/or b) minimise impacts where they cannot be avoided; and/or c) mitigate impacts where they cannot be minimised; and</p> <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>	150	
DEF		<p>DEF_01: Defence (safeguarding)</p> <p>Proposals that:</p>	157	16

		<ul style="list-style-type: none"> potentially affect Ministry of Defence (MoD) Danger Areas, Exercise Areas or strategic defence interests; and/or potentially interfere with communication, surveillance and navigation facilities necessary for defence and national security; <p>should only be authorised with the agreement of MoD.</p>		
<p>D&D_01: Dredging and disposal (supporting)</p> <p>Proposals that maintain navigable channels and long term access to open at-sea disposal sites for appropriate material are encouraged.</p>	167	<p>D&D_02: Dredging and disposal (safeguarding)</p> <p>Proposals potentially affecting areas where a consent or authorisation for: navigation dredging; or at-sea disposal of dredged material has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed dredging or disposal activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <ul style="list-style-type: none"> a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. 	168	17

		<p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p> <p>D&D_03: Dredging and disposal (safeguarding)</p> <p>Proposals potentially affecting areas undergoing investigation for capital dredging or disposal site characterisation should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:</p> <ul style="list-style-type: none"> a) avoiding adverse impacts on the areas undergoing investigation; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>	168	
<p>ELC_01: Low carbon energy (supporting)</p> <p>Proposals for all types of marine renewable energy generation (wind, tidal and wave energy) and associated infrastructure</p>	183	<p>ELC_02: Low carbon energy (safeguarding)</p> <p>Proposals potentially affecting areas where a consent or authorisation for renewable energy generation has been granted or formally applied for</p>	187	<p>18(a)</p> <p>18(b)</p> <p>18(c)</p> <p>18(d)</p>

<p>are strongly encouraged, especially:</p> <p>a) in corresponding wave, tidal stream and any other defined renewable energy technology test and demonstration zones; and</p> <p>b) in corresponding wave, tidal stream and tidal lagoon Strategic Resource Areas.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:</p> <p>a) renewable energy Strategic Resource Areas; and</p> <p>b) wider natural resources that provide renewable energy potential;</p> <p>in order to support the sustainable growth of the renewable energy sector through marine planning.</p> <p>In order to understand future opportunities for offshore wind development, proposals are encouraged that support strategic planning for the sector. Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:</p> <ul style="list-style-type: none"> • collect evidence to support understanding of environmental 		<p>should not be authorised unless compatibility with the existing, authorised or proposed renewable energy activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <p>a) avoiding adverse impacts on those activities; and/or</p> <p>b) minimising impacts where they cannot be avoided; and/or</p> <p>c) mitigating impacts where they cannot be minimised.</p> <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p> <p>ELC_03: Low carbon energy (safeguarding)</p> <p>Proposals potentially affecting areas where an exploration or option agreement has been offered or is in place for renewable energy generation, including for demonstration areas, should not be authorised unless compatibility with the intended activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:</p> <p>a) avoiding adverse impacts on those</p>	<p>188</p>	
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<p>constraints and opportunities</p> <ul style="list-style-type: none"> • support understanding of the optimal siting of offshore wind developments across Wales. <p>Relevant public authorities should make relevant evidence widely available to support planning and decision making.</p>		<p>activities; and/or</p> <p>b) minimising impacts where they cannot be avoided; and/or</p> <p>c) mitigating impacts where they cannot be minimised.</p> <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p> <p>ELC_04: Low carbon energy (safeguarding)</p> <p>Proposals potentially affecting Strategic Resource Areas for renewable energy (including those within the UK Offshore Energy SEA process) should demonstrate how they, in order of preference:</p> <p>a) avoid adverse impacts on future potential renewable energy activities in those areas; and/or</p> <p>b) minimise impacts where they cannot be avoided; and/or</p> <p>c) mitigate impacts where they cannot be minimised; and</p> <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>	188	
<p>O&G_01: Oil and gas (supporting)</p> <p>Proposals that maximise</p>	205	<p>O&G_03: Oil and gas (safeguarding)</p>	206	19

<p>the long-term supply of oil and gas are encouraged, provided they fully meet the environmental safeguards contained within the statutory processes of awarding production licences and subsequent activity-specific approvals.</p> <p>O&G_02: Oil and gas (supporting)</p> <p>Proposals that support the long-term development of carbon capture and storage technology are encouraged.</p>	<p>205</p>	<p>Proposals in areas where approval for oil and gas infrastructure has been granted or formally applied for should only be authorised where compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <ul style="list-style-type: none"> a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. <p>In exceptional circumstances, if adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>	<p>206</p>	<p>O&G_04: Oil and gas (safeguarding)</p> <p>Proposals potentially affecting future potential activity in areas (blocks) offered for oil and gas licensing should avoid sterilisation of that area for future oil and gas extraction and demonstrate how they, in order of preference:</p> <ul style="list-style-type: none"> a) avoid potential adverse impacts on those activities; and/or
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		<p>b) minimise potential impacts where they cannot be avoided; and/or</p> <p>c) mitigate potential impacts where they cannot be minimised; and</p> <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>		
<p>FIS_01: Fisheries (supporting)</p> <p>Proposals that support and enhance sustainable fishing activities are encouraged.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:</p> <ul style="list-style-type: none"> develop a strategic evidence base to improve understanding of opportunities for the sustainable development of fisheries; and support the development and refinement of Strategic Resource Areas; <p>in order to support the sustainable growth of the fisheries sector through marine</p>	219	<p>FIS_02: Fisheries (safeguarding)</p> <p>Proposals potentially displacing commercial fishing activities should demonstrate how they, in order of preference:</p> <p>a) avoid displacing those activities; and/or</p> <p>b) minimise impacts where they cannot be avoided; and/or</p> <p>c) mitigate impacts where they cannot be minimised; and</p> <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p> <p>FIS_03: Fisheries (safeguarding)</p> <p>Proposals potentially affecting important feeding, breeding (including spawning & nursery) and migration areas or habitats for key species of commercial or ecological</p>	221	<p>20(a)</p> <p>20(b)</p> <p>20(c)</p> <p>20(d)</p>

<p>planning.</p>		<p>importance should demonstrate how they, in order of preference:</p> <ul style="list-style-type: none"> a) avoid adverse impacts on those areas; and/or b) minimise impacts where they cannot be avoided; and/or c) mitigate impacts where they cannot be minimised; and <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>		
<p>P&S_01: Ports and shipping (supporting)</p> <p>Proposals for ports, harbours and shipping activities in Strategic Resource Areas (SRAs) are encouraged.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of port and shipping Strategic Resource Areas in order to support the sustainable growth of the ports and shipping sector through marine planning.</p> <p>P&S_02: Ports and shipping (supporting)</p> <p>Proposals that provide for</p>	<p>240</p> <p>240</p>	<p>P&S_03: Ports and shipping (safeguarding)</p> <p>Proposals potentially affecting Strategic Resource Areas for:</p> <ul style="list-style-type: none"> • established commercial navigation routes; • pilot boarding areas and commercial anchorages; or • existing port, harbour and marina activities and their potential for future expansion; <p>including where a consent or authorisation has been granted or formally applied for, should not be authorised except where compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p>	<p>243</p>	<p>21(a)</p> <p>21(b)</p>

<p>the maintenance, repair, development and diversification of port and harbour facilities are encouraged.</p>		<p>a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised.</p> <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>		
<p>CAB_01: Subsea cabling (supporting) Proposals that facilitate the growth of digital communications networks and/or the optimal distribution of electricity are encouraged.</p>	<p>254</p>	<p>CAB_02: Subsea cabling (safeguarding)</p> <p>Proposals potentially affecting existing and planned subsea cables and their landfall sites where a consent or authorisation or lease has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed subsea cable activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <p>a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised.</p> <p>If adequate compatibility</p>	<p>256</p>	<p>22</p>

		cannot be achieved, proposals should present a clear and convincing justification for proceeding.		
Waste water		<p>SWW_01: Surface water run-off and waste water treatment and disposal (safeguarding)</p> <p>Proposals potentially affecting existing and planned wastewater management and treatment infrastructure where a consent or authorisation or lease has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:</p> <ul style="list-style-type: none"> a) avoiding adverse impacts on those activities; and/or b) minimising impacts where they cannot be avoided; and/or c) mitigating impacts where they cannot be minimised. <p>If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.</p>	265	23
T&R_01: Tourism and recreation (supporting)	278	T&R_02: Tourism and recreation (safeguarding)	280	24(a) 24(b)
Proposals are		Proposals should demonstrate		

<p>encouraged that demonstrate a positive contribution to tourism and recreation opportunities and policy objectives (for the sector) around the Welsh coast.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:</p> <p>develop a strategic evidence base to improve understanding of current and potential tourism and recreation activities, including eco-tourism and other low impact activities; and</p> <p>support the development and refinement of Strategic Resource Areas;</p> <p>in order to support the sustainable growth of the tourism and recreation sector through marine planning.</p>		<p>that they have taken appropriate measures to avoid, minimise or mitigate adverse effects on existing and known planned tourism and recreation activities.</p> <p>Proposals that would have a significant adverse effect on Welsh Government's recreation, sport and tourism objectives should not be authorised unless there are exceptional circumstances.</p>		
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How to interpret plan policies

72. For ease of reference, each policy has been given a code. For example, **GEN_01** = General cross-cutting policy number 01. Unless otherwise stated, policies apply to both the inshore and offshore marine planning regions. Policies are supported by relevant context, policy implementation guidance and, where appropriate, maps. These maps show relevant information including the distribution of activities and natural resources and, where relevant, indicate the spatial application of sector policies.
73. The policies and their implementation guidance should be interpreted as follows.
- “Development and use of the marine environment” refers to all activities making use of the marine environment. It may include existing, planned and future potential activities and regulated and non-regulated activities.
 - “(Relevant) public authorities” refer to a marine licensing authority, marine planning authority, local authority, funding body or other body responsible for making decisions that may affect the marine environment. Where a policy refers to public authorities, it signifies that it is particularly applicable to new proposals for regulated activities (those that require formal authorisation by a public authority) and therefore that planning and consenting authorities have a strong role to play in its implementation. The policy may nonetheless be used to guide existing regulated activities and/or existing and future non-regulated activities.
 - “Proposal” means a developing or complete application for an activity that may affect the marine area submitted to a marine or terrestrial public authority for consent, authorisation or other decision making.
 - “Opportunities” may refer to measures, proposals or activities which occur in or may affect the marine environment.
 - Where a policy or its implementation guidance says “should” it relates to a mandatory or preferred option in line with relevant legislation, guidance and/or best practice; the proposed activity may be more likely to be consented where the policy has been complied with; in some cases, the proposed activity will not be consented unless these requirements are fulfilled.
 - Where a policy or its implementation guidance refers to “support” by or from a public authority, it refers to the fact that the authority will be expected to consider the proposal favourably where it has met the policy (in balance with other policies). It should not be interpreted to mean that the proposal will necessarily be consented. Equally, it does not imply any active or financial support from the authority.
 - Where a policy or its implementation guidance refers to “where appropriate”, it means that reasonable steps should be taken to apply the policy in a proportionate manner, except where other relevant considerations indicate otherwise.
 - Where a policy or its implementation guidance refers to “where possible”, it means that a policy should be met wherever practicable but that the public authority should recognise that meeting a policy may not be possible in all cases and should apply discretion.

- Where a policy or its implementation guidance refer to obligations such as current legislation, it does not signify that the marine planning body necessarily has responsibility for its enforcement.
- Where the term “plan user” is used, it means all of those who have an interest in the policies set out in this plan
- Where two or more policies are closely related they are presented alongside each other, with shared implementation guidance (e.g. **AGG_02** and **AGG_03**). This signals to the plan user that, although linked, the requirements in meeting the policies may differ.

Further information and advice

74. This plan provides signposting to key relevant legislation but cannot provide exhaustive information. Further information and supporting material is available from Welsh Government, including:
- the Sustainability Appraisal and Habitats Regulations Assessment reports and other impacts assessments;
 - strategic evidence, e.g. the Wales Marine Evidence Report and the SoNaRR for Wales;
 - the marine planning portal which includes relevant maps, associated information and plan policies;
 - related and relevant policy and guidance;
 - our approach to evaluation and reporting;
 - marine planning monitoring results and reports; and
 - details of any other relevant considerations considered appropriate and useful to the implementation of this plan.
75. In case of doubt, please seek further information and clarification from:
- Welsh Government on the meaning or application of any of the policy set out in this plan; and
 - the relevant public authority on application requirements and process including the information needed to satisfy their need to apply the policies set out in this plan.

General cross-cutting policies

76. The general cross-cutting policies apply to all development and use of the marine environment and where appropriate, should be used in combination with the sector-specific policies.

General policy - Overarching planning policy

Introduction

77. The overarching objective of this plan (table 1) is to support the sustainable development of the Welsh marine area as part of our support for the shared UK vision for our seas. We will work with neighbouring marine planning authorities and other relevant public authorities to optimise the wider benefits from our shared marine resources for the well-being of current and future generations.
78. The WFGA defines sustainable development as the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the Sustainable Development (SD) principle, to achieve the well-being goals. The SD principle requires public bodies to act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs.
79. This includes taking a proportionate and risk-based approach to decision making. The general principles of risk management are:
- proportionality between the measures taken and the chosen level of protection;
 - non-discrimination in application of the measures;
 - consistency of the measures with similar measures already taken in similar situations or using similar approaches;
 - examination of the benefits and costs of action or lack of action;
 - review of the measures in light of scientific developments.
80. The sustainable development and sustainable use of our marine natural resources can provide significant future benefits for both society and the environment. It also makes an important contribution to national economic growth including that of coastal communities at the local level. Welsh Government is committed to doing all it can to increase employment levels, improve the economy and tackle poverty for our people, in turn contributing to the wider prosperity of the UK.
81. We are committed to a marine plan-led system which provides a framework for consistent decision making in the marine environment. Transparency and accountability are fundamental to ensuring that all interests are properly represented and that the marine planning system operates in the long-term democratic public interest. Decisions will be taken proportionately in a manner that affords a high level of confidence by ensuring openness, fairness, impartiality and efficiency of the process.

GEN_01: Overarching planning policy

There is a presumption in favour of the sustainable development of the plan area in order to contribute to Wales' well-being goals.

GEN_02: Overarching planning policy

Relevant public authorities should take a proportionate, risk-based approach to application of relevant marine planning policies in decision making.

Implementation guidance

82. The overarching policies **GEN_01** and **GEN_02** represents Welsh Government's support for sustainable development of the marine area (in line with the WFGA and the Environment (Wales) Act) through proportionate and risk-based decision making in marine planning and licensing. As such, these two policies frame and guide **all** decisions to ensure a resilient marine economy, society and environment.
83. Public authorities should take a positive approach to assessing proposals for development that comply with these policies, and should seek to support proposals that will contribute to sustainable development, including the wider sustainable development of the UK, unless relevant considerations indicate otherwise.
84. All individuals and organisations are encouraged to contribute to the delivery and achievement of Wales' well-being goals and to apply the principles of SMNR. Proposals for the development and use of the marine environment should provide the necessary information to support public authorities to comply with their sustainable development responsibilities under both the WFGA and the Environment (Wales) Act.
85. These overarching policies apply to all marine activities. They are particularly relevant to the sectors that contribute towards economic growth through "blue growth" within the marine plan area whilst ensuring that environmental and social aspects are fully considered by plan users. This approach aims to support investment, innovation and growth.

General policy - Achieving a sustainable marine economy

86. Welsh marine natural resources are an important asset and healthy marine ecosystems are fundamental to supporting our marine economy by providing goods and services to society. These include direct saleable benefits like food, oil and building materials, as well as less obvious services like carbon sequestration and climate regulation.
87. Welsh seas host a diverse range of activities across many sectors that contribute to our economy; Welsh Government recognises the economic potential of our marine resources as well as the role our seas play in supporting the well-being of our current and future generations. The WFGA recognises the importance of economic growth to society and requires us to work towards a prosperous Wales, defined as: 'an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work'.
88. Equally, the Environment (Wales) Act recognises the importance of ecosystem resilience to ensuring the sustainability of economic growth. SMNR ensures that we manage natural resources in a proactive, sustainable and joined-up way and use them in a way and at a rate that maintains and enhances the resilience of ecosystems and the benefits they provide thereby meeting the needs of current and future generations.
89. Evidence suggests that the Gross Value Added (GVA) generated by the marine sector in Wales in 2014 was around £317 million³, with the contribution to total GVA ranging between 0.4% and 2.2% between 2005-13. Over the same period, and based on the same definition, the contribution of the marine sector at the UK level has ranged between 2.2% and 3.2% of total GVA. Currently, the largest contributors to estimated marine sector GVA in Wales are the oil and gas⁴ and marine transport (ports and shipping) sectors.
90. Increasing prosperity and well-being through creating jobs and economic growth are key priorities for Welsh Government; our Programme for Government commits to investing in infrastructure, innovation and improving the business environment. This plan supports a growing marine economy through strategic policies that guide decisions in relation to these sector activities.

³ Source: Annual Business Inquiry, Regional Accounts (Office for National Statistics). This included Minerals (25), Fish (29), Marine Transport (246), Oil and Gas (372), Inland (1).

⁴ The port of Milford Haven is a major UK port in terms of commodities such as bulk fuel, liquefied gas, crude oil and oil products

91. Overall, there were around 5,800 employee jobs in the marine sector in Wales in 2013, representing around 0.5% of the total for Wales, slightly lower than the corresponding figure for the UK of 0.7%. The largest contribution was from transport, providing around 3,300 employee jobs, with about 1,300 in the oil and gas sector. There are around 565 enterprises across the marine sector in Wales, with the largest proportion in fish-related activities and marine transport.
92. There are some limitations in quantifying the full scope of activities associated with these marine sectors within official economic statistics (official statistics are not available for some disaggregated industries within the marine sector in Wales and methodologies and coverage for others sources differs). Equally, understanding and quantifying the value of ecosystem benefits is complex and we have not attempted a valuation of ecosystem goods and services for this plan. Nevertheless, this plan aims to optimise the sustainable growth of the marine economy of Wales through supporting the resilience of marine ecosystems as an enabler of sustainable growth.

Blue growth opportunities

93. The sector chapters of this plan support blue growth in the marine economy through strategic policies that guide decisions in relation to sector activities and therefore encourage investment. Blue growth does not only contribute to our economy but supports wider well-being objectives. This plan supports blue growth by providing an integrated framework for decision making. There are also many wider factors influencing the performance of the marine economy that are outside the scope of this plan.
94. Objectives are set out for the plan as a whole and for each sector. Each chapter details the relative economic contributions of current activities based upon available information. Where possible, measurable targets are identified; the use of such targets is expected to increase in future iterations of marine plans as our understanding of sector activity, the future potential for our natural resources improves and the role of marine planning develops. Sector objectives and policies have been developed in collaboration with a range of partners, not just across government but also with industry and communities, and this collaboration, as a feature of sustainable blue growth, will continue throughout the plan's implementation.
95. All sectors support the marine economy in some way. However based on the available evidence and current understanding of future issues and growth opportunities, this plan identifies the following marine sectors as having significant potential for sustainable growth over this plan's lifetime:
- renewable energy (low carbon) (wind, wave and tidal stream and range);
 - ports and shipping;
 - tourism and recreation; and
 - aquaculture.

96. The sectors considered to offer the greatest potential for blue growth across Europe⁵ are similar: aquaculture; marine renewable energy; marine mineral mining; marine biotechnology and marine and coastal tourism. The OECD⁶ suggests that globally the ocean economy growth prospects towards 2030 include:
- capture fisheries and deep-water oil and gas production (prospects for modest business and employment growth);
 - shipping, shipbuilding, offshore wind, marine aquaculture, marine tourism, maritime surveillance and safety (prospects for high long-term business and employment growth); and
 - ocean renewable energy (wave and tidal), deep-sea mining, marine biotechnology and carbon capture and storage (significant long-term potential but that are not currently operating at commercial scale).
97. Although the above sectors offer particular growth potential for Wales, other sectors are very significant and provide essential goods and services that support our economy (fisheries, aggregates for construction, electricity cables enabling offshore generation, telecommunications cabling supporting growth in digital services etc.).
98. It is important that society understands and values the benefits that our seas provide including the relationship between ecosystem resilience and future sustainable growth opportunities. Welsh Government will therefore:
- collaborate to develop a stronger understanding of marine sectors and their contributions to our economy;
 - collaborate to further develop understanding of marine ecosystem goods and services and the benefits derived from them; and
 - collaborate to understand the value of the marine environment to the Welsh economy and society as part of the monitoring and reporting process for this plan.
 - Open knowledge and information exchange can act as a driver for innovation and economic growth. Public authorities should seek to make data and information openly available wherever possible.

Policies

99. This plan supports sustainable economic activity at all scales [see **GEN_01** and **GEN_02**] through the identification of key issues and opportunities for future use of marine natural resources and marine space. It supports users to make stronger applications for development that are aligned to policy, increasing their chances of authorisation and helping their activities becoming economically beneficial sooner.

⁵ http://ec.europa.eu/maritimeaffairs/policy/blue_growth_en

⁶ http://www.keepeek.com/Digital-Asset-Management/oecd/economics/the-ocean-economy-in-2030_9789264251724-en#.WG9ZDLmyrrc#page190

Supporting economically sustainable activities

100. There is a clear need to maintain and grow local and national economies through new sustainable activities, including in the marine area, that provide jobs and income for local people and lead to the provision of goods and services that add value locally, nationally and internationally.
101. Welsh Government will use all levers at our disposal to further develop an economy that is confident, outward looking and balanced, with exports and inward investment generating wealth and providing employment opportunities, allowing people to take advantage of the wealth generated through securing decent work. We are working with the business community to help businesses thrive, in order to support the development of the marine economy and the creation of jobs, and encourage wider investment in our marine environment and economy, leading to a growing marine-related GVA contribution. We will continue to work with partners across industry and local and central Government so that businesses are supported and contribute to the well-being of society by making sustainable use of our marine natural resources.
102. In order to attract new business and make Wales' economy more competitive, Welsh Government has designated 7 Enterprise Zones across Wales. These are geographical areas that support business infrastructure and offer compelling incentives to create new jobs and encourage sustainable growth, including access to finance and advice on funding, innovation, training and international trade. Businesses seeking Welsh Government support should sign up to our principles of corporate social responsibility, with a commitment to sustainable development, training and good employment practice.

ECON_01: Blue growth

Proposals for economically sustainable activities are encouraged, particularly where they contribute to:

- a more resilient economy;
- employment opportunities particularly for coastal communities;
- generating wealth;
- allowing people to take advantage of the wealth;
- protecting and creating employment at all skill levels;
- maintaining communities with a high-density of Welsh speakers;
- tackling poverty by supporting deprived coastal communities; and / or
- the sustainable management of natural resources thereby supporting ecosystem resilience.

Implementation guidance

103. Sustainable development of the marine environment has the potential to increase the prosperity and well-being of the people of Wales. Proposals that provide or promote opportunities to support the economy are therefore encouraged, particularly activities identified as having high potential for sustainable growth.
104. Proposals should demonstrate how they will be economically sustainable, including consideration of value for money, benefits to society, support for the development of marine-related skills, in particular where they relate to the creation of marine jobs, and where they will benefit the communities adjacent to the plan area, all of which supports a resilient economy. Proposals should also identify ways in which their proposal could have both positive and adverse impacts on the Welsh language. Welsh Government wants to ensure a resilient Wales, defined in the WFGA as a nation which maintains and enhances a bio-diverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (e.g. climate change).
105. Development and use of the marine environment is encouraged where it leads to benefits for local communities. Where possible, marine developments should take place in or near to areas that can best benefit from that activity. This could mean that the physical infrastructure or skilled workforce is already available or potentially available for an activity and this should be recognised. Alternatively, it could mean in areas that would most benefit from an influx of marine related training and employment opportunities. Skill creation and diversification can increase the resilience of communities to fluctuations in demand in certain industries. The skill levels and diversity, and employment needs of the local community vary widely across Wales. Local development plans and other spatially expressed policy may help understanding of particular opportunities for development that are appropriate in particular locations. In order to support economically productive opportunities, terrestrial and marine planning systems should facilitate identification of opportunities and to promote mutual benefits and avoid conflicts where possible.
106. The WFGA and Environment (Wales) Act, reflected in this plan, introduce a strategic approach to integrating economic, social and environmental policy. Use of our marine resources should be managed in order to optimise the economic benefit (in a broad sense) to Wales, while supporting social objectives and values, including the well-being of future generations, and maintaining and enhancing the resilience of marine ecosystems through SMNR [see **Ensuring a strong, healthy and just society** and **Living within environmental limits** policies]. All potential impacts of a proposal should be considered over the long-term in accordance with the principles of the WFGA.
107. Optimising benefits from use of natural resources requires an understanding of their value and the ways in which they support each other to provide economic, social, environmental and cultural benefits. The economic policy in this plan is set in the context of sustainable management of natural resources, seeking to maintain and grow use of the marine area whilst ensuring ecosystem resilience.

The value of marine ecosystems and the goods and services that they provide should therefore be part of decision making in order to support the sustainable use of marine natural resources. This will require development of the evidence base to more fully understand the economic value of marine natural resources; such initiatives are encouraged. Embedding explicit consideration of potential effects upon ecosystem goods and services in relevant decision making as well as on the intrinsic value of biodiversity can support sustainable growth. Good practice should be developed and adopted to allow decisions to better incorporate and reflect ecosystem goods and services including those that are less readily valued in a traditional sense.

Supporting coexistence

108. Coexistence is where multiple developments, activities or uses can exist alongside or close to each other in the same place and/or at the same time. Coexistence is already common in the marine environment, especially in relation to transient activities, i.e. those that are not fixed or permanent, such as fisheries or navigation. Co-location is a subset of coexistence and is where multiple developments (often structures), activities or uses coexist in the same place by sharing the same footprint or area.
109. Coexistence is a cornerstone of marine planning. As development and use of the marine environment continues to increase, there will be increased competition for space, greater interaction between activities and greater opportunity for coexistence. Proposals that facilitate coexistence will be varied, eg certain infrastructure projects could offer significant amenity and leisure opportunities for local communities and / or coastal tourism. Alternatively, there could be scope for realising development and expansion of aquaculture by co-locating businesses within offshore wind farms or within tidal lagoon technology.
110. Promoting coexistence, where appropriate, helps to optimise the sustainable use of the marine area by promoting the efficient use of marine natural resources and marine space.
111. The marine planning process identifies current and potential opportunities for use of marine resources and space for different sectors, helping to manage potential conflict and promote sustainable development. This plan supports coexistence of relevant activities and uses by encouraging proposals which bring together differing but compatible activities to make the best possible use of marine space and natural resources over time.

ECON_02: Coexistence

Proposals that consider opportunities for coexistence with other compatible sectors are encouraged in order to optimise the value and use of the marine area and marine natural resources.

Implementation guidance

112. Proposals should set out how potential opportunities for coexistence with other activities have been assessed and how realising these opportunities could optimise the value and use of the plan area, including providing environmental, social and/or economic benefits across Wales well-being goals. Proposals should demonstrate the extent to which they will coexist with other activities and how this will be achieved. Consideration should also be given to the coexistence of activities and developments in adjacent marine planning areas to optimise the value and use of the wider marine area.
113. Where conflict over space or resource exists or arises, initiatives between sectors are encouraged to resolve conflict. Early engagement with relevant stakeholders and public authorities is required to facilitate the realisation of opportunities for coexistence.
114. The presentation of options for coexistence in new proposals will assist decision makers to reduce current and potential conflict, maximise compatibility between marine activities and encourage coexistence of multiple uses. Where possible, public authorities should assess the implications of alternative uses in areas of sea to ensure the optimal use of resources (e.g. by considering alternative designs or through licensing decisions and conditions) [see **ECON_02**]. In order to make best use of the potential of our seas for economic growth, public authorities should consider the relative benefits of supporting one activity over another in the context of this plan's objectives and policies and should consider any alternative options, making best use of existing good practice and best available evidence, encouraging and enabling research and development as appropriate to fill gaps in knowledge.
115. There are certain areas of Welsh waters where there are higher levels of activity, e.g. the Severn Estuary, Milford Haven and the Dee Estuary. There is a particularly high density of shipping and port activities around Milford Haven, aggregate extraction is concentrated in key areas off South Wales and there is a growth in offshore wind farm development off the North Wales coast, as well as the significant potential for using renewable energy capture in areas where there is a suitable tidal resource. Other sectors are more dispersed, for example, fisheries and tourism and recreation. Managing the possibilities for coexistence, including activities in the same area, but vertically, laterally or temporally separated, is particularly relevant in the busier areas that provide multiple benefits.
116. Wales' Marine Protected Areas (MPAs) cover over 5500 square miles of sea and support a variety of different uses including shipping, energy, fisheries and recreational activities. Some activities and developments may need managing and/or regulating, however many marine and coastal activities can coexist well with the conservation of habitats and species. MPAs can contribute to ensuring

the long-term provision of a wide range of ecosystem goods and services; including nutrient cycling, carbon storage and sequestration, coastal protection and can support sector activity including tourism and recreation, fisheries and aquaculture.

117. The value of the net benefits from Welsh MPAs depends on the management of activities that do or could have an adverse impact on the protected features. Management measures in MPAs alter the level of pressure from activities which in turn may affect the state of the protected features. It is therefore necessary to find an appropriate balance between management options to ensure continued provision of ecosystem goods and services whilst supporting economic growth.

DRAFT

General policy - Ensuring a strong, healthy and just society

Introduction

118. Our seas are an intrinsic part of our history, economy and way of life. Over 60% of the population of Wales lives and works on the coast, with all of the major cities and many important towns also located there. This section includes plan policies relating to a range of social issues including coastal communities; heritage; coastal change and flooding; and climate change.

Coastal communities

119. For the coastal communities of Wales, particularly those far from major cities, the sea and its associated activities play a significant role in people's well-being by providing jobs and opportunity for recreational activities and by supporting cultural diversity and a sense of heritage. However many coastal communities have the opportunity to derive even greater benefit from our seas whilst at the same time adapting to challenges such as increased risk of flooding or changes in leisure time.
120. Our coastal environments have the potential to be among the most attractive in Europe for living, working and visiting, where people live longer, healthier lives in well-designed, connected and sustainable places with good access to amenities and services. In such communities, people value, protect and enhance the built and natural environment for the well-being of present and future generations.

Access to the marine environment

121. Access to the marine environment relates to the ability to get to, into and around developments, and/or take part in the activities and services provided by or in the marine environment. Access to the marine plan area is necessary for both enjoyment and use, including through recreation and tourism, and therefore contributes to both sustainable development and health and well-being.
122. Accessing coastal environments can have a significant impact on supporting people living in poverty to improve their mental and physical health. It can provide opportunities for low-income households, particularly children and young people, to experience their natural surroundings and learn from it.

SOC_01: Access to the marine environment

Proposals should maintain or enhance access to the marine environment.

Implementation guidance

123. Proposals are encouraged that facilitate inclusive access to ensure that everyone can get to, into and around developments, and take part in the activities and services provided where appropriate. “Everyone” includes parents with buggies, older people and people with impaired sight, hearing, mobility or understanding of the world around them. Inclusive access is the end result of inclusive design combined with management, operation and maintenance; and positive well-trained staff.
124. New proposals should facilitate or not constrain current access where possible and appropriate. Equally, public authorities should support access to the marine environment where possible and appropriate, while also considering the risks and potential adverse impacts of enhanced access in some cases.
125. These could include disturbance to wildlife, adverse impacts on historical designations, conflicts between activities and safety considerations. Whilst temporary restriction of public access on safety grounds is acceptable, the need for long-term restriction or exclusion from marine space should be avoided wherever possible. Where access to a specific location is lost, for example through coastal change or new high-priority development, public authorities should seek to re-establish access with minimal disruption to the public where possible.
126. Whilst this policy primarily relates to physical access, opportunities to also enhance remote / intellectual access to the marine environment could also be pursued and supported through publications and web-based interpretation and other remote means.

Well-being of coastal communities

127. The sea plays a significant role in contributing to the well-being of coastal communities at a local level. The communities around our coast are diverse and a successful policy approach in one area may be inappropriate in another. The right development in the right place may aid adaptation or provide a regenerative boost, but equally it could have a negative impact upon the intrinsic environmental characteristics and qualities on which the prosperity and well-being of the community depend. A key part of this is the varying linguistic profiles of communities around our coast, with some having a greater density of Welsh-speaking population than others. It is therefore important to consider available evidence at a local scale and strike a balance between the development and regeneration of an area and the protection of the characteristics that contribute to a local “sense of place” (including its linguistic profile to ensure developments do not have a negative and disproportionate impact on the Welsh language) to ensure that the planning system as a whole provides net benefits for coastal communities. This will be especially important where a traditional coastal

community has successfully and sustainably adapted itself to its unique or challenging setting.

SOC_02: Well-being of coastal communities

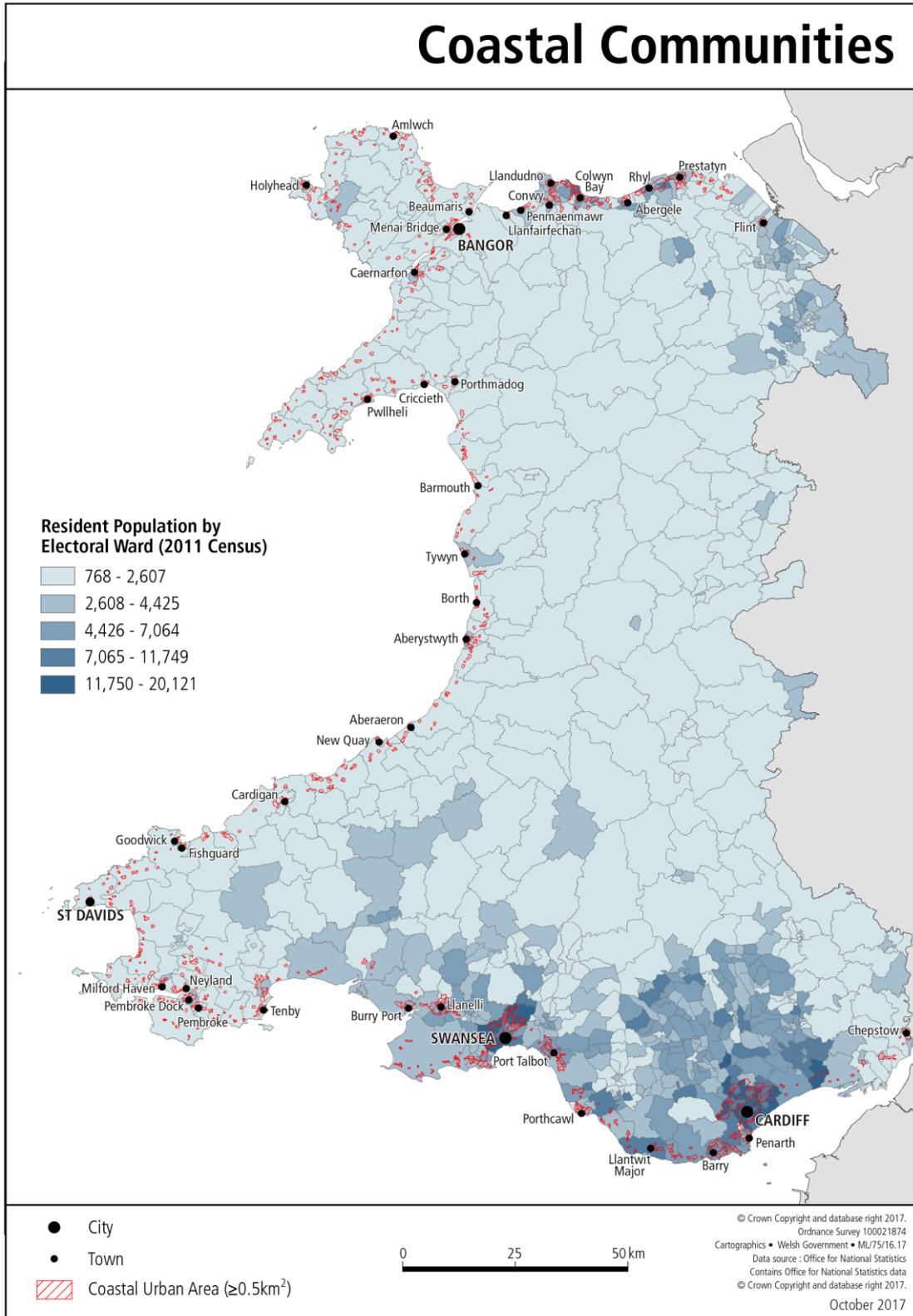
Proposals that contribute to the well-being of coastal communities are encouraged.

Implementation guidance

128. Development and use of the marine environment has the potential to affect the socio-economic future of coastal communities and decision makers should ensure that opportunities to contribute positively to future well-being of coastal communities are taken.
129. Proposals should demonstrate consideration of the significance of potential development on relevant features of the area including cultural heritage, seascape and environmental quality. Characterisation may be an aid to this process. Welsh Government has undertaken typological studies and identified National Marine Character Areas that described local seascape character⁷ (see also policy **SOC_07** and Figure 9). These characterisations may help to identify, protect and enhance local identity, and can also be an appropriate basis for engaging with local communities and planning authorities in a structured way. Information derived from typological studies and community engagement should be taken in the context of the wider evidence base to identify which activities fit best with which communities in which areas.
130. Proposals should demonstrate compliance with national and local planning policy and objectives, such as Planning Policy Wales, and Local Development Plans, and engagement with relevant terrestrial public authorities, to ensure that marine development supports and enhances the cultural identity and well-being of coastal communities. The evidence base developed through the development planning process (NDF, SDP, LDP), as well as marine planning, should be used to enable decision makers, including developers and public authorities, to strike the balance between different social, economic and environmental objectives.
131. Areas of child poverty tend to coincide with poor air quality and excessive noise and this should be taken into consideration in proposals. Climate change can have a disproportionate effect on those most vulnerable, as those who contribute least to the problem through emissions are ones who may be most affected by climate impacts. The Welsh Government Child Poverty Strategy recognises the need for local environmental policies to support the tackling poverty agenda and in turn make areas more resilient.

⁷ <http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/development-of-a-coastal-community-typology-for-wales/?lang=en>

Figure 7: Coastal communities



Marine pollution incidents

132. Marine pollution incidents involve the release of oil and/or other pollutants into the sea. While pollution is largely regarded as an environmental issue, major marine pollution incidents can have a significant adverse impact on coastal communities through loss of amenity value as a result of aesthetic and biodiversity impact, reduced visitor numbers, loss of reputation and potential health impacts.

SOC_03: Marine pollution incidents

Proposals should minimise their risk of marine pollution incidents.

Implementation guidance

133. This policy relates to non-diffuse, point sources of pollution such as oil or chemical spills, and therefore focusses on activities that involve the use, transportation or storage of chemicals, biological agents or fuels in the marine environment (whether operationally or as part of construction, maintenance or decommissioning activities). Examples include: vessels and equipment used in construction works (such as offshore wind farms, coastal protection, port (re)development); commercial ships; leisure vehicles / craft. The policy seeks to ensure that proposals consider their inherent risks of causing or contributing to a major incident, and act to address them where possible. The issue of wider water quality is dealt with in Policy **ENV_06**.
134. Proposals should demonstrate compliance with the relevant regional, national and international regulation, legislation and guidance to ensure that the risk of marine pollution is minimised. Relevant requirements include those under the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78); Merchant Shipping Act 1995 as amended and the Marine Safety Act 2003. The UK National Contingency Plan (NCP) for marine pollution from shipping and offshore installations sets out roles and responsibilities for responding to marine pollution incidents.

Promotion and facilitation of the use of the Welsh language

135. Welsh Government wants to reach a million Welsh speakers by 2050 and is committed to increasing the use of the Welsh language. Accessible knowledge and information about our rich cultural history, literature and communities can act as a driver for innovation, education and economic growth as well as contributing to the future well-being of our communities.

SOC_04: Welsh language and culture

Proposals that contribute to the promotion and facilitation of the use of the Welsh language and culture are encouraged.

Implementation guidance

136. Proposals should consider opportunities to support the Welsh language in a wide range of activities, including for businesses and leisure. Developers and users of the marine environment should seek to identify opportunities to promote the Welsh language and to facilitate its use in their sector and beyond. Equally, public authorities should facilitate participation in decision making through the medium of Welsh. This includes being proactive about using Welsh for informal and formal meetings, in signage and in key materials such as guidance, instructions and applications processes, making best use of existing good practice.
137. Proposals that may have an adverse impact upon the Welsh language should set out how these have been addressed.
138. Developments that are funded or contracted by Welsh Government should follow a suitable Welsh Language policy and where necessary to do so, comply with the Welsh Language Standards set out in its Compliance Notice with which the Welsh Government is required to comply. All other proposals are encouraged to do the same.

Heritage

139. Thousands of years of trade, exploration, defence, industry and leisure have created a rich and varied historical environment in Welsh waters and along our coast that includes medieval castles, Victorian fortifications, small fishing harbours, industrial ports and 19th century seaside resorts. The sea is an essential part of the character of many conservation areas, including Areas of Outstanding Natural Beauty (AONBs) and National Parks, and the setting of numerous Listed Buildings and Scheduled Ancient Monuments. Policies **SOC_05** to **SOC_08** set out requirements to optimise benefits from the historic environment; designated landscapes; and seascape and character.

Historic environment

140. The coastal historic environment is central to Wales' culture and its character contributes to our sense of place, cultural identity and heritage. Our underwater heritage is equally rich. Whilst shipwrecks capture the imagination, just as extraordinary are our submerged and intertidal landscapes, dating back thousands of years. Innovative seabed mapping has only just begun to highlight the potential for submerged landscapes to yield further remarkable archaeology.

141. The historic environment can drive economic growth, attracting tourism and providing enjoyable places in which to live and work. It is important that the historic environment is appreciated, protected and made accessible for present and future generations. Historic assets of national significance are protected through designation such as Scheduled Ancient Monuments, Protected Wreck Sites and Listed Buildings. Areas of distinctive local character and historic significance may be designated as Conservation Areas. There are also relevant non-statutory designations which are material considerations in the terrestrial planning system such as World Heritage Sites and Registered Landscapes, Parks and Gardens of Outstanding or Special Historic Interest. Cadw is the Welsh Government historic environment service working for an accessible and well-protected historic environment for Wales, and can provide advice on development and use of the marine environment in relation to heritage assets.

SOC_05: Historic assets

Proposals should demonstrate how potential impacts on historic assets and their settings have been taken into consideration at an early stage and should, in order of preference:

- a) avoid adverse impacts on historic assets and their settings; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised.

If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.

Opportunities to enhance historic assets are encouraged.

Implementation guidance

142. Understanding the significance of historic assets is key to informing decisions about future management and whether protection (up to and including designation) is appropriate under law and policy. Any opportunities to better understand the significance of historic assets should be encouraged and promoted. This implements Welsh Government's approach to the sustainable management of the historic environment in Wales and aligns with Cadw's *Conservation Principles*⁸ which set out guidance on evaluating and describing the significance of historic assets. Plan users should refer to Cadw's guidance and should consult guidance which is issued periodically to support the Historic Environment (Wales) Act 2016.
143. Proposals should demonstrate that they have identified relevant historic assets and have considered their potential impacts on them. Development and use of the marine environment can affect historic assets both directly and indirectly,

⁸ Cadw: 2011: Conservation Principles for the sustainable management of the historic environment in Wales

including: loss of, or damage to, historic material; alteration to the setting of historic assets which can positively or negatively affect the ability to understand and appreciate it; burial or exposure (for example, due to changing patterns of sediment movement).

144. Public authorities should satisfy themselves that in developing their proposal the applicant has:
- adequately investigated and evaluated the significance of both designated and non-designated historic assets which may be impacted by development and use of the marine environment; and
 - taken appropriate measures to avoid, minimise or mitigate the impact upon historic assets and their setting in a manner that is proportional to their significance.
145. Where possible, designated assets and sites of equivalent importance should be preserved *in situ* within an appropriate setting. Substantial loss of or harm to designated assets or sites of equivalent importance or their settings should only be permitted if this is necessary to deliver economic, social or environmental benefits across Wales' well-being goals that demonstrably outweigh the harm or loss.
146. The absence of designated historic assets should not be taken to imply that non-designated historic assets are automatically of lesser significance. Given the logistical difficulties and resource-intensive nature of working underwater the significance of many marine historic assets is yet to be established. Nevertheless, all such assets, and their settings, should be considered in decision making.

Designated landscapes

147. Landscape is the result of the interaction between human and natural processes. People relate to landscapes as places to live, work and enjoy. Landscapes provide a range of cultural services contributing to our sense of place, well-being and quality of life. Delivering these multiple benefits landscapes can also provide the framework for the integrated management of natural resources at a variety of scales.
148. Many of Wales' coastal landscapes are recognised as dramatic, scenic areas with layers of cultural and linguistic tradition that enhance their diversity and character. Some of these landscapes are so highly valued by society that they are designated under UK legislation through the National Parks and Access to the Countryside Act (1949) as National Parks or under the Countryside and Rights of Way Act (2000) as Areas of Outstanding Natural Beauty (AONBs). These statutory designations are put in place in order to conserve and enhance their natural beauty, wildlife and culture and in the case of National Parks for the recreation opportunities that they provide.
149. Designated Landscapes are acknowledged at an international level by the World Conservation Union (IUCN) as Category V Protected Areas, valued as living

landscapes for their interaction between natural and human elements. Five of the 8 Welsh Designated Landscapes were designated on account of their spectacular coastal scenery and coastal character. In Pembrokeshire, Wales has the UK's only coastal National Park. Some 54% of the Welsh coast is designated as either National Park or AONB⁹.

150. In addition, there are a number of non-statutory designations including Heritage Coasts and Registered Historic Landscapes. These areas have been identified as important but do not benefit from the statutory protection of Designated Landscapes.
151. Some 42% of Wales' coastline is defined as Heritage Coast; often this is contiguous with other designations such as National Parks or AONBs. Identified by local authorities in the 1970s and 1980s, these were defined to protect stretches of scenic and undeveloped coastline from unsuitable development. Policies in relevant local development plans seek to protect or enhance the landscape character of the undeveloped coastline.
152. Registered Historic Landscapes record some of our most outstanding and special historic and cultural landscapes in Wales. Local planning authorities take into consideration the information contained in the Register of Historic Landscapes when preparing their development plans. Information in the Register may also be used as part of the evidence base by local authorities, with advice from Cadw¹⁰ where appropriate in delivering their development control functions (A Guide to Good Practice for Using the Register of Historic Landscapes in Planning and Development Process).

SOC_06: Designated landscapes

Proposals that demonstrate that they are compatible with the purposes and special qualities for which National Parks or Areas of Outstanding Natural Beauty have been designated are encouraged.

Implementation guidance

153. Diverse, multifunctional landscapes where ecosystems are maintained in good condition and sustainable land management practice is undertaken should be resilient in order to consistently provide a range of services and opportunities for well-being, social and economic benefit. There is a range of UK and Welsh legislation, policy and good practice guidance that help support the delivery of this ambition.
154. Welsh Government's objectives for National Park and AONB conservation and enhancement are largely delivered through the national planning system. National

⁹ NRW GIS 2016

¹⁰ <http://cadw.gov.wales/historicenvironment/protection/historiclandscapes/?lang>

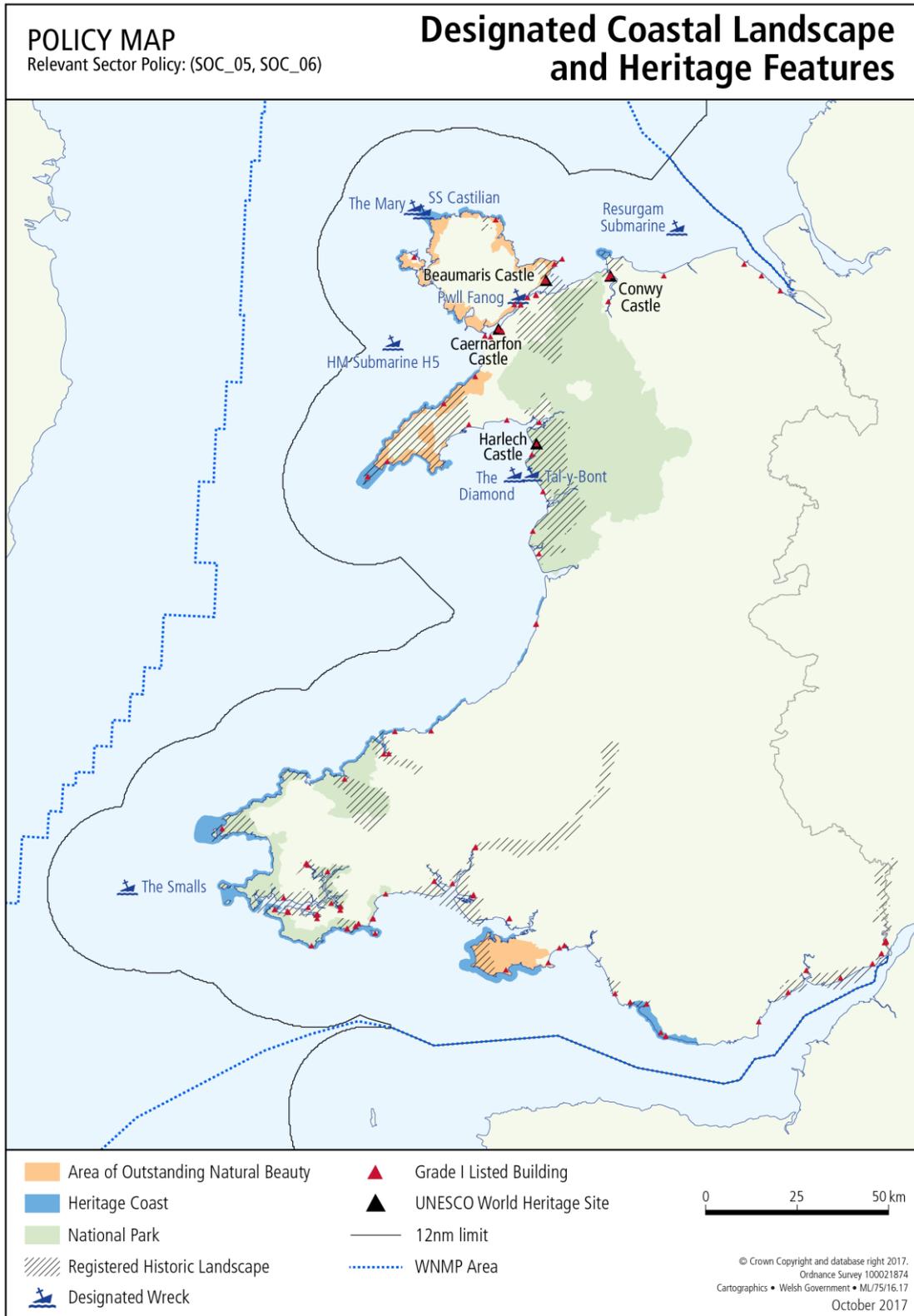
Parks deliver the statutory planning function in their areas, including the production of the local development plans and undertake the development control (authorising proposals) function. The AONBs are part the local government system and therefore planning remains with their constituent local authorities.

155. Planning Policy Wales recognises that National Parks and AONBs are of equal status in terms of landscape and scenic beauty and both should be afforded the highest status of protection from inappropriate developments. Any proposals taken forward through the development planning framework should comply with policies set out in Planning Policy Wales and adhere to those set out in the relevant local development plan.
156. Certain development proposals that are likely to have a significant effect on the environment are subject to an Environmental Impact Assessment (EIA) and assessments should include consideration of their impact on landscape. Guidelines for Landscape and Visual Impact Assessment to support this process are available from the Landscape Institute.
157. Public bodies, statutory undertakers and certain utilities have a statutory duty to have regard for the purposes of National Parks (under the Environment Act 1995) and AONBs (under the Countryside and Rights of Way Act 2000) when undertaking activities that affect these designated areas. Guidance is available from Defra¹¹.
158. National Parks and AONBs are legally required to produce management plans which guide management, resources and delivery. These management plans are produced in partnership with a wide range of stakeholders and provide a unique opportunity for coastal communities and users to engage with these Designated Landscapes and to help shape the future of these special places.
159. Activities, management and development proposals should comply with any planning requirements and should take into consideration available best practice, evidence and policies set out in the relevant management plans. Wherever possible proposals should support the delivery of the purpose(s) of the Designated Landscapes and agreed management plan actions.

11

<http://webarchive.nationalarchives.gov.uk/20130402151656/http://archive.defra.gov.uk/rural/documents/protected/npaonb-duties-guide.pdf>

Figure 8: Protected coastal landscape and heritage



Seascapes

160. In the context of this plan, landscapes (as defined by the European Landscape Convention) within coastal and marine areas are known as “seascapes” and include “landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other”, as defined by the MPS.
161. Wales has a varied and attractive coastline with seascapes that have been influenced by and support a wide range of activities and uses. The strong sense of place and unique character that is typical of our coastal environment makes an important contribution to our national health and well-being. A key reason why individuals and businesses would wish to locate to our coastal areas is the high quality of life such places can promote notably through tourism and recreation.
162. Developments in the inshore marine planning region may change the character around the Welsh coastline. Such changes are already happening. Over the lifetime of this plan there is likely to be ongoing change to the seascape character of Wales, resulting most prominently from further marine renewable infrastructure, particularly off the North Wales and South Wales coasts. These changes are an inevitable result of our aspirations to derive greater benefits from our seas for present and future generations.

SOC_07: Seascapes

Proposals should demonstrate how potential impacts on seascapes have been taken into consideration at an early stage and should, in order of preference:

- a) avoid adverse impacts on seascapes; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised.

If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.

Opportunities to enhance seascapes are encouraged.

Implementation guidance

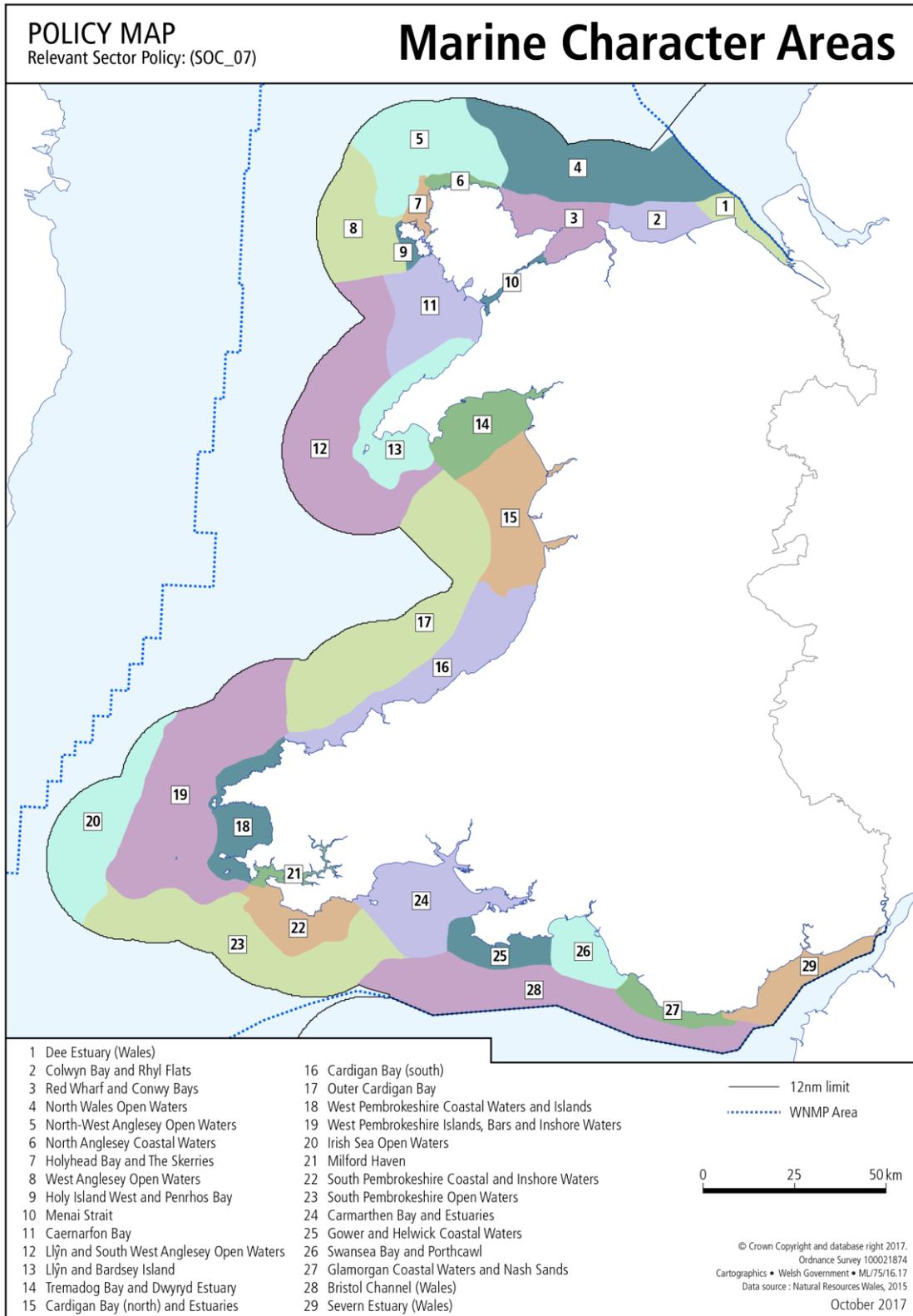
163. Developments, activities and management measures have the potential to change the character and visual resources of an area. All seascapes are of value; where there is the potential to significantly change the seascape of an area through proposed developments or plan-making, the impacts and relative value of the altered seascape should be considered as part of decision making. Seascape concerns in themselves need not be a barrier to sensitively sited and designed development and considering seascapes at an early stage should be seen as an approach that can be helpful to identify more widely acceptable solutions and to help steer the right development to the right place.

164. It is in the early stages of a project or in developing plan options that avoiding, minimising and mitigating adverse seascape impact is most effective. Appropriate siting and consideration of alternatives should be the first priority in any approach to address potential impacts.
165. Proposals should demonstrate consideration of the existing character and quality of the seascape, its sensitivity and its capacity to accommodate change. Landscape Character Assessment methodology may be an aid to this process. This system identifies location-specific, natural and cultural features and benefits and can be used for strategy, planning, integrated coastal zone management and development management. Marine character areas have been identified at National (see Figure 9) and local scales and focus on coastal areas, where there is greatest interaction and complexity between land and sea. NRW can provide evidence and advice on seascape character, their special qualities, and their sensitivity to change. Where appropriate, NRW will also produce guidance on good technical practice, or point to existing guidance from others. Such guidance should be taken into account to inform the development design and plan-making process.
166. As part of land-use planning, Planning Policy Wales advises that local planning authorities characterise their coastline and develop or apply specific policies which reflect the characteristics of their coastlines. Both seascape character and visual resource mapping (available from NRW) should be considered when doing this. Development impact on seascapes may be more significant and require a more sensitive approach where it is within, or affecting National Parks; AONBs; Heritage Coast; Registered Historic Landscapes, Parks or Gardens; World Heritage Sites; or other built heritage or undeveloped coast. Significance will vary depending of the nature of a development and the sensitivity of the seascapes affected.
167. Relevant public authorities making decisions should satisfy themselves that proposals have:
- adequately investigated and evaluated the significance of both seascapes and Designated Landscapes that may be impacted by the proposed use of the marine environment; and
 - taken appropriate and proportional measures to avoid, minimise and/or mitigate significant adverse impact on seascapes, and recognise where possible the potential for enhancement.
168. To minimise means to make an adverse impact as low magnitude as possible, eg locate to in as least sensitive seascape as possible. To mitigate would use siting and design techniques that further reduce the remaining adverse impact. For example, breaking up the scale of a large object into a number of smaller ones while containing the spread of development, and using materials, colour and backdrop to reduce visual prominence. To enhance would take the siting and design process a stage further, to increase the range and quality of positive impacts and multiple benefits provided. For example a proposal could help restore heritage assets.

169. Seascapes serve an important role in terms of both local and visitor perceptions of an area and form a key part of the unique selling point of coastal areas that support our coastal communities. Involving local communities and other stakeholders in both the development of proposals and, where appropriate, in making a decision, is therefore critical in order to understand the range of perceptions about who values what, where and why. Proposals that are likely to have a significant effect upon seascapes should clearly set out engagement they have undertaken with relevant stakeholders and the views of stakeholders.
170. In some areas, accepting change to character and views may be most appropriate where new or enhanced seascape benefits arise as well. In other areas there may be a greater public interest role in conserving natural or historic character and associated special qualities such as “wildness”, “remoteness” and “heritage”, where certain developments may not be appropriate.
171. The NPS for energy makes clear that consent for a development should not be refused solely on the ground of an adverse effect on the seascape or visual amenity unless:
- an alternative layout within the identified site could be reasonably proposed which would minimise any harm while maintaining safety or economic viability of the application, taking into account other constraints that the applicant has faced such as ecological effects; or
 - the sensitivity of the receptors (as set out in **ENV_01**) is such that the harmful effects are considered to outweigh the benefits of the proposed scheme.

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Figure 9: Marine Character Areas



Coastal change and flooding

172. Coastal change consists of physical changes to the shoreline, for example erosion, coastal landslip, permanent inundation and shoreline accretion.
173. Coastal erosion is occurring along 23% of the Welsh coastline¹² and presents challenges in locations where it threatens communities and infrastructure. The coast is inherently dynamic and subject to change, with overall rates of erosion occurring gradually over relatively long periods of time. However, erosion can happen in spasmodic sudden events. Climate change is expected to contribute towards greater rates of coastal change over the coming decades. With sea levels forecast to rise as a result of climate change, low-lying land that currently drains naturally at low tide is likely to be flooded for longer periods or become permanently submerged. This expected sea level rise, along with increased extreme weather, is likely to result in an increased risk of flooding and coastal erosion.
174. Coastal erosion and flooding can directly affect human and economic activity. They can change coastal landscapes, weaken sea defences, and put at risk coastal buildings (including built heritage), infrastructure networks (including ports, marinas, roads, rail and energy) and people. Coastal flood risk is a particularly important national issue. Around 208,000 properties in Wales are at risk of flooding from rivers or the sea¹³. Much of the large-scale flood risk is characterised as low likelihood, in part as a result of the investment made in coastal defence, but of high consequence, which brings with it complex management challenges.
175. Coastal change and flooding can also significantly impact our natural resources. Much of our marine environment is designated for its environmental significance (see policy **ENV_02** and associated map) and changes to vulnerable coastal habitats such as salt marshes, sand dunes and foreshores may have consequences for biodiversity and the future provision of other ecosystem services, such as cultural services that help support the coastal tourism industry. Climate change may also result in increased storminess, less suitable conditions and increased damage to coastal facilities.
176. Coastal management in the broad sense can be designed to create habitats and enable adaptation. However, historically the traditional approaches to managing the risks of coastal change and flooding have been centred on the principles of defence. An estimated 415 km of man-made sea defence structures exist to protect our coastal communities and to protect over £8 billion of coastal assets in Wales¹⁴. As communities have developed, so too has a significant network of flood defences, coastal protection and drainage infrastructure which help to

¹² UKMMAS 2010a

¹³ <http://naturalresources.wales/our-evidence-and-reports/flooding/flood-and-coastal-erosion-risk-in-wales/?lang=en>

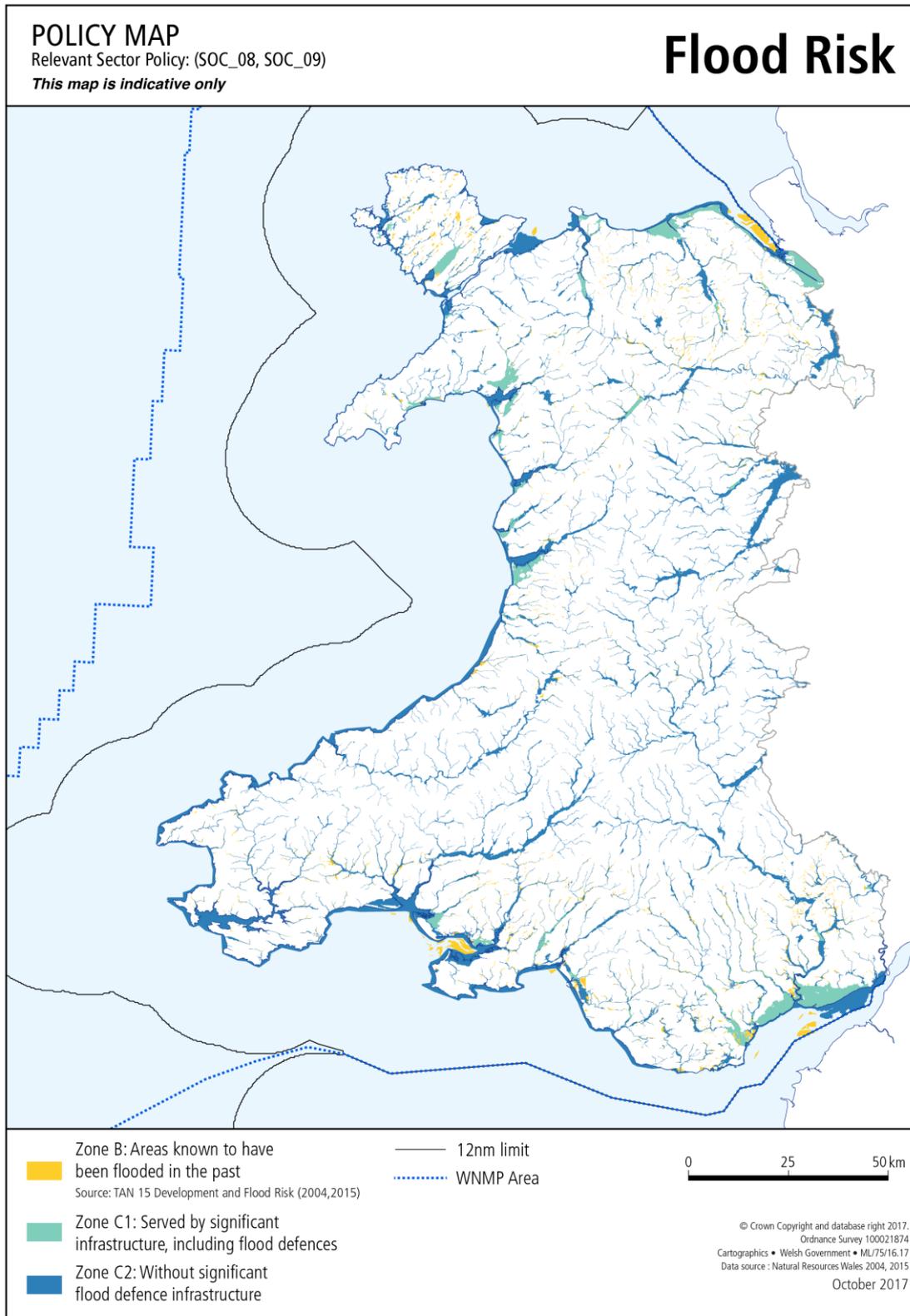
¹⁴ Wales Audit Office, 2009

reduce the risks faced. Maintaining existing defences, as well as constructing new defences, continues to be a significant activity around the coast of Wales. Although these arrangements will continue to form an important element of our coastal defence, and are still working in most parts of Wales, the effects of climate change mean that the pressure on our existing infrastructure will increase significantly. It is unsustainable and unaffordable to build increasingly large defence structures and no matter how large the defence structure, there is always a risk that it will be breached or over-topped. Therefore, there will always be a residual risk that defence alone cannot address. Coastal defence projects can also change the coastal environment through changes in geomorphology and coastal squeeze can result in habitat degradation and loss. For instance, in areas where there are fixed (hard) coastal defences, habitat adaptation and movement may be restricted as sea levels rise. This could result in a permanent loss of these areas/habitats and the associated ecosystem goods and services they provide.

177. In recognition of the issues associated with coastal change and flooding, Welsh Government has led a move from a system based on these traditional approaches to one focused around the principles of risk management. This approach is underpinned by the Flood and Water Management Act 2010, and the first steps to addressing this include the publication of Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management in 2011 and the introduction of Flood Risk Management Plans under the Floods Directive in 2014.
178. This strategy has been accompanied by the development of national coastal erosion and flood risk maps (Figures 10, 11a and 11b) and the adoption of Shoreline Management Plans (SMPs). The aim of the SMPs is to secure a more sustainable, longer-term shoreline management approach, which is more resilient to climate change, particularly sea-level rise. The non-statutory plans provide important context for decision making on the coast by setting out preferred policies for how the coast should be managed (Hold the Line, No Active Intervention, Managed Realignment, Advance the Line) over three epochs: 0-20 years, 20-50 years and 50-100 years.
179. Planning ahead to prepare for flooding or coastal erosion is also integral to the effective management of flooding incidents. In light of the Winter 2013/14 floods, Welsh Government commissioned a review which identified 47 recommendations to improve Wales' resilience to coastal flooding. The subsequent report, the Coastal Flooding Review Delivery Plan¹⁵, sets out how they could be progressed. The focus for joint-agency emergency planning in Wales is through the four Local Resilience Fora (LRF) which work together to ensure emergency plans are in place to deal with flooding and erosion incidents.

¹⁵ <http://gov.wales/topics/environmentcountryside/epq/flooding/studies/review-into-coastal-flooding-december-2013-and-january-2014-delivery-plan/?lang=en>

Figure 10: Flood Risk



180. The integration of marine and terrestrial planning and decision making is key in addressing the issues associated with coastal change and flooding.
181. The following policies introduce requirements for policies to consider both their likelihood to be affected by coastal change and flooding and their own potential impact on these processes.

SOC_08: Resilience to coastal change and flooding

Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.

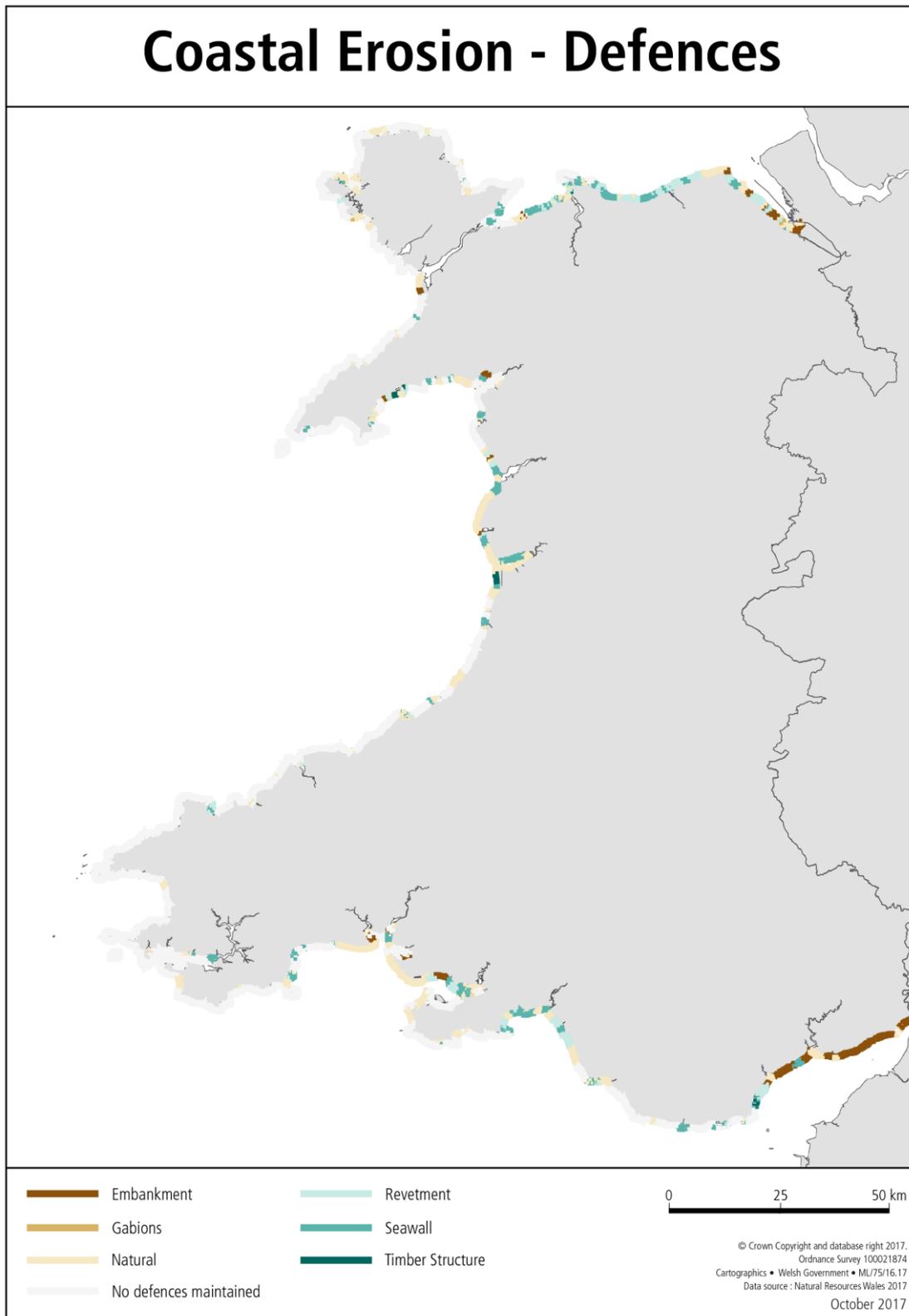
Implementation guidance

182. Proposals for development and use of the marine environment should, where appropriate, include an assessment of the risk of coastal change and flooding over the lifetime of the project. Where appropriate, they should also include measures to address that risk and increase resilience.
183. With respect to flooding, plan users should take account of Welsh Government's flood risk policy within PPW and should refer to TAN 15 for guidance on development and flood risk. Plan users should consult NRW for information and technical advice on flood risk and may be required to undertake a Flood Consequence Assessment for developments in high risk areas. Where available, flood maps from Welsh Government or NRW should be used to identify the level of flood risk in coastal areas, with TAN 15 Development Advice Maps providing a trigger for further assessment.
184. Plan users should take into consideration policies within SMPs which provide important context for decision making on the coast by setting out preferred policies for how the coast should be managed.
185. Coastal development should preferably be sited in areas less vulnerable to flooding and erosion, although there may be exceptions if a specific location is essential for operational reasons or infrastructure cannot be located elsewhere. As set out in PPW, the undeveloped coastline is unlikely to be considered appropriate for new development; neither is development that requires extensive engineering or defences to make it safe.
186. In line with SMP policy, proposals to develop areas at risk of flooding / erosion and with a "no active intervention" or "managed alignment" policy in the SMP for any epoch relevant to the lifetime of the development should not be permitted. Equally, areas at high risk from flooding should not be developed (TAN 15).

Figure 11 (a): Coastal erosion – Shoreline Management Plan



Figure 11 (b): Coastal erosion – Defences



SOC_09: Effects on coastal change and flooding

Proposals are encouraged that:

- demonstrate that they have no significant adverse impact upon coastal processes;
- minimise the risk of coastal change and flooding; and
- align with the relevant Shoreline Management Plan.

Implementation guidance

187. Management of flood risk and erosion are the responsibility of NRW, Local Authorities and land owners. Consultation with these authorities on matters relating to coastal change and flooding should be carried out at the earliest possible opportunity.
188. Measures associated with development and use of the marine environment that reduce the risk of coastal change should be encouraged. Measures that work with natural processes, assist in adapting to climate change and improve resilience of ecosystems and coastal communities are also encouraged.
189. Proposals should demonstrate that proposed activities will not have significant adverse impacts upon coastal processes and will not result in an increased risk of coastal change and flooding. Proposals should take account of relevant plans and policies, including PPW, TANs 14 and 15 and SMPs.
190. Proposals relating to flood risk management and coastal protection solutions should take account of the relevant SMP, and should ensure that, where possible, they comply with the relevant SMP policy. As far as practicable, decision makers should encourage solutions that work with natural processes and the local landscape/seascape and enable habitat creation opportunities (**ENV_01&02; SOC_06&07**).
191. Where the SMP supports traditional engineered solutions, proposals should consider the risks associated with climate change using the most up to date scientific evidence¹⁶. Proposals should demonstrate that proposed interventions do not cause adverse impacts on the risk of coastal erosion, nor increase or exacerbate flood risk at other locations, and application of policy **ENV_02** (Marine Protected Areas) will be critical.

¹⁶ Available from ukclimateprojections.metoffice.gov.uk/

Climate change

192. The scientific case that the climate is changing and that human activity is playing a significant role is clear¹⁷. Climate change will pose a series of challenges to our marine environment and the communities and businesses that rely on it. Likely impacts include sea level rise, increased flood risk and changes to biodiversity and ecosystems, as well as associated impacts on health and well-being.
193. There are two key ways to take action on climate change – mitigation and adaptation. Mitigation aims to slow the rate of change and lessen its impacts by reducing the emissions of greenhouse gases (or enhance the sinks that can absorb the gases). Adaptation helps protect against the impacts of climate change by taking appropriate action to prevent or minimise the damage to socio-economic and natural systems. It also involves identifying and taking advantage of opportunities that may arise from climate change. The future costs and risks of inaction far outweigh the costs of taking action now. Furthermore, delaying action on the negative impacts of climate change will only make it more expensive and difficult to overcome in the future.
194. The Environment (Wales) Act sets a legal target of reducing emissions by at least 80% by 2050 and places a duty on the Welsh Ministers to set a series of interim targets (for 2020, 2030, and 2040) and five yearly carbon budgets. The budgets will set limits on the total amount of emissions emitted in Wales over a 5 year period and act as stepping stones and ensure regular progress is being made towards the long term target. The Act also requires Welsh Ministers to publish a Delivery Plan setting out their proposals and policies broken down, for each carbon budgetary period, providing certainty to drive investment for a low-carbon economy.

SOC_10: Minimising climate change

Proposals should, in order of preference:

- a) avoid the emission of greenhouse gases; and/or
- b) minimise them where they cannot be avoided; and/or
- c) mitigate them where they cannot be minimised.

Where significant emission of greenhouse gases cannot be adequately addressed, proposals for regulated activities should present a clear and convincing justification for proceeding.

¹⁷ 5th Synthesis IPCC report

Implementation guidance

195. The emission of greenhouse gases should be minimised wherever possible, particularly in the context of larger scale developments and infrastructure projects. Proposals should demonstrate they have considered emissions directly related to the activity proposed (including greenhouse gases associated with construction and operation) and indirectly related to the activity proposed (for example, increased journey length for vessels arising from the development). Minimisation measures may include increasing energy efficiency and utilising low carbon technologies such as renewable energy sources.

SOC_11: Resilience to climate change

Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaption measures, taking into account Climate Change Risk Assessments for Wales.

Implementation guidance

196. Where appropriate, plan users should consult the most up to date scientific evidence on the predicted extent of climate change to assess the likely impacts on proposed development and use of the marine environment. Where necessary, public authorities should be satisfied that adequate risk management or contingency plans are in place to increase the resilience of developments to climate change.
197. Proposals should demonstrate consideration of the possible impact of proposed climate change adaptation measures upon measures taken elsewhere and should demonstrate how elements of good practice relating to adaptation to climate change have been integrated within plans or proposals. Welsh Government's Sectoral Adaptation Plans¹⁸ should be taken account of where appropriate.
198. Plan users should also have consideration for the possible opportunities emerging as a result of climate change, as identified by the UK Climate Change Risk Assessment (CCRA).

SOC_12: Support for wider resilience to climate change

Relevant public authorities should support opportunities that contribute towards climate change adaptation and/or mitigation.

¹⁸ <http://gov.wales/topics/environmentcountryside/climatechange/preparing/saps/?lang=en>

Implementation guidance

199. Proposals involving measures to contribute towards climate change mitigation and adaptation are encouraged.
200. Climate change mitigation measures could include reducing greenhouse gas emissions through increased energy efficiency, or the use of low carbon technology.
201. Adaptation measures could include those that increase the resilience of ecosystems, communities and economic activity to the impacts of climate change. Shoreline Management Plans consider, over the short, medium and long term, how best to manage the coast, including coastal adaptation, in light of predicted sea-level rise and other constraints. They are a key tool in guiding adaptation decisions.

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General policy – Living within environmental limits

Introduction

202. Marine ecosystems are dynamic and provide a range of goods and services that we depend on, such as a healthy food source, protection against natural disasters and the regulation of our climate. It is important that ecosystems and the habitats and species they support are resilient and able to adapt to change and impacts so we can continue to benefit from the goods and services they provide. This section sets out policies that promote the protection and enhancement of the marine environment to ensure that we have resilient marine ecosystems that can meet the needs of future generations.

Good Environmental Status and the Sustainable Management of Natural Resources

203. The UK Marine Strategy puts in place a framework to safeguard our seas for future generations. Its goal is to achieve or maintain Good Environmental Status (GES) in coastal and marine waters. GES is defined through 11 “descriptors” covering the whole marine environment. The UK Marine Strategy sets out, at descriptor level, a monitoring programme and set of measures to achieve or maintain GES. Achieving GES involves protecting the marine environment, preventing its deterioration and restoring it where practical whilst using marine resources sustainably.
204. The Environment (Wales) Act seeks to promote SMNR. The objective of SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide. Principles for delivering SMNR are set out in the Environment (Wales) Act and complement the UK Marine Strategy’s 11 descriptors of GES.
205. The policies set out in this plan play a key role in delivering SMNR and support the achievement of GES.
206. Table 5 sets out the relationship between all policies in this plan and the 11 descriptors that represent the key aspects of GES.

Table 5: Plan policies that support the achievement of Good Environmental Status (GES)

Descriptor number and description		Plan Policies
D1	Biological diversity is maintained and recovered where appropriate. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.	ENV_01, 02, 03, 04, 05, 06 SOC_06, 09 GOV_01 FIS_03
D2	Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.	ENV_01; 03 GOV_01
D3	Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.	ENV_01 GOV_01 FIS_01, 03
D4	All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.	ENV_01, 02, 03, 04, 05, 06 GOV_01 FIS_03
D5	Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algal blooms and oxygen deficiency in bottom waters.	ENV_01, 02, 06 GOV_01
D6	Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.	ENV_01, 02, 03 GOV_01 FIS_01, 03

D7	Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.	SOC_09 ENV_01, 02 GOV_01
D8	Concentrations of contaminants are at a level not giving rise to pollution effects.	ENV_06 SOC_01 GOV_01
D9	Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.	SOC_01 ENV_06 GOV_01
D10	Properties and quantities of marine litter do not cause harm to the coastal and marine environment.	ENV_04 GOV_01
D11	Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.	ENV_05 GOV_01

Protection, restoration and enhancement of marine ecosystems

207. Biodiversity and geodiversity are key components of ecosystems. Any loss or damage to these can affect ecosystem functioning and its ability to adapt to change. By protecting and enhancing biodiversity we can build resilience of ecosystems and improve the quality of the wider environment.
208. Biodiversity is the variety of life found on earth and includes all species of plants and animals, their abundance and genetic diversity. Biodiversity has its own intrinsic value; it contributes to society's well-being, sense of place and cultural identity. Biodiversity is also a measure of success for the delivery of SMNR.
209. Geodiversity describes the variety of rocks, fossils, minerals, natural processes, landforms and soils that underlie and determine the character of our landscape and support the provision of many ecosystem services.
210. A resilient marine ecosystem is healthy and functions in a way that is able to adapt to change and impacts and continues to deliver the goods and services we depend on over the long term. Our economic wealth benefits from a healthy,

resilient ecosystem through recreation and job creation in sectors ranging from tourism to biotechnology.

211. It is widely recognised that marine ecosystems are under pressure from a range of influences such as climate change, unsustainable human activities and the introduction of non-native species. By adopting the principles of the 1992 Convention on Biological Diversity and implementing the UK Marine Strategy, the WFGA, the Environment (Wales) Act and the Nature Recovery Plan for Wales we are committing to maintaining and enhancing our marine ecosystems.
212. Our seas are afforded protection under a range of legislation in recognition of the diverse range of natural features they support. Collectively our legislation creates a system that provides for the conservation and protection of habitats, geodiversity and species that are considered, rare, vulnerable, threatened with extinction or of principal importance to Wales.

ENV_01: Resilient marine ecosystems

Proposals should demonstrate how they contribute to the protection, restoration and/or enhancement of marine ecosystems.

Implementation guidance

213. Policy **ENV_01** ensures that biological and geological components of ecosystems are maintained, restored where needed and enhanced where possible, to increase the resilience of marine ecosystems and the benefits they provide.
214. When developing proposals, the sensitivities of marine ecosystems should be taken into account and where possible, proposals should demonstrate how they will contribute to their protection.
215. Particular focus should be given to the habitats and species of principal importance for the purpose of maintaining and enhancing biodiversity in Wales listed under Section 7 of the Environment (Wales) Act. Proposals should demonstrate how they maintain and enhance these habitats and species, including protecting them from potential impacts or promoting their restoration and/or enhancement.
216. Proposals should demonstrate how they are compliant with legislation that protects European Protected Species (EPS) because it is an offence to deliberately or intentionally disturb, injure or kill a protected species. Further offences are listed in the Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981. Proposals should assess the potential impacts and detail the measures that will be taken to ensure the protection of EPS. Consideration should also be given to whether an EPS licence is required if an offence cannot be avoided. Guidance on when and how to apply for an EPS licence is available from NRW.

217. Proposals that improve or restore marine habitats, for example, can help to build the resilience of ecosystems by increasing biodiversity and supporting ecosystem functions, such as nutrient cycling, water filtration and coastal protection. This can provide multiple benefits to society in areas such as tourism through opportunities for diving or wildlife watching, fisheries by increasing fish production or flood protection by dissipating wave action.
218. Through finding new and innovative ways to restore and enhance biodiversity, proposals can help build resilience in our marine ecosystem to ensure we continue to receive the benefits they provide in the long term.
219. Incorporating restoration and/or enhancement of marine ecosystems into proposals doesn't have to be expensive or complex. It could include using different substrates for building on the foreshore that are favourable to post-construction colonisation by a range of species. Small changes to intertidal structures that allow the formation of crevices in walls or pools at low tide as opposed to the structure drying out entirely can provide an additional environment for rock pool species that would otherwise be unable to exist there.
220. Not all proposals can include an element of restoration or enhancement. Early engagement with NRW is recommended to discuss possible opportunities and design solutions.
221. We recognise the need to work at the appropriate scale and to take a holistic and long-term approach to marine management, particularly in the context of marine ecosystems. The sustainable development of the marine area requires consideration and understanding of marine ecosystem structure and function. Marine planning and other management processes should consider ecosystem attributes and processes at all appropriate scales, particularly in cross-border areas such as estuaries where there is a need for coherent decision making based on shared evidence and joined-up, mutually supportive management practices. At the wider scale, planning, management and decision making should reflect the nature of our shared resources and broader ecosystem linkages and dependencies.

Delivering a well-managed, ecologically coherent network of Marine Protected Areas

222. Marine Protected Areas (MPAs) are areas designated as being important for conservation and are subject to specific rules regarding their management and the nature of activities that can take place within them. They are fundamental to the conservation of marine biodiversity, ensuring our marine ecosystems remain healthy, sufficiently connected and resilient to change. A well-designed, well-managed network of MPAs can provide greater benefits to biodiversity than individual unrelated sites, which is why we are committed to delivering a well-managed, ecologically coherent network of MPAs that represent a diverse range of habitats and species.

223. We already make a significant contribution towards the protection of biodiversity and the wider marine environment through our network of MPAs that currently covers approximately 75% of our coastline and 69% of the inshore plan area. When taken together our network contributes to UK and international networks of MPAs.
224. In Wales, our MPAs are of various types reflecting the specifics of their management and governance. These include Special Areas of Conservation (SACs); Special Protection Areas (SPAs); Marine Conservation Zones (MCZs); Sites of Special Scientific Interest (SSSIs); and Ramsar sites that have marine components.
225. Working with marine stakeholders we aim to deliver management measures that avoid damage to and improve the condition of our MPAs. By achieving and maintaining good condition of our sites we will deliver on our commitments to protect, restore and enhance marine biodiversity and ensure our ecosystems are healthy.
226. There are a number of site designations outside the MPA network that could potentially be impacted by activities occurring in the marine and coastal environment. Such designations include Sites of Special Scientific Interest and Natura 2000 sites covering a range of protected terrestrial biodiversity and geological features. Coastal geodiversity features are covered by SSSI legislation and non-statutory sites selected by RIGS (Regionally Important Geodiversity Sites). Features can include coastal processes in addition to geological features exposed on the foreshore and hard or soft cliff exposures.

ENV_02: Marine Protected Areas

Proposals should demonstrate how they:

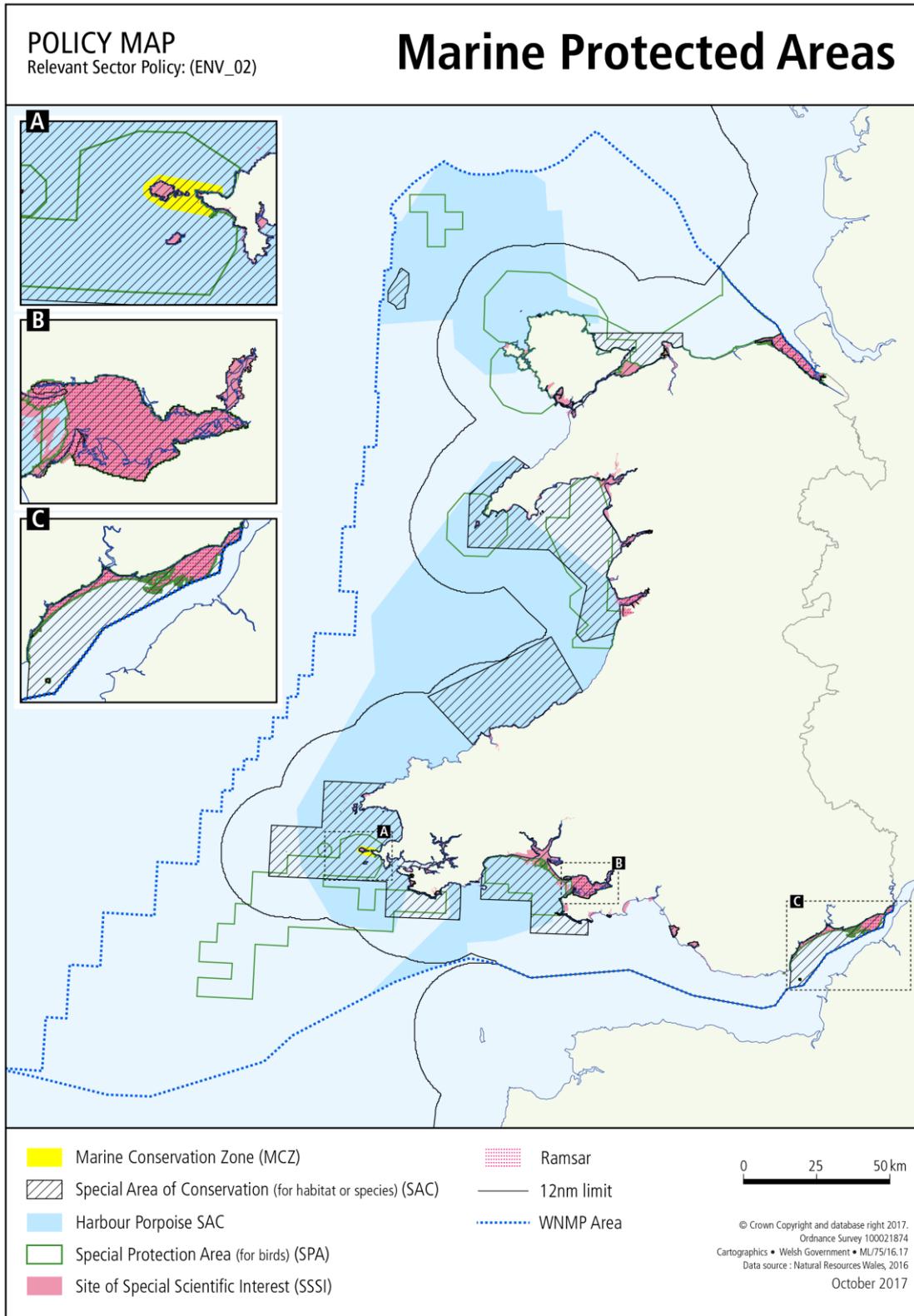
- avoid adverse impacts on individual Marine Protected Areas (MPAs) and the coherence of the network as a whole;
- have regard to the measures to manage MPAs; and
- avoid adverse impacts on non-marine designated sites.

Implementation guidance

227. Proposals should be compliant with legal duties to secure the integrity of MPAs and maintain the coherence of the network in UK seas. This policy also applies to any non-marine nature conservation sites that may be impacted by proposals.
228. It is Welsh Government policy that all Ramsar sites be treated as if they are European Sites, and that, at the point of formal consultation, any possible new Ramsar sites, Natura 2000 sites or Marine Conservation Zones should be treated as designated in terms of management decisions and assessment of new activities.

229. Proposals should include such information as required by public authorities to enable them to determine whether the proposal is likely to have a significant effect on a protected site and/or whether an appropriate assessment under the Conservation of Habitats and Species Regulations 2010 would be required.
230. A proposal can only proceed after the public authority has determined that the proposal will not adversely affect the site alone or in combination with other plans or projects. Approval may include appropriate mitigation measures to ensure the integrity of the designated site is secured as a result of the proposal. However, a public authority can approve proposals which will adversely affect the integrity of a European Site or European Marine Site if it is satisfied that:
- there are no alternative solutions to the objective of the proposal, and
 - there are imperative reasons of overriding public interest (IROPI).
231. In such cases compensatory measures must be secured to ensure the overall coherence of the network is maintained.
232. If IROPI is likely to be applied the Welsh Ministers, as the appropriate authority, should ensure that any necessary compensatory measures are secured to ensure the overall coherence of the Natura 2000 and/or MPA network. Developers and/or relevant public authorities should therefore engage with Welsh Government and NRW at an early stage if IROPI is likely to be applied.
233. If a public authority determines that there may be a significant risk to an MCZ as a result of a proposal, as required by the MCAA, it should notify NRW, as the appropriate statutory nature conservation body, before deciding whether to grant authorisation.
234. Under the Wildlife and Countryside Act, if an owner/occupier damages a SSSI it is possible a prosecution may occur. Proposals should therefore consider whether there may be any impacts to SSSIs as a result of works undertaken. The owner/occupier may also be required to restore any damage to the site. An SSSI assent may therefore be required from NRW.
235. Conservation advice available from NRW will help to ensure the MPA network is well managed by providing advice on the likely operations which may cause deterioration and/or disturbance to habitats and species and conservation objectives for sites. Developers and public authorities are encouraged to use the Conservation Advice Packages to help inform the development and determination of proposals.
236. Where appropriate, proposals should be undertaken in line with any relevant management measures for MPAs, or voluntary codes of conduct that may be in place. Early engagement with NRW is encouraged to discuss the MPA network and identify any management measures that may be relevant in the context of individual proposals.

Figure 12: Marine Protected Areas



Invasive non-native species

237. Non-native species (also known as alien, non-indigenous or exotic) are species outside of their natural range. The majority of these species pose little or no risk to marine ecosystems. However, some do and can cause significant adverse impacts to biodiversity, human health and economic activity. Invasive non-native species (INNS) can disrupt native habitats and ecosystems, prey on or out-compete native species, spread disease and interfere with the genetic integrity of native species. Reducing the number of INNS would help to maintain and increase the diversity and resilience of our native biodiversity.
238. The main pathways for the introduction of marine INNS are maritime transport (commercial and recreational), aquaculture and infrastructure developments. The eradication of INNS in the marine environment is not always feasible and can often be costly. For this reason it is important to prevent their introduction and spread.

ENV_03: Invasive non-native species

Proposals should include biosecurity measures to reduce the risk of introducing and spreading invasive non-native species.

Implementation guidance

239. Incorporating biosecurity measures into proposals will help to reduce the risk of introducing or spreading INNS and ensure compliance with the Wildlife and Countryside Act 1981.
240. Proposals should assess the likely risk of introducing or spreading INNS and put in place reasonable biosecurity measures (preventative measures) where necessary to reduce or stop their introduction or spread. The nature of biosecurity measures required will depend on the risk, scale, nature and location of the proposal. Developers should engage early with NRW to discuss what assessment and biosecurity measures may be required, if any.
241. Biosecurity measures could for example be:
- following good practice guidance, such as the Marine Check, Clean, Dry campaign, which seeks to prevent the accidental transfer of INNS for anyone visiting or working in or near water; and/or
 - developing a full biosecurity plan which details the specific actions that will be taken to reduce the risk of introducing or spreading INNS.
242. Biosecurity Planning Guidance (England and Wales) is available from the GB Non-native Species Secretariat¹⁹; as well as identification charts and risk

¹⁹ <http://www.nonnativespecies.org/home/index.cfm>

assessments for certain species and a mechanism for reporting suspected sightings of INNS.

Marine litter

243. Marine litter is defined as any persistent, manufactured or processed solid material discarded, disposed of, abandoned or lost in the marine and coastal environment.
244. Descriptor 10 of the UK Marine Strategy covers the monitoring of and measures in place to reduce the introduction of litter into the marine environment. Marine litter is a global environmental, economic, human health and aesthetic problem. It poses a threat to habitats, species and ecosystems through direct damage to wildlife from entanglement, entrapment, smothering and ingestion. It has potentially significant economic impacts on tourism, where unsightly coastal areas are less attractive to visitors, clean-up costs and costs to fishermen through lost catch and snagged nets. It can also pose a hazard to seafarers through fouling of propellers. The presence of medical and sanitary waste and broken glass constitute a potential risk to human health. There are also potential detrimental health effects due to the presence of plastic particles within marine organisms that ultimately end up in the food chain.
245. Marine litter is a trans boundary problem and all countries and communities have a role to play in tackling it. Avoiding littering and inappropriate disposal of waste is the best way to reduce the amount of litter entering the marine environment. In line with our ambition for a “circular economy” reducing packaging, recycling and reducing the use of single use plastic products will also help minimise marine litter.

ENV_04: Marine litter

Proposals should demonstrate that they:

- avoid the deliberate introduction of litter into the marine plan area; and
- minimise the risk of accidental release.

Implementation guidance

246. The deliberate introduction of litter is a criminal offence under national and international legislation including the Environmental Protection Act and MARPOL. The materials that can be disposed of at sea are strictly regulated. Proposals should ensure that they are compliant with these regulations.
247. Where appropriate, measures should be taken to reduce the risk of accidental release of litter and demonstrate an effective plan for its removal. Measures may include waste management plans, adherence to relevant codes of conduct, and the provision of training, signage and waste disposal facilities. Initiatives and

activities that help reduce waste that enters the marine environment are encouraged; these may include fishing for litter initiatives, re-use and recycling, enhanced filtration systems and alternatives to single-use plastics.

Introduction of energy, including underwater noise

248. The introduction of energy into the marine environment can change the nature of physical systems and have a negative effect upon ecosystems. Energy can be in the form of light, electricity, heat, noise, electromagnetic radiation, radio waves or vibrations. Human activities can take energy out of a system or add to it. Descriptor 11 of the UK Marine Strategy addresses the introduction of energy and at present focusses on underwater noise. It requires that noise introduced into the marine environment does not have an adverse effect on the marine environment. In particular, it requires that human activities potentially introducing such impulsive sounds into the marine environment are managed to the extent that no significant long term adverse effects are incurred at the population level or specifically to vulnerable/threatened species and key functional groups.
249. Noise resulting from a proposed activity or development in the marine and coastal environment can have adverse effects on marine mammals, birds and fish. It has the potential to interfere with communication and behaviour, affect hearing organs, and injure or even kill marine life. Sources of concern include: explosions; shipping; seismic surveys; offshore construction and offshore industrial activities, e.g. dredging, drilling and piling; sonar of various types; and acoustic deterrent devices. Noise can also have a negative effect on people by impacting health and use and enjoyment of the marine environment.

ENV_05: Underwater noise

Proposals should demonstrate that they have considered man-made noise impacts on the marine environment and, in order of preference:

- a) avoid adverse impacts; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised.

If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.

Implementation guidance

250. Human activities potentially introducing impulsive sounds should be managed to eliminate significant adverse effects on vulnerable species and populations. At present, we have a limited understanding of the levels, distribution and impacts of underwater noise. We therefore aim to manage noise impacts using best available evidence and to monitor and collect evidence to improve our understanding.

251. Marine plan authorities are required to take a strategic overview of man-made noise sources and assess the potential cumulative effects of noise and vibration across sensitive receptors in the marine area.
252. Proposals should include a noise impact assessment when required by a public authority. Noise impact assessments should include details on the type, level and duration of noise expected to be generated throughout all stages of the development; the predicted effects on noise-sensitive species (including the cumulative impact). Where evidence is available, assessments should demonstrate that there are no adverse effects upon protected noise-sensitive species. NRW can provide advice on protected species that may be sensitive to noise. If marine mammals could potentially be impacted, assessment should take into account impacts within the appropriate Marine Mammal Management Units (MMUs) identified by the UK Statutory Nature Conservation Bodies (NRW in Wales). If necessary, proposals should set out noise avoidance, minimisation or mitigation measures to manage the impact of man-made noise.
253. Where appropriate, plan users should also refer to the JNCC guidelines for minimising the risk of injury to marine mammals from seismic activities, piling and explosive use. The application of these guidelines is frequently set as a licence condition. Developers and plan users should also consider whether the level of surface or underwater noise has the potential to affect any European Protected Species (EPS) and whether an EPS Licence may be required to reflect disturbance and injury impacts.
254. In 2012, the UK initial assessment of the state of our seas, published in the UK Marine Strategy, indicated that there was insufficient data to provide an assessment of underwater noise and its impacts or to provide a relevant baseline. To address this, the UK Administrations have established a Marine Noise Registry for impulsive sounds such as those generated during piling and seismic survey. The noise registry records in space and time noise-generating activities in order to determine whether these could potentially compromise the achievement of GES. Information collected through the registry will further improve our understanding of underwater noise and how it can best be managed.
255. Public authorities should ensure that, where appropriate, the consenting process requires developers to record impulsive noise-generating activities within the Marine Noise Registry in compliance with the UK Programme of Measures and Monitoring Programme in relation to Descriptor 11. Where submissions are not a condition of a consent, developers are encouraged to voluntarily submit information to the noise registry.

Air and water quality

256. The quality of air and water is central to the resilience of marine ecosystems and our well-being. Development and use of the marine plan area has the potential to negatively and positively impact air and water quality. Water quality in particular is covered by descriptors 5, 7 and 8 of the UK Marine Strategy.

Air

257. Sources of air pollution include emissions, including particulate matter and gases, from shipping and fishing vessels and dust from construction activities. Air pollution can have an adverse effect on people's well-being and on biodiversity, and can contribute to climate change.
258. The UK Air Quality Strategy²⁰ sets out and regulates UK wide objectives and policy options for improving air quality that will bring health and social benefits.
259. The control of nitrogen oxides (NOx) emissions from ships through the Merchant Shipping (Prevention of Air Pollution from Ships) Regulations 2008 (as amended) is primarily designed to improve air quality by requiring engines installed on a ship to meet the specified NOx emission standard. This measure will also contribute to the reduction of NOx inputs to, and human-induced eutrophication of, marine waters under descriptor 5 of the UK Marine Strategy.

Water

260. Undesirable changes in water quantity or quality can have a negative effect on the benefits that we receive from our marine ecosystems including opportunities for recreation, tourism and fisheries.
261. The Water Framework Directive (WFD) and the UK Marine Strategy provide the over-arching framework for the management of water quality in our coastal and marine waters. In coastal waters, the UK Marine Strategy only applies to those aspects of GES which are not already covered by the WFD.
262. River Basin Management Plans (RBMPs) are the mechanism by which the WFD is implemented. They provide a framework for managing all aspects of the water environment in river basins and the coastal environment, including bathing waters and shellfish waters, areas designated as eutrophic and Natura 2000 sites. Compliance with WFD is important in managing pressures and maintaining and improving water quality.

ENV_06: Air and water quality

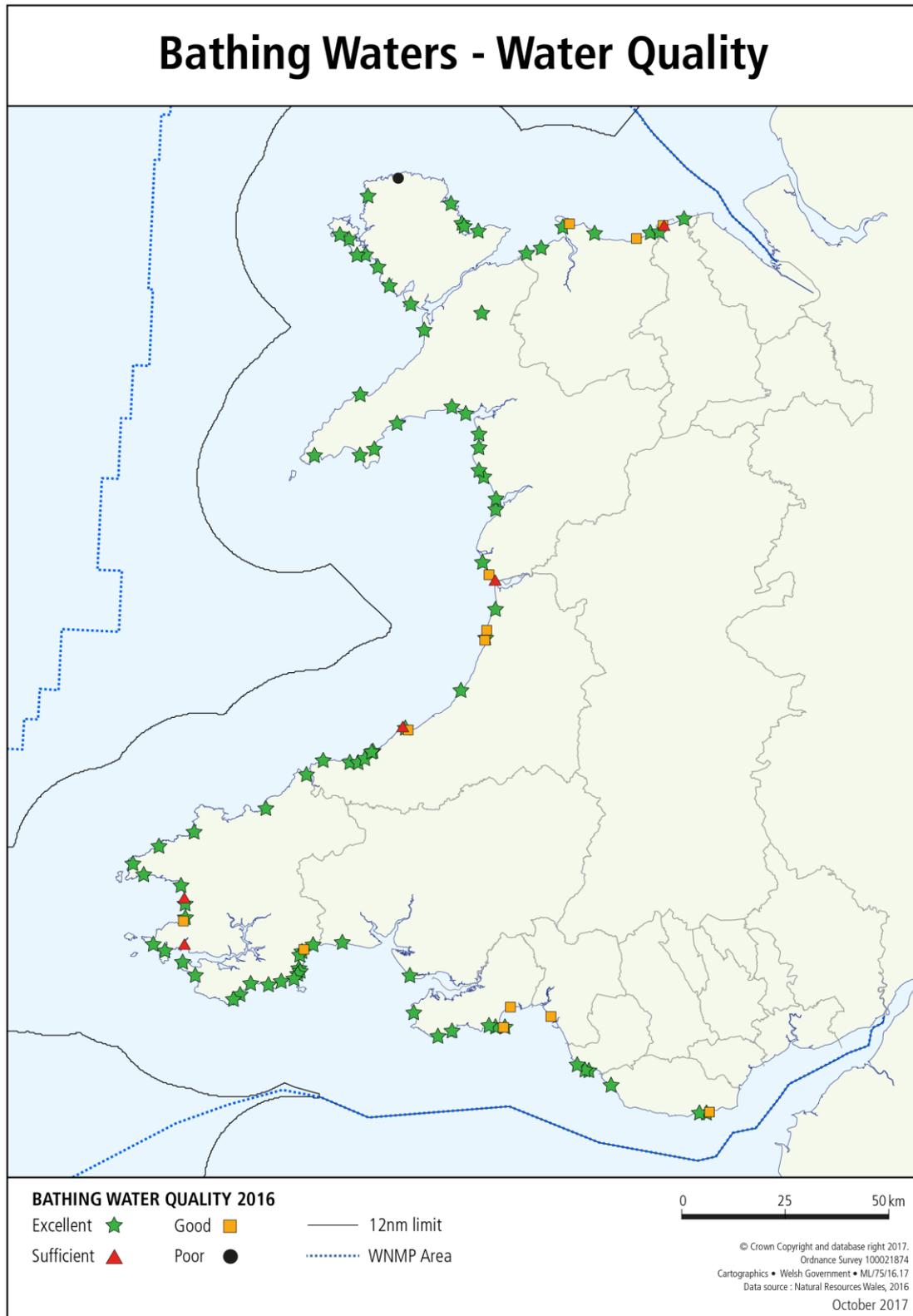
Proposals should demonstrate that they have considered their potential air and water quality impacts and should, in order of preference:

- a) avoid adverse impacts; and/or
- b) minimise adverse impacts where they cannot be avoided; and/or
- c) mitigate adverse impacts where they cannot be minimised.

If significant adverse impacts cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.

²⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf

Figure 13: Bathing Waters



Implementation Guidance

263. Proposals should demonstrate how they will avoid undesirable changes to air and water quality. Proposals that will result in improvements to air or water quality are encouraged.

Air quality

264. Where development and use of the marine environment may result in increased emissions to air, including particulate matter and gases, proposals should demonstrate that air quality impacts and limits have been considered. Developers and public authorities should, where appropriate, ensure that impacts on air quality have been taken into account and mitigation measures adopted, where appropriate.
265. Where proposals are located within or adjacent to an Air Quality Management Area (AQMA), they should seek to be consistent with the relevant AQMA action plan. Developers should liaise with the relevant local authority to ensure statutory limits are not exceeded and proposals are consistent with AQMA action plans.
266. Proposals should also be assessed for potential impacts on sensitive ecological receptors. The Environment (Wales) Act requires NRW to consider nature conservation as part of their regulatory role. This includes assessing the aerial impact of pollutants on nature conservation sites. This involves a staged screening process based on best available information to assess the impacts of installations. The first step is to check whether there are any conservation sites within specified distances from the installation. The predicted process contribution and predicted environmental concentration resulting from regulated installations are then compared with thresholds expressed as percentages of Air Quality Standards, critical levels and critical loads.

Water quality

267. Where an activity has the potential to impact upon WFD by causing deterioration in status or by preventing a water body achieving its objectives, a WFD Compliance Assessment should be carried out. Consideration should be given to the objectives of the water bodies potentially affected by development and any potential deterioration in the status of the water body. This includes potential effects to water quality, hydromorphology and biological elements.
268. If the potential for deterioration is unavoidable, proposals should demonstrate that the requirements of Article 4.7 are met in order for the proposal to proceed. Proposals should also demonstrate that they are consistent with other national and international environmental legislation and commitments.

General policy - Promoting good governance

Introduction

269. Good governance is about creating and using the correct processes for making and implementing decisions to deliver the best outcomes for society. Good governance for marine planning is important for several reasons. It provides accountability, transparency and participatory decision making, as well as ensuring that decisions are responsive, effective, efficient and consistent with relevant legislation. It not only improves the confidence decision makers and stakeholders have in planning but importantly provides an ethical basis for governance.
270. Welsh Government is committed to upholding its values of honesty, integrity, objectivity, impartiality and openness throughout the marine planning process. For example, in developing this plan we having undertaken considerable engagement with the public and stakeholders. Our vision and objectives [**see Vision and objectives**] set out a clear statement of what this plan seeks to achieve. We are working with relevant industries and public authorities to ensure their roles and responsibilities are clear and that they have sufficient information and support to fulfil them. We will use innovative techniques where available and appropriate, such as new technology to better understand Wales' marine area. In order to be accountable to tax payers and demonstrate value for money we will review this plan regularly and report our findings in line with the requirements of the MCAA.
271. Developers and relevant public authorities should also implement good governance in their activities. This section of the plan includes general policies relating to the development and assessment of proposals and the means by which decisions are made and implemented.

Cumulative effects

272. Cumulative effects are those that result from incremental changes caused by two or more past, present and/or reasonably foreseeable actions. These can be economic, social or environmental in nature. Cumulative effects could arise from single or multiple responses (environmental, economic or social) to single or multiple pressures from single or multiple activities. The term "cumulative" is extended to include the term "in combination" effects as used in other legislation.
273. The nature and scale of the effect(s) of a single development could alone have little or no impact. However they could prove significant if there is interaction between two or more pressures/activities/developments. Given the highly mobile, wide-ranging nature of many marine fish, mammal and seabird species, and the wide geographical area over which certain ecological and physical processes operate, activities and developments located some distance from one another might have the potential to interact. Therefore cross-border considerations are essential (see **GOV_02**).

GOV_01: Cumulative effects

Proposals should demonstrate that they have assessed potential cumulative effects and should, in order of preference:

- a) avoid adverse effects; and/or
- b) minimise effects where they cannot be avoided; and/or
- c) mitigate effects where they cannot be minimised.

If significant adverse effects cannot be adequately addressed, proposals should present a clear and convincing justification for proceeding.

Proposals that contribute to positive cumulative effects are encouraged.

Implementation guidance

274. Proposals should demonstrate that they have considered any multiple and cumulative effects of proposals, including those associated with other (including know, planned) projects and activities. It is not sufficient to consider the effects of individual developments in isolation.
275. The level of assessment undertaken for any project should be proportionate to the expected scale and effect(s) of the project as well as the sensitivity of the economic, social or environmental effect(s) concerned (including across administrative boundaries).
276. Proposals should take into account available guidance and consult the decision maker on the scale and nature of any required assessment of cumulative effects. The marine planning portal makes available previously licensed activities and such information may be used to support the assessment of potential cumulative effects. Mitigation may be required depending on the significance of such effects.

Cross-border collaboration

277. Both land-based and sea-based activities can have a direct impact over wide areas which may cover the jurisdiction of multiple planning authorities (both terrestrial and marine). Integration of planning across these borders and at local, national and regional scales is therefore necessary, as well as integration with other organisations and processes involved in the regulation and management of natural resources and space. This includes:
 - between marine and terrestrial areas;
 - between marine areas in Wales;
 - between marine areas within the UK; and
 - between UK marine areas and those of neighbouring countries.

GOV_02: Wales' well-being goals

Relevant public authorities should seek to maximise the contribution to the achievement of the seven well-being goals for Wales and make their decisions in accordance with the sustainable development principle. In doing so they should have regard to:

- any applicable policy in a relevant marine plan;
- any applicable policy in relevant terrestrial plans or related documents;
- the Natural Resources Policy;
- any relevant local well-being plan(s) (including the local well-being assessment); and
- any relevant area statement(s) produced by Natural Resources Wales (NRW).

Implementation guidance

278. This policy sets out key documents which should be considered in the development of proposals to ensure adequate integration with other planning regimes. It seeks to ensure that development decisions contribute to the sustainable use of Welsh seas while seeking to optimise benefits and minimise adverse impacts on activities and interests in neighbouring jurisdictions. Applicants for individual developments should demonstrate that they have identified relevant documents and demonstrate that they have complied with applicable policies within them. Relevant public authorities should also ensure that such documents are considered when developing their own plans, policies and strategies.
279. Authorisation decisions should be made by relevant public authorities in accordance with this plan, after appropriate liaison with any other relevant decision making authorities (e.g. planning authorities and other regulators in neighbouring planning areas), and in consultation with statutory advisors and other bodies, as appropriate. The potential positive and negative effects of development proposals on both the marine and terrestrial environments, and both within Wales and further afield, should be assessed in a collective and cumulative manner (see **GOV_01**).
280. Proposals should provide evidence that integration across the different administrations has been considered and that the proposals are compatible with relevant planning documents and processes. This is particularly important with respect to trans-boundary applications where proposals should demonstrate that they are in accordance with all relevant plans against which they should be considered. It is the responsibility of the public authority receiving the application to notify relevant public authorities of any neighbouring administration that it considers to be significantly affected by a proposal. Proposals should also consider opportunities to contribute to the sustainable development and objectives of neighbouring marine plan areas through cross-border working.

281. To ensure joined-up decision making, relevant public authorities should set out how they will collaborate to manage proposals that occur in cross-border areas and which require multiple consents including, for example, more than one marine licence from neighbouring authorities.

Relevant marine plans

282. The Welsh marine planning area shares borders with three other marine planning areas within the UK (South-West English, North-West English and Northern Ireland), and to one outside the UK (Ireland). In the case of planning decisions that are likely to affect adjacent or adjoining marine planning areas of a neighbouring administration, or affect in any way the functions for which another marine plan authority is responsible, all reasonable steps should be taken to encourage coherence of plan policies. This is to ensure consistency and compatibility in decision making²¹. Any differences in approach should be with the intention of delivering intended outcomes and should be aware of, and look to avoid, unintended outcomes.

Terrestrial plans or related documents

283. Integration between marine and terrestrial planning areas is necessary due to an overlap in both planning area and area of influence. This marine plan extends up to the level of mean high water spring tides (MHWS) while local authority boundaries generally extend down to mean low water spring tides (MLWS). In addition, decisions by local authorities not immediately adjacent to the coast can affect and be affected by those in the marine area, e.g. developments on land can affect rivers which eventually discharge into the sea. These local authorities should be aware of and comply with the policies in this plan (and implementation of this plan needs to be compliant with terrestrial plans and related documents).
284. In developing proposals for individual developments and in developing plans, policies and strategies, developers and relevant public authorities should consider the principles of Integrated Coastal Zone Management (ICZM). Authorisation decisions should also take account of other relevant statutory and non-statutory plans, projects, programmes, and national policies and guidance prepared by public authorities. Examples include, but are not restricted to: development plans in the land-use planning system; Shoreline Management Plans; River Basin Management Plans and Flood Risk Management Plans.
285. The Planning (Wales) Act 2015 requires that Welsh Ministers explain how, in developing the NDF for Wales, they have taken into account relevant policies set out in this marine plan. Furthermore, local development plans should have regard

²¹ Part 3 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (2007 No.1518) require that the appropriate authority should supply details of a project, including a copy of the environmental statement, to any neighbouring state that it considers is significantly affected by the application.

to other relevant plans, policies and strategies relating to the area, or adjoining areas. Both planning systems should aim to promote coherence through complementary sign-posting and sharing evidence. The Sustainability Appraisal undertaken for this plan identifies the relevant plans at the time of development.

Natural Resources Policy (NRP)

286. The NRP²², produced by Welsh Ministers under the Environment (Wales) Act, sets out the key priorities, risks and opportunities for SMNR across land and sea at a national level. The priorities and policies It sets out will help to maximise the contribution that our natural resources make to economic, social and environmental benefits for now and the long term. The Welsh Minsters must take steps to implement the NRP and encourage others to take such steps.

Relevant area statements

287. Area statements (produced by NRW under the NRP) provide an evidence base to identify the risks and opportunities to implement national priorities at a local level. Before publishing an area statement, NRW should consider whether another plan, strategy or similar document should be incorporated into an area statement. Similarly, NRW should also consider whether the area statement should be incorporated into another plan, strategy or similar document. For any area which affects the coastal zone and in particular the intertidal area, NRW should ensure integration with the policies set out within this plan. Area statements that include the coastal zone should take account of this plan's policies for managing the land-sea interface (ICZM). In doing so, area statements recognise that activities on land can have direct effect on the sea and vice versa.
288. The NRP will point to marine planning as the policy framework for achieving the sustainable development of Welsh seas. NRW should satisfy themselves that, where appropriate, area statements contribute to the implementation of the objectives and policies of this plan and do not hinder their achievement.

Local well-being plans

289. Each local authority area in Wales has a public services board responsible for the preparation and publication of local plans (a "local well-being plan"). These set out their local objectives and the steps it proposes to take to meet them. The local plan is based on an assessment of the state of the economic, social, environmental and cultural well-being in its area. Copies of local well-being plans will be held by: the public services board, Welsh Ministers, the Future Generations Commissioner for Wales, the Auditor General for Wales and the local authority's overview and scrutiny committee.

²² <http://gov.wales/docs/desh/publications/150914-natural-resources-policy-statement-en.pdf>

General policy - Using sound science responsibly

290. Evidence is information used to support decisions. It covers a range of disciplines including economics, social research, operational research, statistics, natural science, engineering and geography. It includes research and development, monitoring and surveillance, and secondary analysis and synthesis.
291. There are already a number of tools used to collect, analyse and share marine data and evidence, including long-term monitoring programme databases and agreements on marine data standards. Information on Welsh seas, including their resources and the use that is made of them, is available in the Wales Marine Evidence Report and the online Marine Planning Evidence Portal. SoNaRR also contains relevant evidence that can inform decision making.
292. Evidence helps us to understand the distribution and status of our marine natural resources, the use that people make of them, the impacts of that use and the opportunities for potential future use. Effective decisions are those that are supported by sound evidence applied in a consistent, robust manner in which precaution and pragmatism is used appropriately. All stakeholders with an interest in the marine environment have a role to play in ensuring that evidence is used consistently and responsibly.
293. In some instances, insufficient or only limited evidence may be available to inform a decision. In such cases, management decisions should still be taken but should be done in such a way to deal with any residual uncertainty and minimise the risk of significant adverse impacts on the economy, society, the environment and existing and future potential uses of the marine environment.

SCI_01: Risk-based decision making

Relevant public authorities should make decisions using sound evidence and a risk-based approach. Where appropriate they should apply the precautionary principles and consider opportunities to apply adaptive management.

Implementation guidance

Using sound evidence to support decision making

294. Policy and management decisions should be underpinned by sound evidence. Developers, regulators and other users of the marine environment should make use of the best available evidence in developing their proposals and making decisions. They should equally support others to do so by sharing evidence wherever possible.

295. Developers should provide such evidence as is necessary to inform decisions pertaining to their application. In developing a proposal, evidence should be used from a full range of relevant sources to identify likely positive and adverse effects of the proposal, including cumulative effects. This evidence should be relevant, of appropriate quality and proportionate to the risk of the activity to be undertaken, its spatial scale and location. Regulators, supported by the relevant statutory consultee(s) body should clearly and proactively communicate the nature of evidence needed and that would be adequate to inform a decision.
296. New evidence may be needed to support a decision where there are uncertainties about the potential effects of a proposal. A risk-based, proportionate approach should be taken to identifying essential evidence needs to allow determination of an application. Such an approach would ensure that identified evidence needs are proportionate to the risk posed by the project or proposal, whilst appropriate and sufficient for decision making.
297. Expert judgement can play an important role in decision making. Where expert judgement is used to inform a decision, consideration should be given to:
- the need for a structured and transparent process to inform understanding of the basis for the expert judgement and to provide an audit trail in light of expert opinion;
 - ensuring that a sufficiently broad range of expertise provides input to the process, not only technical experts but also practitioners and stakeholders; and
 - the potential for techniques other than simple requests for qualitative data to help elicit and capture information

Communicating science and uncertainty clearly

298. Careful presentation of evidence enables the uncertainties and levels of confidence associated with it to be recognised so that evidence gaps or other limitations can be taken into account and risk-based decisions can be made.
299. Evidence should be communicated in a clear and unambiguous manner for the target audience. The levels of confidence in the data being used and the assumptions associated with any interpretation of the data should also be clearly described. Poor, incomplete or uncertain data should be clearly identified and described as such. Where expert judgement has been used, this should be clearly set out along with the process to develop the expert judgement.

Applying a risk-based approach

300. Decisions should apply an appropriate level of precaution which should be proportionate to the environmental, or other, risk posed by the proposal. This requires the identification of potentially adverse effects and an evaluation of the sufficiency of the evidence base (including residual scientific uncertainty). Issues which are likely to be insignificant or not a relevant consideration to an authorisation decision should be retired and scoped out of the process as soon as possible.

301. Where there is a lack of evidence and the impacts of an activity are unclear, decisions may still be made as part of a risk-based approach. A lack of evidence should not postpone action to protect the marine environment; neither should a lack of evidence unnecessarily impact upon social and economic objectives.
302. Decision makers should apply the precautionary principle where there are reasonable grounds for concern that human activities may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship. Reliance on precaution should be minimised by making best use of evidence. A high level of precaution may nevertheless be appropriate in certain instances, for example, in relation to particularly sensitive or vulnerable habitats and species for which strict protection may be provided by law.
303. Decisions made by public authorities in Wales should also be in accordance with the Sustainable Development principle of the WFGA which includes taking account of:
- the importance of balancing short term needs with the need to safeguard the ability to meet long term needs, especially where things done to meet short term needs may have detrimental long term effect; and
 - how deploying resources to prevent problems occurring or getting worse may contribute to meeting the body's well-being objectives, or another body's objectives.

Adaptive management

304. Adaptive management is a process which allows for the management of uncertainty to be optimised and reduced over time. It helps manage risk within acceptable limits. It entails monitoring, reviewing and feeding back into ongoing management decisions. This is a key principle of SMNR under the Environment (Wales) Act [see **Welsh marine planning policy context**]. The approach should therefore be considered where there is uncertainty in relation to a proposal but there is opportunity to manage this by ensuring appropriate feedback into management responses or further decisions. However, adaptive management is not intended to circumvent the need to properly consider issues that can reasonably be addressed.
305. One form of adaptive management involves planning activities in a structured way to enable learning by doing within the scope of the proposal, e.g. through a phased approach. This is known as “deploy and monitor” (D&M). This approach may be appropriate where there is insufficient evidence to determine likely impact of new activities and technologies, but the best available evidence or expert advice suggests that the potential impact is manageable as part of a carefully designed adaptive process.
306. A D&M approach can facilitate the use of the marine area by consenting novel activities on a smaller scale initially, to enable their careful assessment prior to more widespread introduction. Consenting decisions may include appropriate monitoring and feedback mechanisms to prevent or address unacceptable

impacts should they arise and to improve the evidence base, allowing uncertainty to be reduced over time. Alternatively, decisions may allow a phased approach to deployment where monitoring conditions can allow the phased expansion of a project as knowledge develops through targeted monitoring.

307. In some cases, D&M may be used in conjunction with thresholds of acceptable adverse effects and associated monitoring programmes. Developers should be aware that reliance on this approach may result in the identification of management or operational restrictions being imposed on projects.
308. Where D&M is being applied it is critical that:
- sufficient evidence is provided to support the application, utilising best available evidence and expert advice;
 - monitoring is in place to allow a phased approach, where appropriate, to deployment of a project;
 - learning from the process feeds back into future decisions.
309. Where the D&M objective includes managing adverse effects within acceptable limits, it is important that:
- early warning triggers are identified, if required, to prevent damage from exceeding acceptable levels;
 - monitoring is in place to detect when these triggers are reached, if required;
 - adaptive management measures are agreed in advance to prevent damage from exceeding acceptable levels.

Developing understanding to support future decisions

310. Decisions on the use of the marine environment are made based upon predicted effects. Relevant public authorities should ensure that appropriate, enforceable licence conditions are included in authorisations to ensure adequate assurance can be provided that actual effects are understood. Requirements to undertake post-consent monitoring and reporting should be proportionate and clearly related to the key potential issues identified during authorisation of a proposal. However, monitoring should not be made a condition of consent where the sole purpose is to further the sector.
311. It is important that there is a clear feedback from the process of identifying predicted effects to monitoring actual effects and that this evidence is made available to inform and be applied in future decision making. Developers are encouraged to make available marine evidence that is collected as part of a proposal and to consider voluntary monitoring proposals to support the future development of the sector. Proposals should clearly set out how they intend to share any evidence that has been collected to inform an application or that may be collected post authorisation.
312. Opportunities should be taken to identify and address strategic evidence needs in line with this plan's priorities to help de-risk future investment and consenting decisions. Reasonable steps should be taken to fill strategic evidence gaps to underpin decision making by planning authorities, regulators and sea users.

Collaboration with partners from across the UK and internationally can maximise learning potential and avoid duplication of effort.

DRAFT

Sector policies

Introduction to sector chapters

313. This plan's sector chapters describe Welsh Government's policy for the future development and use of the marine plan area for the range of sectors that use Welsh seas.
314. Welsh seas host a diverse range of activities. This plan groups these activities into 11 sectors in accordance with the MPS:
- Aggregates
 - Aquaculture
 - Defence
 - Dredging and disposal
 - Energy (low carbon)
 - Energy (oil and gas, including carbon capture and storage)
 - Fisheries
 - Ports and shipping
 - Subsea cabling
 - Surface water and wastewater treatment and disposal
 - Tourism and recreation
315. Each sector chapter includes sector policy, including specific, numbered plan policies (e.g. **AQU_01**), that supports the sector objective(s). Taken with the general cross-cutting policies, the sector policies contribute to the delivery of the plan objectives and overall plan vision. They may apply to inshore and/or offshore areas of the plan area and in some cases are specific to particular identified **Strategic Resource Areas** (see below). These areas and/or existing or planned activities are shown on indicative maps where appropriate. Specific policies may **support** the development of a sector or to **safeguard** a sector from adverse impacts from other developments. Policies are supported by **implementation guidance** as appropriate.

Resource Areas (RAs)

316. In order to describe the distribution of natural resources that could support future sector development, this plan identifies Resource Areas (RAs) for certain sectors. These are broad areas that describe the distribution of a particular resource that has the potential to be used or is used by certain marine sectors, e.g. aggregates, aquaculture or marine energy.
317. RAs have been identified by a process of evidence collection and interpretation. RAs will change as part of marine planning as understanding improves and further evidence becomes available and/or sector technologies develop. RAs are shown on the marine planning evidence portal.

Strategic Resource Areas (SRAs)

318. In order to allocate space and focus future use, this plan identifies Strategic Resource Areas (SRAs) for certain sectors. These are areas of good opportunity for future use over the plan period and beyond. SRAs lie within the related RA and are considered to have the greatest potential to support the growth of a sector. SRAs are afforded a degree of policy safeguarding to encourage strategic decisions on the future use and prevent potential sterilisation of a resource.
319. Sector SRAs identify future opportunities and are established through a process of evidence collection and interpretation, mapping and analysis which has taken account of other current and potential future uses. This may be an area where the location or feasibility of using a resource is better understood; where there is some understanding of constraints; where there is a known market for the resource; where the underlying technology presents new opportunities; and/or where the sector has strategic importance. Where sector activities overlay and potentially conflict, then the SRA map may reflect a sector priority. For example; in not promoting for surface tidal stream energy devices in established ship navigation channels.
320. Other than at a strategic level the plan level SRAs cannot fully reflect site specific, detailed considerations of opportunity and constraint, for example, aspects of designated conservation sites. Such considerations must be part of project level assessments where appropriate where the specific project details (location, timing, scale) can be adequately taken into account.
321. This plan encourages collaboration between relevant authorities and interested parties to better understand more detailed opportunities and constraints afforded by SRAs to support their further refinement through marine planning. Identification of broad SRAs ensures flexibility to allow for identification of the best locations for a particular proposal. Text is provided on how each SRA has been derived in order to aid future review and discussion on their evolution and refinement.
322. RAs, SRAs and information setting out the derivations of SRAs are available on the Welsh Government marine planning evidence portal <http://lle.gov.wales/apps/marineportal/>

Maps

323. The information for some sectors is supported by one or more maps to spatially define sector policies or for illustrative purposes. Sector maps in this plan are indicative and their content liable to change. Decisions should be taken in line with best available evidence and relevant considerations; if in doubt, plan users should contact the relevant authority.

Structure of each sector chapter

Introduction

324. Introductory text defines the sector and provides context on:

- its scope;
- its current status;
- the sector's current and potential future interactions with other sectors;
- interactions with marine ecosystems;
- future and climate change-related issues and opportunities;
- key evidence needs relating to marine planning; and
- governance arrangements.

Further detail is provided in the Wales Marine Evidence Report.

Sector objective(s)

325. The sector objectives describe the desired future state for that sector. Sector objectives may be achievable in the life of this plan but they may also set the longer-term direction for the sustainable development of Welsh seas.

Sector-specific plan policy and implementation guidance

326. This section sets out general policy for the sector, specific supporting policies (where applicable) and specific safeguarding policies. The policy approach reflects this plan's objectives, the specific objectives and priorities of Welsh Government, the available evidence base, the relative maturity of the sector and feedback and advice from stakeholders.

327. This section also sets out sector-specific implementation guidance for both supporting and safeguarding policies. This guidance should be considered by applicants and public authorities in addition to the "Sector policy generic implementation guidance" set out below.

Sector policy generic implementation guidance

328. This plan's policies apply to sector activity requiring authorisation from a public authority and other decisions taken by public authorities that has the potential to affect the area of this plan. **The policy guidance in this section applies to all sectors** and supports the sector specific implementation guidance in sector chapters.
329. Sector policies are split into supporting policies (to support development of a given sector) and safeguarding policies (to protect a given sector from potentially adverse impacts from other activities).
330. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.
331. This plan supports collaboration and advises early engagement between the developer of a proposal and other sea users, interested parties and relevant public authorities.
332. Proposals should clearly identify and address the relevant policies of this plan, as well as any other relevant consideration, in seeking an authorisation or consent, so that decision makers can understand which policies are of relevance and how the proposal is or is not in accordance with them.
333. Proposers should submit evidence to accompany their proposal to enable decision makers to consider the potential impacts on the marine area during any construction phase as well as any subsequent operations. This should demonstrate how any potential adverse impact is avoided, minimised or mitigated. The evidence should be proportionate to the scale of the proposal and any potential impact on other marine uses and the marine area.
334. Proposals should provide clear evidence of:
- the engagement undertaken;
 - the potential conflicts and opportunities;
 - the extent to which compatibility has been achieved;
 - whether there are any exceptional circumstances; and
 - a clear and convincing justification for proceeding where compatibility cannot be adequately achieved.

335. Those bringing forward a proposal should undertake and clearly evidence the engagement they have carried out with other users that may be affected by their proposed activity as part of the application process.
336. Applicants should engage at an early stage with relevant public authorities, which may include the NRW Permitting Service, BEIS / OGA and the Crown Estate and also use the marine planning evidence portal to:
- understand existing, planned and future potential use;
 - determine whether areas of relevance to their proposals are already subject to pre-existing licences, option and exploration agreements or applications;
 - identify potential conflicts and opportunities;
 - Identify opportunities to avoid, minimise and/or mitigate adverse impacts to achieve compatibility; and
 - determine whether proposals can coexist, whether the existing activity can be relocated or agreement can be reached (e.g. temporal, spatial or compensatory agreements to achieve coexistence).
337. The onus is on each party to show that they have had a dialogue and have each attempted to work together to best mutual advantage. Where this is not possible, for instance on the grounds of safety or security, then the safeguarded development shall take precedence.
338. Each proposal should be considered on a case by case basis.

Supporting policy implementation guidance

339. In accordance with **GEN_01**, there is a presumption in favour of sustainable development. In order to maximise the sustainability of the sectors and their contribution to Wales' well-being goals, most sectors include a "supporting policy" which encourages ongoing sector activity. In some case, a policy applies to a particular geographical area(s) of Welsh seas, e.g., aggregates and aquaculture sectors have supporting policies applying specifically to a SRA.
340. Supporting policies largely follow the following format:
Proposals for [sector] activities in Strategic Resource Areas are encouraged. Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:
- [sector] Strategic Resource Areas; and
 - wider natural resources that provide [sector] potential;
 - in order to support the sustainable growth of the [sector] through marine planning.
341. Supporting policies are designed to demonstrate commitment to the presumption in favour of sustainable development, to indicate whether a sector is particularly encouraged within specified SRAs and to identify key requirements for development opportunities. They also recognise the need for collaboration to enable a greater understanding of future opportunities to enable sectors to grow.

342. Supporting policies are intended to give business security and confidence to operators who wish to:
- develop a new activity;
 - extend the duration or geographical scope of an existing activity; and/or
 - make informed decisions about Welsh Government's preferred areas for development to de-risk investment decisions and streamline application processes.
343. In order to support sustainable development of the Welsh marine plan area, proposals are particularly encouraged that demonstrate that they:
- contribute to Wales' well-being goals;
 - are compatible with SMNR;
 - are economically viable and preferably support wider economic resilience and growth;
 - support the well-being of coastal communities and avoid adverse impacts;
 - use natural resources in a way and at a rate so as to maintain and preferably enhance the resilience of ecosystems and the benefits they provide, and avoid adverse environmental impacts;
 - will not inhibit the UK's ability to meet relevant policy and legislative requirements;
 - comply with the relevant general cross-cutting policies of this plan;
 - are located within an SRA for that sector;
 - contribute to the plan objectives and /or sector-specific objective(s);
 - support the development of the sector and/or other sectors, including through the development of infrastructure;
 - help address evidence gaps, particularly those identified as being of strategic importance to sector development including helping to further develop SRAs;
 - support the development of secondary industries and the wider supply chain;
 - comply with the relevant safeguarding policies of all sectors so as to minimise adverse impacts on other uses and users of the marine environment;
 - are compatible with existing, planned and future potential activity within the sector and in other sectors;
 - coordinate with existing or planned activities and relevant sector representatives and stakeholders to maximise compatibility and coexistence, optimise use of marine space and bring mutual benefits (eg share vessel use and other facilities);
 - provide evidence to help further develop SRAs;
 - support strategic, applied research to develop technology;
 - support the development of applied advice and guidance to aid implementation of this plan; and
 - support the development and promotion of Welsh expertise, research and development.
344. Public authorities should seek to authorise such aligned proposals where possible. Compatible activities and coexistence are encouraged and should be promoted where possible to ensure the optimum use of marine space and marine resources. Consideration should always be given to any opportunity for the sequential use of space or resources where one activity can take place before

another which might then sterilise a resource; for example the removal of aggregates before development of a disposal site.

345. Proposals should provide sufficient evidence to support the decision making of relevant public authorities. The extent of evidence required should be proportionate to the scale of the proposed activity [see **Proportionate application of this plan and its policies**].
346. Where SRAs for two or more sectors overlap and, therefore, more than one supporting policy applies, careful consideration should be given to the potential impact of developments of one sector on future potential developments on the other(s) in making a decision. Decision makers should balance the relative benefits of a proposal compared to other potential future use in the context of this plan's objectives. Equally, when the authorisation of a proposal would have impacts on the future activities of the same sector, consideration should be given to the relative benefits and adverse impacts to be derived from the proposed activity and potential future activities. Guidance for the assessment of positive and negative impacts of each activity can be found below [see **Safeguarding policies and their implementation guidance**].

Developing further understanding of SRAs

347. Relevant public authorities and advisory authorities should, in liaison with the sector and other interested parties, collaborate to better understand future opportunities and inform the refinement of SRAs through the marine planning process.
348. Where no SRAs have been identified for a sector in this plan or where evidence can be improved to better understand opportunities and constraints within SRAs at a local scale, new collaborative sectoral strategic planning initiatives are encouraged that can feed into further marine planning. This will require collaboration between relevant public bodies, industry, and stakeholders. Such activity is best achieved through strategically planned initiatives to help refine understanding of areas of future opportunity.

Safeguarding policy implementation guidance

349. In order to ensure that development is sustainable, each sector has one or more safeguarding policies to promote compatibility and prevent unnecessary adverse impacts on other users and uses of the marine environment.
350. Safeguarding policies largely follow the following format:
Proposals affecting existing, planned and potential future [sector] activities should not be authorised unless compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:
 - a) avoiding adverse impacts on those activities; and/or
 - b) minimising impacts where they cannot be avoided; and/or
 - c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

351. The safeguarding policies require that proposals for new activities should consider the extent to which they may have significant adverse impacts on other existing or planned activities, and in some cases also potential future activities, of both the same and other sectors. Any identified adverse impacts should be avoided, minimised or mitigated where possible.
352. The safeguarding policies for a given sector apply to proposals for activities in that sector and ALL OTHER sectors.
353. Safeguarding policies are intended to give business security and confidence to operators who:
 - are undertaking an established and/or authorised activity;
 - have submitted an application to undertake a licensed activity;
 - have been allocated (an) area(s) for their sector development (e.g. exploration or option areas) and are in the process of undertaking research or site characterisation in order to refine their application for a licence within an area that is no more than is necessary to meet their sector needs; and/or
 - are supporting this plan's spatial sector policy in areas identified as SRAs.
354. In practice, new proposals often already consider the extent to which they relate to the future potential use for their own and other sectors. This plans safeguarding policies therefore ensure that this occurs and at an appropriate stage. Accordingly, safeguarding policies will not be a burden upon those proposing projects but will ensure that they consider and present their proposal in the context of the future potential use of the area where they are proposing to operate.
355. All affected sectors should be made aware of developer activities and timetables as soon as practicable to allow the development of measures to minimise impact and maximise mutual benefits. To achieve this, marine sectoral engagement strategies can be developed at the planning stage and sectoral mitigation strategies at the project assessment and application stage.

Achieving compatibility

356. Compatible activities, i.e. those that have no significant adverse impacts on one another and may even result in positive synergies, are strongly encouraged. The safeguarding policies support the coexistence of activities where this is practically possible. Proposals should seek to coexist with the safeguarded development or potential development to their mutual benefit. The onus is on each party to show that they have had a dialogue and have each attempted to work together to best mutual advantage.

357. Significant adverse impacts may include impacts on the integrity and scope or economic viability of an activity or potential future activity, or its capacity to provide wider social benefits. Adverse impacts may be direct and readily understood (e.g. construction of a pipeline or laying of a cable within a SRA for another sector) or less obvious and less easily assessed, but of no less importance (e.g. displacement of fishing, shipping or tourism and recreation activity).
358. Safeguarding policies require that potential adverse impacts from a proposal upon other sectors should be, in order of preference, avoided, minimised or mitigated as far as possible.
359. Methods to avoid adverse impacts may include considering alternatives to the new activity, including changes to the locations or timing for the new activity which are less important for the existing activity's sector so will have a smaller net effect on the existing activity's sector.
360. Methods to minimise adverse impacts may include considering how the new activity may be compatible with the existing activity and altering the geographical or temporal footprint of the new activity to reduce the impact on the existing activity, or using new technologies to reduce the spread and/or severity of the impact.
361. Methods to mitigate adverse impacts may include repair and restoration, protection and substitution, reaching consensus between operators, or opening up new areas for the existing activity.

Displacement

362. In some cases existing activities risk being displaced by a new activity. Displacement occurs when an activity is moved (in time or space) because of the introduction or impact of another activity. The impacts of displacement may be economic, social or environmental, positive or negative, direct and indirect, permanent or temporary, and cumulative. It may mean that the activity can no longer take place on a (commercially) viable basis if no alternative, unused, nearby area is available, e.g. for many fishing activities.
363. Relevant public authorities should be mindful of the objective to maintain or increase output by the sector and therefore aim to ensure no net loss of sector productivity. In doing so, consideration should be given to the scale and scope for relocating individual operations and the scale and recoverability of any loss caused when an exceptional decision is made. Proposals should provide evidence to support an assessment of suitable alternative locations and the net costs and implications for the objectives of this plan of re-establishing or of terminating the business.
364. Determining suitable locations for a new or displaced activity also requires consideration of the local characteristics including business continuity and ability to maintain supply chains.

365. Where a certain activity such as fishing has taken place in an area for a long time, it can become a strong feature of that community's identity and sense of place and be of greater significance relative to other areas. Strong identity and sense of place make these areas distinctive and attractive to visit, live, work and do business in, stimulating economic activity. Any displacement may therefore have a greater adverse impact than may be initially evident.
366. In the case of safeguarding policies relating to displacement of existing activities:
367. Methods to avoid adverse impacts of displacement may include moving the new activity – there may be temporal and spatial options for coexistence.
368. Methods to minimise adverse impacts of displacement may include condensing work into a shorter/more convenient time period, or reducing the number of vessels on site to limit the inconvenience (e.g. obstruction, noise).
369. Methods to mitigate adverse impacts of displacement may include reaching consensus between operators, opening up new areas for the existing activity.
370. New activities that are likely to have a significant adverse impact upon the viability of an existing or planned activity, or future potential activity within an SRA, should not normally take precedence over the existing or planned activity, or future potential activity within an SRA, unless they can present a clear, evidenced and convincing justification for proceeding or there are exceptional circumstances.

Presenting a case for proceeding

371. A case for proceeding should demonstrate that, despite incompatibility with existing or planned activity, or future potential activity within an SRA, on balance the new activity will make a greater contribution to Wales' well-being goals. In other words, the overall benefits of the proposed activity outweigh the disadvantages it imposes on existing, planned or future potential development and use of the marine environment.
372. Any presented case should set out:
- the strategic importance of the new activity and how this is preferable to the existing, planned or potential future use of the area;
 - the extent to which the objectives of the safeguarded sector would be adversely impacted by the proposal;
 - the extent to which the safeguarded sector is a priority of this plan and its objectives are being met or likely to be met, or may be adversely impacted if the application be accepted.
 - the strategic importance of the proposal in the context of national policy (National Policy Statements (NPS), other stated Government policy, the MPS and relevant terrestrial and marine plans), including whether it relates to development of a sector considered to be of particular importance within this plan;
 - the extent that the proposal, if accepted, would support the plan objectives [Table 1], sector-specific objectives [see individual sector chapters] and Wales' well-being goals;
 - the extent that the proposal is compatible with SMNR;

- the net effect on the environment and other users;
- the levels of employment to be provided;
- the scarcity / rarity value of the pre-existing site based activity in relation to alternatives
- the practicalities, opportunities and costs of the existing or planned activity switching location;
- that there are no or limited alternative locations for the proposed new development (such as that alternative locations present other or similar conflicts); and
- evidence has become available that the area of interest is unsuitable for the activity of the sector for which an SRA has been identified.

373. Any case made to proceed at that location may also include considerations that:
- Where the proposal relates to an area within an SRA of another sector, that there are no foreseeable plans to undertake that sector's activity; for example that previous licence applications have been refused and development there is therefore unlikely;
 - the development would not inhibit or pose a serious hindrance to future development or access to the site;
374. Applicants should provide sufficient information to allow decision makers to make their decisions in compliance with legislation and regulations.
375. In making a decision, the public authority should refer to any guidance or written Ministerial statement that may from time to time be issued and whether any compensatory agreement has in principle been reached between respective sector interests.
376. It is not possible to be prescriptive as to possible examples that might warrant a case for proceeding as these may be wide ranging, location and development specific and reflect current policy priorities. Illustratively, a telecoms cable might be deployed through an aggregate licence within an SRA, for instance, where the aggregate resource is sufficiently available elsewhere or can move laterally but still be extracted, or have agreed to move following the receipt of compensation (e.g. covering the costs of development of new aggregate licence site in the vicinity).

Exceptional circumstances

377. There may be exceptional circumstances where new development proposals may have significant adverse effects on existing, planned or potential future activities but may still be appropriate under safeguarding policies.
378. Exceptional circumstances describe situations where:
- despite the adverse impacts of the new proposal on existing or planned activities, or future potential activities within SRAs; and
 - despite the fact that the overall benefits of the new activity do not necessarily outweigh the disadvantages (i.e. the new activity cannot present a case for proceeding as set out above);

- there is one or more strategic drivers including specific targets which makes it imperative that the activity take place.

379. Exceptional circumstances may include circumstances where the economic or social benefit to be derived from the proposed activity significantly outweighs that which will be lost. Examples of proposals that might lead to support for change of use might include:

- Nationally Significant Infrastructure projects (NSIPs);
- developments of national significance under the Planning Act 2015/16
- developments that are critical to meeting regulatory requirements

380. In some cases, the need for new activities should be taken as having been demonstrated, e.g. where there is a clear, strategic policy imperative for certain new infrastructure, for example, or where there is clear support for developments primarily on land in a relevant strategic land-use plan or policy statement but which has a component requiring authorisation in relation to this plan area.

381. It is not possible to be prescriptive as to possible examples that might warrant a case for exceptional circumstances as these may be wide ranging, location and development specific and reflect current policy priorities. Examples of proposals that might lead to support for change of use tend to be large and generally classified as being of national importance, although they might also include smaller proposals depending on the nature and scale of the existing use. For the purpose of illustration, an oil & gas development may displace a shipping channel in order to maximise recovery of the oil asset if this is the only viable location for a well, but where the navigation route can safely move; or where a fish farm might not be developed (thereby impacting aquaculture targets) due to the need to dredge a deeper navigation channel to allow larger ships to carry LNG to port to support the development of a power station.

Post consent safeguarding considerations

382. Where there is clear evidence of significant unanticipated adverse impacts of the new activity upon the existing or planned activities in areas where a consent or authorisation or TCE lease has been granted or formally applied for, the licensing authority should give urgent consideration to requesting a reduction or cessation of the new activity and working with the developer to develop appropriate monitoring, management and mitigation plans before the activity resumes.

Aggregates

Introduction

383. In this plan, the aggregate sector involves the sea-bed extraction of aggregates, such as sands and gravels, for use as construction material, for land reclamation or beach replenishment (recharge/nourishment). It does not cover the removal of aggregate for particular purposes outside of a resource area (e.g. during project construction, wind-blown intertidal sand or for some beach replenishment schemes).
384. Commercially viable deposits of aggregates occur in spatially discrete areas as a result of geological processes. Marine aggregate resources are widely distributed throughout Welsh waters; however, the majority of extraction has historically taken place in the Bristol Channel, Severn Estuary and off North Wales. Marine aggregates play a strategically important role in the national and local supply of aggregates predominantly for use in construction projects. Marine sand and gravel supplied about 47% of total sand and gravel output sold in Wales in 2009²³. In south-east Wales marine-dredged material accounted for more than 96% of all sand and gravel production over the period 2001 to 2010.
385. As marine aggregates are a finite resource it is important that extraction (and rate of use) is sustainably managed. Whilst extraction may cause a range of impacts, overall marine dredging can have distinct economic and environmental advantages in comparison with land-based quarrying. The sector makes an important contribution to the Welsh economy providing direct employment and secondary employment in supporting activities including ship building and repair, processing of aggregate at wharves, transportation and manufacture of products from marine aggregates. The activity is vital to the construction and maintenance of infrastructure that underpins our economic and social well-being and supports sustainable development.

²³ (BGS 2011)

Economic contribution of aggregates

There is no single source of economic information for the marine aggregates sector in Wales, so information needs to be considered at various levels and for different activities, from extraction to end use. At the UK level eleven extraction companies, directly employ 640 staff and operate 28 dredgers with a replacement value of £1 billion. Wales has 13 marine aggregate wharves.

The following Gross Value Added, enterprises and employee jobs in the marine aggregates sector in Wales are based on the Standard Industrial Classification (SIC) definition of the primary activity to extract material and the secondary activity of the sale of minerals.

Gross Value Added in the Marine Sector in Wales, £ million²⁴

	2010	2011	2012	2013	2014
Minerals	5	28	27	10	16

Enterprises in the Marine Sector in Wales²⁵

	2010	2011	2012	2013	2014	2015
Minerals	80	75	75	80	75	70

Employee jobs in the marine sector in Wales²⁶

	2010	2011	2012	2013	2014
Minerals	500	400	500	500	600

However, the economic importance of the industry is not solely attributable to the value of production and people employed. Account also needs to be taken of its role as a supplier of essential raw materials for construction, e.g. at the UK level in 2005:

- The total value of construction output was £107 billion for repair and maintenance works and £59.4 billion for new work.
- GVA for the manufacture of concrete products for construction was £1,130 million (668 firms with 23,000 employees) and the manufacture of mixed ready concrete £555 million (192 firms with 8,000 employees).

For the same year, the value of construction output in Wales was £4,228 million (4%

²⁴ Welsh Government analysis of Annual Business Survey, Regional Accounts (Office for National Statistics)

²⁵ Welsh Government analysis of Inter-Departmental Business Survey (Office for National Statistics)

²⁶ Welsh Government analysis of Business Register and Employment Survey (Office for National Statistics)

of the total for England and Wales) (this does not account for material landed in Wales but used in construction elsewhere).

Current and potential future interactions with other sectors

386. The aggregate industry has good potential to share space with other sectors provided there is flexibility in deciding the location and timing of extraction activities. In offering support for the aggregates industry it is important to consider what implications this may have for other sectors. As part of the licencing procedure, new proposals for aggregate dredging sites are obliged to minimise their impacts on existing or planned activities in other sectors.
387. Whilst certain sectors may be able to coexist with aggregate activity, e.g. fishing, shipping and tourism and recreation, consideration must be given to collision risk (safety and risk of pollution) and cost implications of a proposal for other sectors. Liaison arrangements should be put in place with key sectors where necessary e.g. MOD, shipping and fishing. In particular, aggregates and fishery liaison is encouraged (e.g. the appointment of a fishery liaison officer or contact).
388. Aggregate dredging activity has the potential to expose or bring to the sea surface material of historical interest. The industry is keen to preserve marine heritage and improve understanding and has developed codes of practice with archaeological interests including the Royal Commission on Ancient and Historical Monuments of Wales (RCAHMW).
389. A number of sectors have potential to adversely affect the aggregate sector, in particular those that establish fixed or permanent structures, such as cables and renewable energy, which are likely to restrict or prevent (i.e. sterilise) any future aggregate extraction. MOD activity in established areas may be incompatible with regular aggregate dredging activity, although spatial overlap between the two activities is currently low. There is also contamination risk associated with dredging operations, resulting from the re-suspension of sediment pollutants, which will have implications for sectors such as aquaculture.
390. Aggregates and other sectors should consider strategic planning options so as to maximise opportunity to optimise the sustainable use of available resource. For instance, low carbon energy development might be possible in an area following initial extraction of the aggregate resource. Relevant public authorities making an authorisation determination will need to be cognisant of the need to take timely decisions to enable optimal use of the resource.

Ecosystem interactions

391. The UK marine aggregate industry is carefully regulated in order to minimise the impacts of dredging on ecosystems. Features of conservation or ecosystem significance are identified at an early stage and ensure that they are properly protected through an appropriate mitigation and on-going monitoring programme. This underpins the comprehensive baseline and pre-dredge surveys for fisheries,

benthic ecology, archaeology and other seabed features that form an integral part of the EIA and consent process.

392. Marine benthic habitats in Welsh waters suitable for dredging comprise mainly fine and coarse sand (not gravel). These are typically relatively mobile and uniform habitats that support a range of characteristic marine fauna that also provide varied ecosystem benefits e.g. they provide important fish feeding or spawning grounds (and are therefore of interest to the fishing sector) and provide an important food source for predators such as birds, seals and cetaceans.
393. Typically, dredging removes the top layer of sediment, which also has the effect of removing the associated benthic assemblages. Such dredged areas have been shown to recover in time, depending upon site-specific conditions and the scale, intensity and timing of disturbance. Nearby sensitive habitats may be vulnerable to smothering impacts where solids are raised into suspension. Whilst licensed areas may be relatively large, the area covered by a dredger over a dredging event is relatively small and discrete, and this limits the scale and significance of immediate effects.
394. There is also potential for impacts to arise cumulatively from the combined physical impacts associated with a number of dredge sites within an area. The impacts from aggregate extraction may also act in combination with impacts arising from other activities. These are considered in the issue of a marine licence for dredging. The ecosystem effects of individual dredging licences are therefore typically limited in scale and duration when considered on their own and usually also when considered in combination with other activities (i.e. their cumulative effects).
395. The development of Marine Aggregate Regional Environmental Assessments (MAREAs) in the UK is a key step forward in understanding the cumulative and in combination effects of dredging within regional seabed areas. This process considers cumulative effects and provides a regional context for subsequently assessing in more detail individual dredging licence applications.

Future

396. Marine sourced aggregate is expected to continue to dominate supplies of sand and gravel in Wales compared to other sources - principally recyclates, land-won or imported aggregate. The availability of resources, proximity to markets and presence of infrastructure suggests that current licensed reserves in the Bristol Channel, Severn Estuary and off North Wales are likely to provide for a good level of supply to meet known demand over the term of the plan. Demand for marine aggregate materials is closely linked to the construction sector and the wider economy. It is likely to be influenced significantly by large scale infrastructure projects such as ports, roads, nuclear new-build and certain renewable energy developments. Demand also arises from the need for soft engineering defences (such as beach replenishment) and for coastal flood defence, demand for which may increase as a result of climate change.
397. Areas of potentially viable aggregate resource have been identified off West Wales, and particularly off North Wales. It is estimated that these could provide a

supply for at least another 50 years although there is currently limited market for this resource.

Climate change

398. Increased storminess associated with climate change could impact upon the availability of resource in inshore wave exposed locations and the operation of dredging vessels.
399. Sea level rise and increased storminess, exacerbates coastal erosion and the requirement for remediation and protection works thus increasing demand for aggregates for beach replenishment schemes as a cost-effective coastal protection option (as materials can be sourced and deposited in a single operation).

Key evidence needs

400. The Marine Aggregates Levy Sustainability Fund programme has delivered significant improvements to our understanding across a wide range of environmental and heritage topics. Some of these outputs have resulted in immediate changes in the way that the marine aggregate industry is assessed and managed, while others will result in longer term benefits. However, there are several areas where we still need to improve our understanding in relation to marine planning, including:
 - better understanding of aggregate resource and reserves, especially offshore and in Mid and North Wales;
 - better understanding of physical / sedimentary processes in the Severn Estuary - upstream of the bed load parting zone; and,
 - more cost effective monitoring of the impact of aggregate dredging on the sea bed ecology (using regional monitoring of sediment composition as a proxy for benthic sampling).

Governance

401. Regulation of aggregate extraction is devolved to the Welsh Ministers for the inshore plan region. The management of aggregate dredging is undertaken under a marine licence which the NRW Permitting Service issue on behalf of the Welsh Ministers. Consideration should in particular be given to activities in the cross border areas of Liverpool Bay and the Bristol Channel to ensure consistent planning and decision making and to aggregate needs set out in relevant terrestrial plans. Where applications for a licence straddle the boundary then the NRW Permitting Service and MMO will work together with one or other taking the lead. Where practicable, licence conditions will be comparable but there may be occasions where devolved polices result in differences.

402. Key decision making and advisory authorities include: WG, NRW (policy and licencing), Crown Estate (as seabed manager), Cefas, Local Authorities; and in cross border / offshore areas also MMO, Defra, NE and JNCC (beyond 12nm), as advised by industry including British Marine Aggregate Producers Association (BMAPA).
403. The Crown Estate undertakes a tendering process to enable interested developers to bid for rights to prospect the seabed for commercially viable aggregate resources (the “exploration area”). Following this, an exclusive “exploration and option Agreement” is granted for up to 5 years, which allows time to explore and prove the resource, confirm an application area and lodge an application for a marine licence. Following a marine licence being granted, the area licenced will then move to a production agreement with The Crown Estate, with the remainder of the exploration and option area relinquished.
404. TCE / BMAPA Good Practice Guide- “Extraction by Dredging of Aggregates from England’s Seabed”²⁷ (as revised 2017) can help inform delivery of marine aggregates policy.
405. The RCAHMMW is keen to ensure that best practice with regard to historic environmental assets is adopted in Welsh waters to ensure that the maximum amount of useful information is gathered and made available from the agreed monitoring regimes instigated to assess impact on archaeological sites within and in close proximity to aggregates dredging through the licencing process. A number of Codes of practice and protocols have been developed²⁸ and these have application to dredging and disposal activity as well..

Sector objective

To continue to use marine aggregates resources at a rate and in locations which best meet our current and future needs by ensuring adequate reserves are provided for through long-term licences.



Aggregates sector policy and implementation guidance

406. Aggregates sector policy applies to both the inshore and offshore regions of the plan area.

²⁷ http://www.bmapa.org/documents/BMAPA_TCE_Good_Practice_Guidance_04.2017.pdf

²⁸ <http://www.wessexarch.co.uk/projects/marine/bmapa/arch-interest.html>;

<https://www.scribd.com/document/2174360/Annex-to-the-Protocol-Guidance-on-the-use-of-the-Protocol-for-Reporting-Finds-of-Archaeological-Interest-in-Relation-to-Aircraft-Crash-Sites-at-Sea>

407. Definitions:

In this plan, the following terms are used:

- Resource²⁹: An estimate of the volume of aggregate that exists within an area based on specific geographical knowledge (see Resource Area Maps)
- Reserve: The volume of licensed aggregate that is permitted to be extracted within the licence term.
- “roll-over tonnage”: The un-dredged licensed tonnage allocation that has not been taken in one 12-month licensed period that may be removed in the following 12 month period, subject to the approval of the regulator and the mineral owner. Any application should indicate, assess and fully justify the requirement for limited tonnage of roll-over.

408. Welsh Government Interim Marine Aggregate Dredging Policy (iMADP) was published in 2004 as a basis for determining licence applications in the Bristol Channel region in the absence, at that time, of a statutory licensing regime. iMADP has been reviewed alongside the development of this plan to reflect the additional controls introduced under a marine licence and application process. This plan provides strategic marine planning policy for management of aggregate resources in Welsh waters; iMADP is withdrawn as policy at the time of adoption of this plan.

409. An adequate and continuing supply of aggregates is essential to meet demand for construction needs for the built environment and, in many cases; marine aggregates offer an appropriate and viable source. The MPS recognises the contribution of marine aggregates to energy security and economic development through the provision of fill for major coastal infrastructure projects. While other alternative sources of supply of suitable fine aggregates should be investigated, and recyclates will continue to be used, reliance on the use of marine aggregates in Wales for construction and (according to demand) capital projects and beach nourishment will continue for the foreseeable future and for the lifetime of this plan.

410. Relevant public authorities should support the extraction of marine dredged aggregate where this is consistent with the other policies in this plan. At the same time it should be recognised that marine aggregates are a finite marine natural resource and, like other natural resources, extraction (and rate of use) needs to be sustainably managed.

411. The proposed end use of high quality dredged aggregates together with the consideration of substitutes and alternative materials will be taken into account in considering need when determining marine licence aggregate dredging applications.

²⁹ http://www.bmapa.org/documents/BMAPA_Glossary.pdf

412. Decision makers should continue to support the industry in taking opportunities to utilise resources away from more sensitive locations and further offshore (wherever appropriate) whilst being mindful of the need and maintenance of continuity of supply to meet demand. WG, TCE, industry and NRW should collaborate to ensure that licensed forward dredging reserves are maintained at adequate levels, in order to help meet the variable demands of changing markets and with the flexibility and capacity to meet the needs of less predictable capital projects and beach replenishment schemes. Welsh Government will seek to achieve licensed dredging reserves for routine construction uses of at least ten to fifteen years. This may be achieved on a regional basis.
413. Applications for new license areas or increases in tonnage for existing areas will need to clearly demonstrate the need for the additional licensed resources.
414. Aggregates are a bulk commodity where transportation costs, project viability and associated carbon emissions drive the need for collection of aggregates close to destination of use. Whilst offshore resources of aggregates exist and should be used wherever possible, sources relatively close to demand will continue to be used where appropriate to do so. A balance should be struck between support for using aggregate resources from further offshore against practical constraints associated with extraction and transport. It is anticipated that the use of offshore aggregate resources will be particularly important in the supply of aggregates for major infrastructure projects. Aggregate extraction in areas further offshore is preferred.
415. Using the available resource at an inappropriate rate will be avoided through use of policy permitted tonnage caps, where appropriate, thereby ensuring the long-term supply of aggregate resource without compromising ecosystem resilience. Any such limit may be subject to an assessed, justified and minimal roll-over provision and be reviewed from time to time and may be established or updated through a Cabinet written statement between reviews of this plan.
416. Marine aggregate policy will be reviewed as part of the marine planning review cycle; if evidence highlights the need to adapt the current management approach then policy will be updated. Where relevant, marine licences should include monitoring requirements to ensure that relevant ecosystem effects predicted as part of a proposal are properly understood and that this feeds back into management decisions, ensuring that management is adaptive, precautionary, based on the best-available evidence and sound science
417. In this way, longer term licenses at an appropriate scale can be authorised as our understanding of the relationship between resource consumption and ecosystem resilience improves.

418. Licences will generally be issued for a period of fifteen years with five yearly reviews of monitoring results. However, applications in new areas or in sensitive areas, as determined through the impact assessment within the application process, will generally be issued for a period of five years. A precautionary approach should be applied that requires sufficient information and evidence to support and inform decision making for proposals, including consideration of any roll-over provision.
419. Large scale marine aggregate requirements for major infrastructure or beach nourishment projects that cannot be sourced from existing licensed resources will need to obtain the necessary aggregate resources by applying for a marine licence either for new applications or for increases over current applications.
420. As part of the EIA and Coastal Impact Study, proposals for aggregates dredging will need to consider climate change and the government predictions for rise in sea level and wave climate to demonstrate that they will not increase flood risk or impact upon beaches and coast protection unacceptably.
421. Industry, advisory bodies and regulators should consider developing Wales specific guidance or code of practice to support sustainable applications and decision making.
422. **The [Sector policy generic implementation guidance] applies.**
423. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.

Supporting policy

AGG_01: Aggregates (supporting)

Proposals for aggregate extraction in Strategic Resource Areas are encouraged within any permitted tonnage limits that may be defined for that area.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:

- aggregate Strategic Resource Areas; and
- wider marine aggregate natural resources;

in order to support the sustainable growth of the aggregate sector through marine planning.

Supporting policy implementation guidance

424. This policy seeks to maintain an adequate and continuing source of supply of suitable resource relatively close to the point of use.
425. Strategic Resource Areas for aggregate have been developed following review of the interim Marine Aggregates Dredging Policy (iMADP). Whilst considering the location of existing aggregate resource and licences, the preference (subject to satisfactory consideration of constraints), is that new licensed areas be located in offshore areas where possible. The SRA also reflects economic viability, the proximity to suitable port facilities and the nature of aggregate use, e.g. using vessels rather than road haulage significantly reduces the carbon footprint. The SRA boundaries in the Bristol Channel reflect the sediment cell boundaries and environmental sensitivity along with the boundaries in the Welsh zone. The SRA in North Wales reflects the proximity of the already licensed area with wind farms in the Welsh zone boundary.
426. **AGG_01** allows for permitted tonnage limits to be defined for an area. Subject to sustainability criteria, and the undertaking of necessary assessment through the decision-making processes, not more than 800,000 tonnes (exclusive of licensed roll-over tonnage) of annual licensed aggregate will be allowed from Welsh waters in the Severn Estuary (sector map insert Area B). To ensure an adaptive approach to management of the resource and delivery of sustainable development this limit may be reviewed from time to time and may be updated through a Cabinet written statement. Other limits may be introduced and or amended through Ministerial written statement and subsequently included in any amendment of this plan. In all cases, setting or amending permitted tonnage caps should involve full engagement and consultation with interested parties before any statement is made. Any Ministerial Statement will be a relevant consideration in decision making.

427. In considering a proposal and weighing any potential adverse impacts against the benefits of such a proposal, decision makers should take into account:
- Ministerial statements relating to tonnage caps;
 - that the application area is the minimum required to achieve the proposed tonnage to ensure that the associated area of seabed impacted is as far as is practicable minimised,
 - The extent to which any roll-over from the previous calendar year may be appropriate, and
 - the evidence considered for and content of the withdrawn iMADP (2004) as a contextual evidence base for this plan's policy.
428. Relevant public authorities should balance the benefits of near-shore aggregates supply in terms of reduced transport movement and practical considerations that constrain the sector, against the wider potential environmental costs and constraints of near-shore activity.
429. It is anticipated that the use of offshore aggregate resources will be important in the supply of aggregates for major infrastructure projects. Larger extraction licences with longer-term duration are most likely to be appropriate offshore, and depending upon location and environmental sensitivity, may have less onerous monitoring and reporting requirements.
430. Shipping plays an essential role in the transportation of aggregate material to ports and harbours where it is landed and stored for onward land transportation to final-destination of use. Aggregate wharves need to be safeguarded to enable continued access to local markets and coastal planning and ports authorities should take account of the needs of the aggregate industry and ensure adequate provision for appropriate wharf facilities and associated infrastructure as close to areas of demand as practicable.
431. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.
432. In preparing aggregates related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.

Safeguarding policies

433. All proposals (including new aggregate sector proposals) with the potential to impact upon existing, planned or future potential aggregate activities in SRAs should apply the following aggregate safeguarding policies.

AGG_02: Aggregates (safeguarding)

Proposals potentially affecting areas where a marine licence and production agreement for aggregate extraction has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

AGG_03: Aggregates (safeguarding)

Proposals potentially affecting areas where an exploration or option agreement has been offered or is in place for aggregate extraction should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

AGG_04: Aggregates (safeguarding)

Proposals potentially affecting Strategic Resource Areas for aggregate extraction should demonstrate how they, in order of preference:

- a) avoid adverse impacts on future potential aggregate extraction in those areas; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

Safeguarding policy implementation guidance

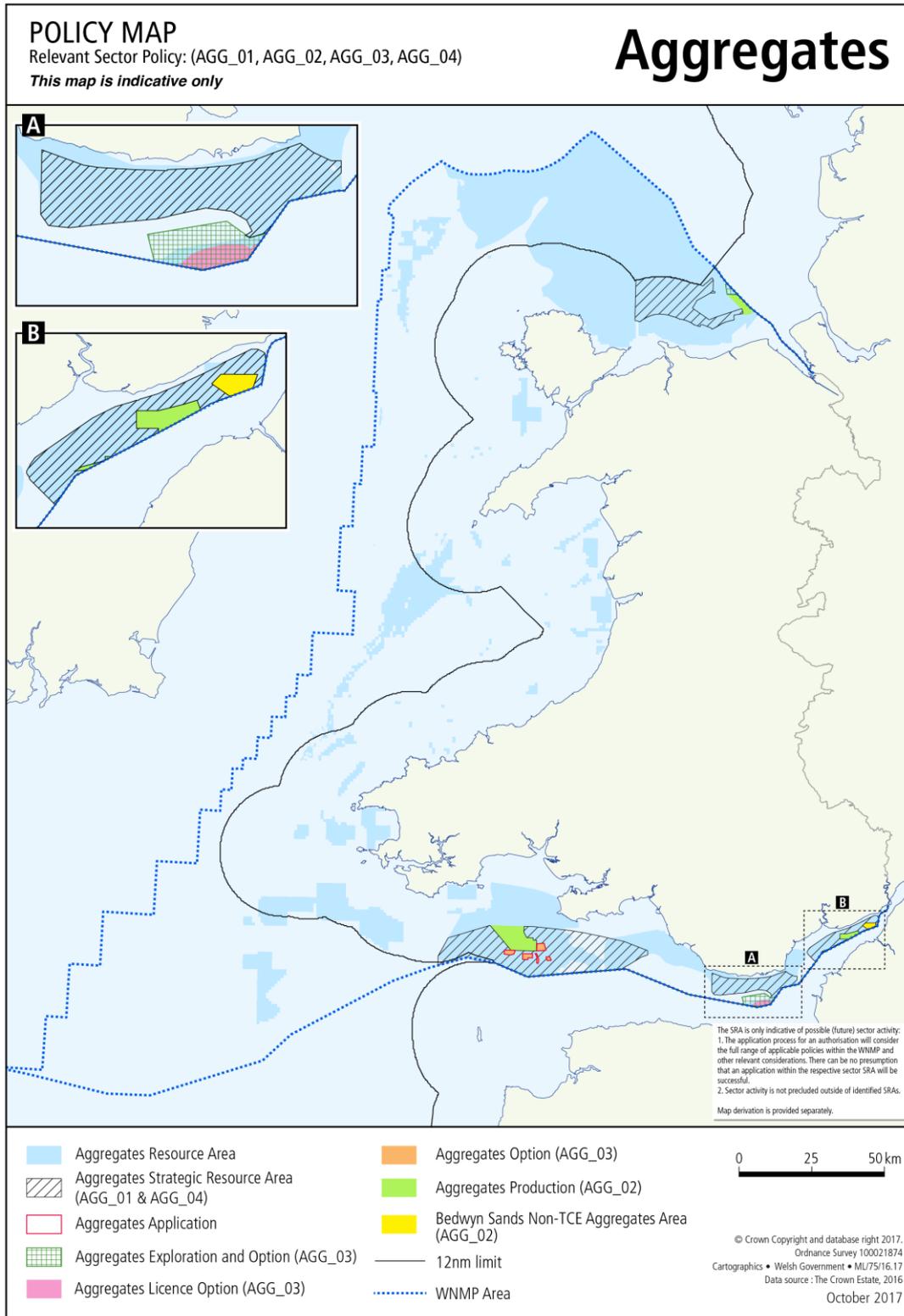
- 434. These safeguarding policies help manage the potential adverse impacts of other sector activities on current, planned and future potential activities of the aggregates sector.
- 435. Marine aggregate extraction can only take place where commercially viable deposits of sand and gravel occur i.e. in spatially discrete areas formed long ago by geological processes. It is therefore important that these resources are appropriately safeguarded against other marine activities which may compromise their future use. The safeguarding policies are designed to ensure appropriate consideration of the extent of impacts on existing and future aggregate extraction (i.e. to prevent sterilisation or resource contamination).
- 436. A broad Resource Area has been identified showing the existence or likely existence of aggregate resource as shown on the sector map Figure 14. No direct safeguarding policy has been identified for these areas because they are not likely to be developed during the term of this plan. However in the longer term (e.g. 50 years hence), some areas may be developed or used in the event that a large capital or beach replenishment project arises coincident with that location or of nearby landing facilities. In order to reduce the risk of the unforeseen permanent sterilisation of this resource, where a development is proposed to be authorised in a RA, the relevant public authority shall inform NRW, Welsh Government and TCE (who as landowner can liaise with the aggregate industry) to enable them to have a dialogue with the developer which recognises their respective needs; with the intention that the permanent sterilisation of an aggregate resource is avoided where it is practically and economically appropriate to do so.
- 437. As part of our proactive and enabling approach to planning, early engagement between developers is encouraged and provides an opportunity to set out how potential future impacts have been taken into account. For example, a cable operator may describe that it is laying another cable close to the original so as to avoid future sterilisation, or a wind farm or oil and gas operator may decommission an area leaving it available for future aggregate extraction.

438. Policies **AGG_02 & 03** apply to both production and application areas and reflect the investment and associated confidence/commitment an operator requires in order to invest further in their asset. It includes any agreement between TCE and dredging companies that give exclusive rights for sand and/or gravel extraction for a defined term.
439. Within **AGG_02** “applied for” in this context means provisionally accepted by TCE or the landowner for an exclusive option pending advertisement and formal application for a marine licence. To obtain an aggregate production licence from TCE, companies that have been successful through the tendering process must obtain a marine licence from the NRW Permitting Service (including undertaking an Environmental Impact Assessment). Once a marine licence is awarded, The Crown Estate will issue the applicant with a Production Agreement.
440. Under policy **AGG_02** proposals that overlap with consented, or leased areas will need to demonstrate that they can successfully coexist with the aggregate sector unless, they make the case to proceed under exceptional circumstances. The nature of such considerations is set out in the [**Introduction to the sector chapters**] section.
441. Exceptional circumstances may include circumstances where the economic or social benefit to be derived from the proposed activity significantly outweighs that which will be lost. Proposals seeking approval on the basis of exceptional circumstances should present a clear, evidenced and convincing justification for proceeding, i.e. the extent to which that area may be adversely impacted if the application be accepted, the potential for resource sterilisation and its importance in meeting the aggregate sector objectives and the priorities of the plan.
442. Proposals seeking to take place in these areas should demonstrate compatibility with existing activities, which may involve providing evidence that shows the area affected does not contain aggregates, or making temporal or spatial adaptations to avoid or minimise impact. For example, fishing and shipping activities may be permitted in aggregate extraction areas but short term displacement of these activities may be required during periods of active aggregate extraction. This is facilitated by the existence of appropriate liaison arrangements between the industries. The development of fixed structures may be permitted once the extraction of aggregates from the area has been completed, or aggregate extraction be allowed once another project has been decommissioned.
443. **AGG_03** reflects the process to identify areas that are prospective for aggregates and offered by TCE for sea bed survey and subsequent refinement of the area for commercial viability. “Offered or in place” in this context means offered or provisionally accepted by TCE or the landowner for a lease to undertake further exploratory work.
444. **AGG_04** identifies Strategic Resource Areas of potential future importance for aggregate extraction. These areas reflect the likely availability of suitable aggregate resources and are located close to supporting infrastructure within which licenced and exploration / option areas already sit.

445. Proposals for consents for new activities in or affecting aggregate exploration / option areas or aggregate SRAs will need to demonstrate that they can either coexist with the extraction of aggregates, or if they cannot, they must make a clear and convincing justification for proceeding (where (a-c) are not possible).
446. In considering a proposal to proceed and weighing any potential adverse impacts against the benefits of such a proposal, decision makers should take into account:
- the extent to which a case for exceptional circumstances has been made;
 - the strategic importance of the proposal (e.g. that it is in line with this plan's policies and supports the plan objectives);
 - the extent the proposal, if accepted, would help that sector meet its own objectives;
 - The extent to which the aggregate sector objectives and policy would be adversely impacted,
 - The net effect upon the environment and other users.

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Figure 14: Policy map – Aggregates



Aquaculture

Introduction

447. Aquaculture is the rearing or cultivation of aquatic organisms (finfish, shellfish and algae, including support feeds). It includes producing livestock for direct commercial purposes (e.g. seafood for human or animal consumption, pharmaceuticals, or algae for fertiliser or energy) or for restocking and enhancing wild populations “ocean ranching”. Mariculture is a specialised branch of aquaculture involving cultivation of marine organisms in the open sea, an enclosed section of the sea, or in tanks, ponds or raceways filled with seawater. At-sea aquaculture enterprises are basically of 2 types: (1) seabed - where production is placed on the seabed, either “extensive” (e.g. mussels laid without fixed boundary) or “intensive” on fixed structures (e.g. within bags on trestles); and (2) water column (surface) - with floating rafts or buoyed ropes tethered to the sea bed.
448. Aquaculture supporting activities include processing, distribution and sale of fish and shellfish for consumption, the manufacture of prepared feed and the specialised construction and installation of fish farms. Marine aquaculture commonly requires additional infrastructure on land to support it, e.g. purification and processing facilities, storage areas and transport. Onshore Recirculation Aquaculture Systems (RAS) have potential to contribute to growing the sector, with fewer constraints on their location. Pump ashore systems are less flexible and require particular coastal locations.
449. Commercial aquaculture in Wales has traditionally focused on the managed cultivation of shellfish, principally blue mussels. Production of mussels from bottom culture in Several Order areas in the Menai Strait makes Wales the biggest shellfish producer in the UK, producing an estimated 8,376t in 2011 (2011 -2014 - average of 7840t) valued at £5,740,050. Small quantities of Pacific Oysters are also produced. In recent years rope grown mussels have been produced in Queens Dock, Swansea and a project has been established in Swansea Bay to enhance and manage Native Oysters with the aim of re-establishing a fishery. The production of farmed finfish in Wales is currently limited and is confined to on-shore facilities. In the past, caged finfish (sea trout) farms have existed in the Milford Haven.
450. Aquaculture has been identified as a particular sector for growth, both within this plan and as part of Blue Growth strategies across Europe. Aquaculture can help to underpin sustainable economic growth in rural and coastal communities as well as contribute to security of food supply. Our positive approach to planning for aquaculture will help address the sector’s challenges to growth by clarifying future opportunities, facilitating collaboration and engagement and supporting and safeguarding areas of future opportunity. The UK multiannual national plan for aquaculture will also support growth opportunities for the industry.

Economic contribution of aquaculture

There are an estimated nine businesses at thirteen sites undertaking aquaculture activities in the Welsh Marine Area, employing approximately 23 Full Time Equivalents directly (Cefas 2012). Total estimated GVA in 2013-14 was £3,702,328 and by 2032-3 is predicted to be £5,237,021³⁰.

Current & potential future interactions with other sectors

451. Aquaculture operations, depending upon type, require a range of onshore and at-sea facilities and accordingly will interact with a variety of other marine users in a range of ways. The extent to which aquaculture activities impact or will be impacted by other users will depend upon, for example, the footprint of each activity, the species farmed and whether the activity is surface or sea bed located.
452. In terms of the impacts of the sector upon other activities, some at-sea aquaculture operations might impact upon commercial fishing. In particular, surface based aquaculture may interfere with safe navigation and therefore cannot be approved in key navigation routes or restricted locations. However, navigation can safely traverse bottom culture areas, and any conflicts which arise, e.g. from vessel harvesting operations, can usually be accommodated.
453. Conflicts with tourism and recreational activity can occur, particularly in relation to surface and intertidal activities, including local changes to water quality, disruption to navigation and access and impacts upon seascape. In practice, aquaculture activities tend to be located in less accessible areas which are therefore less used for recreation and can make a positive contribution to sense of place and character of an area. Aquaculture acts positively as a driver for water quality improvement due to the need for clean water which benefits both aquaculture and others activities. Aquaculture can enhance local tourism by providing quality locally sourced seafood.
454. In line with the approach to positive planning for blue growth, coexistence opportunities should be a consideration for future aquaculture development and a number of opportunities may exist particularly in relation to the co-development of aquaculture with marine renewable energy infrastructure (e.g. tidal lagoons or offshore wind). However, in the main, prospective areas of tidal stream and wave energy are not a suitable physical environment for aquaculture.
455. Aquaculture activity, particularly involving surface structures, is generally incompatible with areas of MOD activity largely because of restrictions on access. Broad scale oil and gas activity is generally offshore and therefore unlikely to interact with aquaculture developments.

³⁰ <http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en>

456. The impact of other sectors upon aquaculture are relatively limited in that aquaculture operations usually occupy relatively small areas, have some flexibility to be re-located, and with appropriate planning can often coexist with other sectors.
457. Adverse impacts from other sectors can occur. Good water quality is particularly important for successful aquaculture activity. Potential impacts includes disturbance caused by aggregate extraction, navigation dredging, discharges to sea and sea disposal of wastes and the introduction of non-native species. Such activities can adversely affect aquaculture operations and should form part of any considerations for new activities.

Ecosystem interactions

458. Mitigating any adverse environmental impacts are an important consideration given growth targets for the aquaculture sector in Wales. The challenge for the industry will be to grow and maximise the value of activities whilst minimising ecosystem impacts. Aquaculture is a hugely diverse sector, and potential environmental effects are therefore varied. The intensity and type of impacts depend upon species farmed, intensity of production, harvesting methods and location.
459. Finfish culture is usually an intensive industry that involves an addition of food supply and, therefore, nutrient inputs and is recognised as potentially causing environmental degradation. In contrast, shellfish farming usually results in a net removal of nutrients, and is generally considered to impact less on ecosystem resilience. However, all aquaculture activities can alter the seabed, cause physical smothering and a build-up of organic material. Net removal of nutrients from the water column may have either positive or negative repercussions for ecosystem resilience. Extensive operations do occur in protected sites in Wales demonstrating the potential compatibility of the sector with the environment.
460. Other potential adverse effects upon ecosystem resilience from shellfish farming include reductions in native stocks from the collection of wild seed and from the introduction of non-native species. The gathering of wild seed (transferred for growth and harvest) is a particular sustainability issue for mussel cultivation although such seed is often lost during winter storms if not collected; unsustainable collection could have negative ecological impacts. Effects can be addressed through regulatory control and monitoring. Depending upon the scale, intensity and duration of the enterprise, the removal of most aquaculture developments can, with time, result in the ecosystem returning to its natural state.
461. Aquaculture businesses require clean and healthy water conditions. Their presence acts as a driver to maintain, improve and monitor water quality with consequential benefits to ecosystem resilience. Aquaculture can also provide opportunities to recover ecosystems and support ecosystem resilience, for example, cultivation of native oysters (a UK BAP species). Mussels can provide a habitat for other species as well as providing food for wildlife. Aquaculture therefore also has the potential to contribute positively to ecosystem resilience.

Future

462. Limits to wild fisheries, environmental changes, and the opportunity to use aquaculture to help restore species and habitats to benefit ecosystem resilience underscore the need to sustainably increase aquaculture production. Given upward trends in global seafood markets, the aquaculture sector in Wales is well positioned to grow. Future growth potential exists for species already cultivated through additional production capacity and options for value added processing. Oysters, scallops, clams and abalone are potential new species for cultivation. Research commissioned by Welsh Government suggests that there is considerable marine space for the development of the shellfish aquaculture industry in particular, although potential near-shore areas are more limited compared to offshore areas.
463. There is some potential to develop large-scale sea-cage installations. Similarly, the potential exists to grow algae offshore in sufficient volumes to meet the economies of scale to supply biomass to create energy. Opportunities also exist at smaller scale to grow algae closer inshore to supply e.g. pharmaceutical or food-related industries. Supply of bespoke products to the pharmaceuticals industry represents a growth area of currently unknown scale or potential that should be explored.
464. Industry trends tie closely with changes in wild fisheries, the availability of investment, site availability and environmental carrying capacity. Future development of deep-water finfish and algae production could lead to large scale offshore production in the longer term.

Climate change

465. Climate change can impact upon both finfish and shellfish aquaculture and may result in opportunities and adverse effects for the sector, e.g.
- an increase in seawater temperature might make some areas more optimal for shellfish and finfish growth or enable the cultivation of currently marginal warmer water species. Conversely, cold water species (such as salmonids) may be adversely impacted;
 - increased temperature can also have a range of ecological and physiological effects including increased fish disease, increased oxygen demand, harmful algal blooms, and increased risk of impacts from pests and invasive non-native species;
 - ocean acidification could adversely affect shell formation and wild larval production and wider ecosystem resilience;
 - increased rainfall and run-off can affect turbidity and nutrient loading (potentially leading to algal blooms) and increased storminess might cause damage to infrastructure and hinder access to facilities and harvesting; and /or,
 - any changes to ecosystem function and resilience could have wide-ranging impacts upon aquaculture.

Key evidence needs

466. Whilst considerable research has already been undertaken, largely through industry/university collaboration (e.g. the mussel sector and Bangor University), further research will be needed particularly in relation to opportunities and issues with aquaculture activities in the context of ecological resilience. Current aquaculture production remains focussed on relatively few species and research into opportunities to diversify would be beneficial. Other evidence gaps include:
- understanding of the long-term impacts of climate change including ocean acidification;
 - understanding opportunities and issues in aquaculture Strategic Resource Areas including carrying capacity and developing higher granularity for identification of areas of opportunity;
 - sustainable provision of shellfish seed stock;
 - opportunities for coexistence provided by offshore energy installations;
 - development of “novel” sustainable aquaculture feeds; and
 - better understanding of ecosystem services provided by aquaculture.

Governance

467. Regulation of the aquaculture sector is a devolved matter in the inshore plan region.
468. Aquaculture developments take many forms and are of various scales, and are granted under a number of application routes. Key public authorities include Welsh Government, NRW, Fish Health Inspectorate (FHI)(Cefas), The Crown Estate, the Shellfish Association of Great Britain, Seafish Wales and the Menai Strait Fishery Order Management Association. Food Standards Agency (FSA), FHI and Local Authorities are also involved in the public health classification of areas subject to the commercial sale of bivalve molluscs or certification of associated premises and shellfish movements. Cross border applications or those outside of 12nm may also involve IFCA, MMO, NE and EA in a regulatory or advisory capacity.
469. The principal public authorities with a regulatory, advisory or management role include:
- seabed rights (within 12nm) and coastal rights³¹ (where required) from TCE or other land owners; for example for raft or buoy cultivation;
 - the Local Authority (LA) for premises where e.g. packaging or processing is undertaken;
 - Registration with Fish Health Inspectorate (FHI) at Cefas as an Aquaculture Production Business (premises approval, etc.) and fish disease and pest control;
 - The NRW Permitting Service, either for a marine licence for finfish developments or, as shellfish aquaculture activities are exempt from requiring a marine licence, an exemption notification (shellfish exemptions might be

³¹ not usually for shellfish bottom culture unless access is required

issued provided the aquaculture structure does not obstruct or cause danger to navigation or is an artificial reef);

- The Welsh Ministers in granting shellfish Several Orders;
- a Regulations Discharge consent or abstractions consent for premises if administered by the NRW; and
- Statutory port or harbour authorities.

470. Organisations with an interest in the classification of shellfish harvesting areas include:
- FSA with responsibility for undertaking surveys and classification of bivalve production areas (undertaken in conjunction with LAs and FHI);
 - NRW which is responsible for the designation of shellfish water protected areas; and
 - Dŵr Cymru has an interest in proposals that have the potential to impact on water and sewerage services.
471. Fish products must be safe to eat (especially for bivalve molluscs) and must be transported free from pests and diseases. This requires checks to be made by the relevant regulatory bodies.
472. Regulation for the establishment of an aquaculture development depends on the nature of the activity and various consents and licences may be required, depending upon location and type of operation. For example, establishing structures require separate consenting arrangements whether entirely on land (RAS) on the foreshore and discharging to sea or fully at sea. Applicants should, early in the project scoping stage, make contact with the NRW Permitting Service or other relevant public authorities for advice.
473. Marine aquaculture commonly requires additional infrastructure on land, such as purification and processing facilities, storage areas and transport, which will require Local Authority planning permission.
474. To secure fishing rights for a natural shellfishery or shellfish farm requires a Several Order (SO). A SO provides exclusive rights within a specified area to: fish or dredge for specified shellfish; move or deposit specified shellfish; create and maintain shellfish beds; and lease or transfer the shellfishery. When such rights are granted the public no longer have the right to fish in the area. Securing management rights requires a Regulating Order (RO) which provides rights to make regulations for the fishery (e.g. issuing fishing licences or excluding anyone without a licence) – see Fisheries section. SOs and ROs require consent from anyone who has a right of fishery and/or a right to undertake any other activity (eg sport or recreation) in the specified area.
475. The lower sections of estuaries offer particular potential for the development of aquaculture for bivalve molluscs in the intertidal or near sub littoral. As administrative boundaries cross the Dee and Severn Estuaries, it will be particularly important that public authorities liaise in the sharing of administration, enforcement and evidence to ensure a consistent approach. At other inshore locations, public authorities must take account of the potential impacts on other

coastal developments, including seascape, of the aquaculture development itself and of any ancillary activities which may require planning permission.

Sector objective

<p>To double production by 2020, and to further increase production over the lifetime of this plan. Specifically by 2020 increase:</p> <ul style="list-style-type: none"> • Marine finfish to 2,000 tonnes (761 Tonnes in 2012) • Shellfish, especially mussels, to 16,000 tonnes (from 8376 tonnes in 2012)³² 	
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Aquaculture sector policy and implementation guidance

476. Aquaculture sector policy applies to both the inshore and offshore regions of the plan area, however there have not yet been any applications offshore.
477. The MPS indicates that food security is an objective of the UK Administrations and aquaculture makes an important and growing contribution to this which underscores the need to take a positive approach to planning for growth in this sector. Welsh Government is committed to developing aquaculture in a sustainable manner, protecting marine ecosystem resilience and natural resources. As part of this ambition, the Welsh Government is seeking to double production of both shellfish and finfish aquaculture by 2020 through positive planning and related initiatives including simplifying administrative procedures, making better use of funding mechanisms and developing effective collaboration between industry and research bodies. Co-ordinated action at local level between producers, public authorities, research institutes, associations, education and training organisations can help promote activity and local economies and meet the growing demand for locally, sustainably produced aquatic products.
478. Sector growth will be supported through capacity building, innovation and collaboration between industry and academic research centres. The aquaculture industry is working with the Welsh Government to inform policy development through collaboration; this group and wider engagement will inform our approach to supporting the sector.
479. Meeting the sector objective requires developing clarity of the types of aquaculture most likely to contribute to future growth ambitions. Providing direction for future aquaculture opportunities should include consideration of species or technologies that can provide wider benefits. The United Kingdom multiannual national plan for the development of sustainable aquaculture details how the UK government will encourage growth in aquaculture.
480. Decision makers should continue to support the industry in taking opportunities to develop the sector. Utilising resources away from more sensitive³³ locations and

³² <http://gov.wales/docs/drah/publications/131127-marine-and-fisheries-strategic-action-plan-en.pdf>

further offshore (wherever appropriate) whilst being mindful of practical constraints. Welsh Government, TCE, industry and NRW should collaborate to ensure that future activity is supported, in order to help meet the policy growth targets. The industry is encouraged to develop practical, realistic plans to expand activity.

481. To be economically viable, small scale aquaculture businesses need to locate in suitable inshore areas. Larger structures may have the scale to operate offshore and likely within 12nm, but there are no current examples in Welsh waters.
482. Upon application Welsh Ministers issues Several Orders (SO) to confer ownership of cultivated shellfish on areas of leased seabed (usually from TCE). Where SO's lie within or close to sites designated for marine conservation purposes, then the applicant must undertake an environmental impact assessment. As a condition of granting any SO, WG put in place conditions that reflect the outcome of the environmental assessment and over-see their monitoring to ensure that the granting of the SO will not likely have a significant adverse impact upon the designated features of any conservation site.
483. In order to provide sector security and encourage investment, Orders will generally be granted for a period of at least 28 years with a seven yearly review where appropriate. Applications in particularly sensitive areas, as determined during the application process, or where there is less certainty, or where there is a deploy and monitor, phased approach to developing a SO may need to be for a shorter timeframe and require more rigorous monitoring requirements. Welsh Government will look to grant longer term authorisations and Orders in less sensitive areas.
484. **The [Sector policy generic implementation guidance] applies.**
485. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.

³³ Sensitivity of any specific area is dependent on the nature of any given operation

Supporting policy

AQU_01: Aquaculture (supporting)

Proposals for aquaculture activities in Strategic Resource Areas are encouraged.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:

- aquaculture Strategic Resource Areas; and
- wider natural resources that provide aquaculture potential;

in order to support the sustainable growth of the aquaculture sector through marine planning.

Supporting policy implementation guidance

486. This policy seeks to support the development of new and diverse aquaculture activities and the growth of the Welsh aquaculture industry.
487. Aquaculture proposals are particularly encouraged where they can demonstrate that they:
- are located within an SRA;
 - make use of existing or planned fixed structures such as renewable energy developments, thereby optimising use of marine space;
 - fit well with or enhance the local character of an area including heritage, landscapes and seascape;
 - coordinate with existing or planned activities to share vessel use and other facilities, thereby reducing greenhouse gas emissions], reducing running costs and increasing the economic viability of the activity];
 - support the development of local seafood industries to bring jobs and boost tourism to support the well-being of coastal communities.
488. A report to Welsh Government “A spatial assessment of the potential for aquaculture in Welsh waters” (2015) has been used in conjunction with information from industry and academic establishments to identify SRAs for both seabed and water column shellfish culture. Aquaculture operations have been considered in two categories: those involving structures on the sea surface or sea bed and those requiring only extensive use of the sea bed. SRAs have suitable conditions for aquaculture and as such provide the most likely areas of opportunity for the development of sea bed or water column aquaculture. Other human uses are also considered a constraint depending on aquaculture method, e.g. shipping. SRAs reflect conditions likely to support specific aquaculture and relevant “hard” constraints but cannot reflect the multitude of practical considerations at the local level.

489. A much broader RA, with no related plan policy, has been identified for which the prevailing conditions appear to also potentially support the industry but which are considered less likely to be developed in the foreseeable future.
490. In practice, delivering the sector's objective to double production by 2020 and grow the sector beyond this, would require only a very small fraction of the SRAs to be developed. This plan's aquaculture SRAs therefore represent broad areas of search within which development could potentially take place. Collaboration and research has the potential to support refinement of our understanding of aquaculture opportunities at a local level. The SRAs will be refined over time as more information becomes available on the opportunities and constraints affecting the aquaculture industry and as technologies develop.
491. The identification of areas suitable for greater aquaculture production aims to support expansion of current activity types and also diversify the species cultured including shellfish, finfish and algae and help the sector plan for the future. Working in partnership with businesses, government and academia in Wales the aquaculture industry will support implementation of this plan, identifying suitable marine areas for further aquaculture activity, opportunities to increase productivity and diversify the species cultivated.
492. Statutory harbour authority areas in Milford Haven and Holyhead are included in RA's and at local scale of each map, parts of each Harbour area are included in SRAs for either sea bed or water column aquaculture. These ports are Trust port and private port respectively and each has a remit to promote aquaculture within their boundaries where this is compatible with other activities they manage. Developers are encouraged to engage with port authorities where they see aquaculture potential within port areas. Likewise, port authorities should consider such use in the context of their remit, their development plans and the context of this plan generally.
493. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.
494. Some aquaculture developments, especially bottom culture or small scale enterprises, have good opportunity to coexist with other sectors in the same area. In practice, conflicts are less than might be implied from the relatively large areas identified as SRAs in this plan. Public authorities should support the optimum use of marine space through coexistence wherever possible.
495. The characteristics required to support offshore finfish and algae cultivation facilities are not yet well enough defined to identify areas of high potential. Small scale aquaculture projects could potentially operate widely in Welsh inshore waters and cannot be realistically mapped nor space allocated for this activity at this stage.
In dialogue with sector representatives, proposals that further support and enhance sustainable aquaculture activities might include:

- application of grant support schemes for example to provide support for developing culture techniques or undertaking environmental assessments and understanding and mitigating business risk (e.g. of variation in water quality);
- initiatives that improve coexistence of aquaculture activities;
- initiatives that support collaborative working e.g. with fishing industry in collection of mussel seed and ocean ranching opportunity;
- initiatives that support appropriate aquaculture diversification, identification of new market outlets and products and processing opportunities in Wales, all of which improve sector resilience and profitability;
- initiatives that aid the identification of suitable aquaculture sites, identification of land owners and an simplification of the application process;
- initiatives that support sustainable aquaculture such as MSC accreditation;

496. **In preparing aquaculture related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policies

497. All proposals (including new aquaculture sector proposals) with the potential to impact upon existing, planned or future potential aquaculture activities in SRAs should apply the following aquaculture safeguarding policies.

AQU_02: Aquaculture (safeguarding)

Proposals potentially affecting areas where:

- an application for a Several Order or production rights for aquaculture has been granted or formally applied for;
- a documented formal agreement is in place between the sea-bed owner and an aquaculture operator; or
- an Aquaculture Production Business registration is in place or has been applied for,

should not be authorised unless compatibility with the existing, authorised or proposed aquaculture activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

AQU_03: Aquaculture (safeguarding)

Proposals potentially affecting Strategic Resource Areas for aquaculture should demonstrate how they, in order of preference:

- a) avoid adverse impacts on future potential aquaculture activity in those areas; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

Safeguarding policy implementation guidance

498. These safeguarding policies help manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the aquaculture sector. In line with our positive planning approach, policies **AQU_02** and **AQU_03** are intended to enable aquaculture to continue where authorisations are in place and being secured or to realise new opportunities in SRAs.
499. Policy **AQU_02** provides protection for investments and provides some security for ongoing operations. It applies where a formal agreement has been entered into for a marine licence and / or a Several Order (SO for shellfish) or with the sea-bed owner (usually TCE). For processes requiring formal advertisement, the policy takes effect once public advertisement has commenced. The receipt of, or, application for, an Aquaculture Production Business registration and the existence of other licences or consents will confirm the status of the aquaculture business for the purposes of this policy.
500. “Formally applied for” means an application made to Welsh Ministers for a SO and advertised, or rights to the sea-bed have been granted (where there is competition between interested parties for the same location and separate SO’s applications submitted the usual determination methods apply). At this stage, the boundaries of the area applied for should be well-defined and, pending the outcome of responses to any formal advertisement, remain relatively fixed.
501. The presence of existing aquaculture operations does not necessarily prevent the consenting of new activities where the new activity can demonstrate compatibility. To do so, new proposals should include an assessment of the potential adverse impacts on the aquaculture operation and its dependencies. Adverse impacts may include, e.g. changes to water quality or temperature leading to reduced productivity or product quality; impacts upon business continuity or infrastructure; an increase in disease; or physical obstructions leading to increased cost, time or effort e.g. to access the site or harvest.
502. In some cases there might be scope to relocate established aquaculture although it is acknowledged that this will incur costs. Relevant public authorities, in

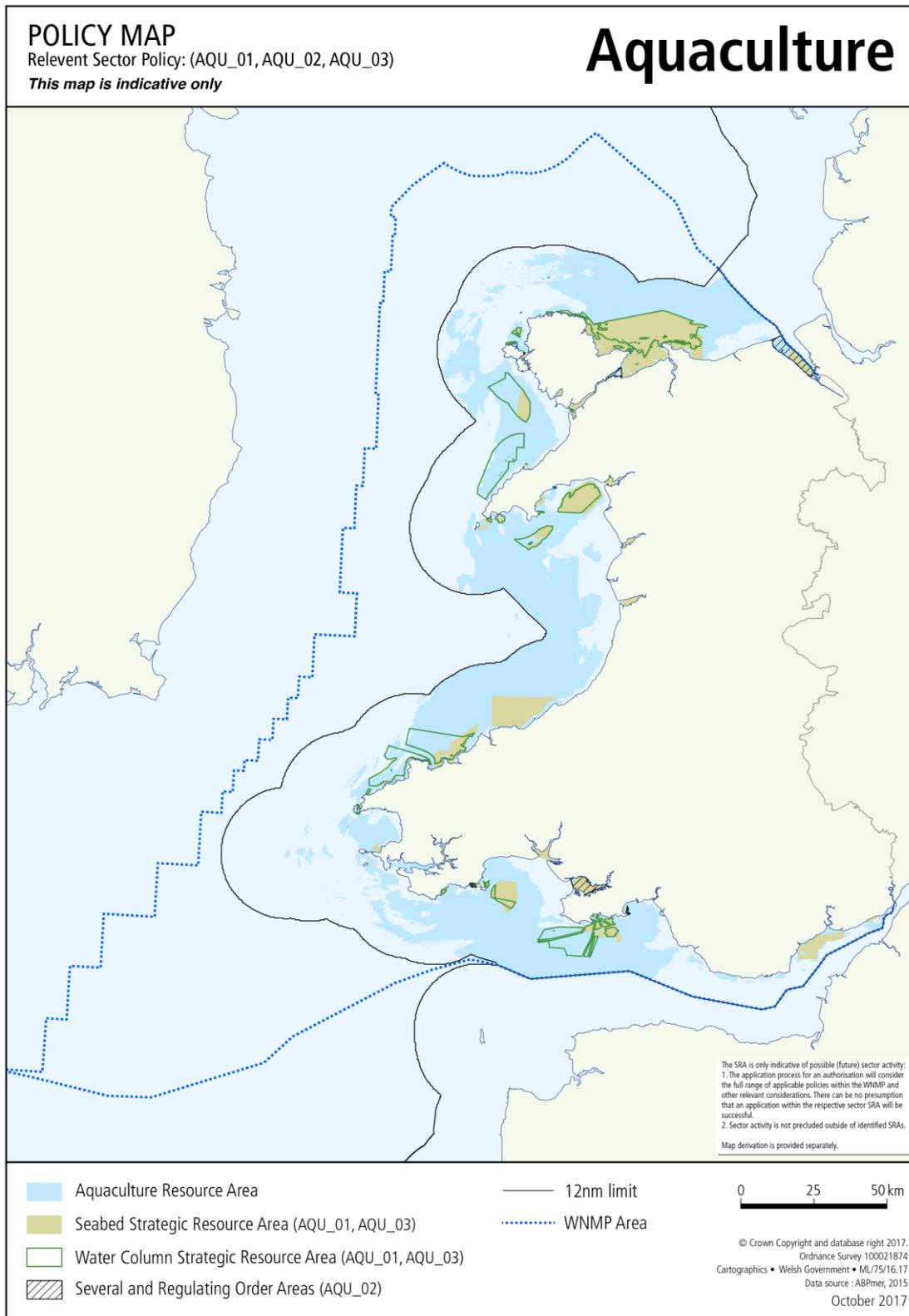
considering a proposal which may displace or interrupt the activities of an aquaculture development, should take into account the extent of adverse impact (including business interruption), and the opportunities and costs of relocating the operation (and whether any agreement has been reached between respective parties). Any new activities that will require an existing aquaculture development to relocate should provide evidence to support an assessment of suitable alternative locations and the net costs and implications for the objectives of this plan of re-establishing or of terminating the business.

503. Policy **AQU_03** safeguards SRA areas with suitable resource for shellfish aquaculture production in the water column or on the sea bed for future use. Before authorising a proposal, decision makers should consider the relative impacts of the proposal upon future potential aquaculture production in SRAs. Whilst the aquaculture SRAs are large, an important consideration in applying this policy should be that the spatial area required to meet the sector objective will, in practice, only require a small proportion of the SRAs to be developed. In practice, new aquaculture activities of any scale can be challenging and it is not possible to predict the future rate or nature of growth of the sector. Aquaculture SRAs should therefore not be interpreted as no-go areas for other sectors.
504. Where an area within an SRA has been identified as potentially providing multiple benefits, beyond direct aquaculture production, e.g. a contribution to nature conservation objectives such as recovering certain species that may provide significant ecosystem services (e.g. native oyster), then a greater degree of protection should be afforded to that area.
505. Proposals from other sectors in or affecting aquaculture SRAs will need to demonstrate that they can either safely coexist with the aquaculture development or if they cannot, make a clear and convincing justification for proceeding (where (a-c) are not possible). Circumstances under which (b) might be satisfied could include moving the proposal to a less favourable area for aquaculture (based on best available evidence), or proposing coexistence of aquaculture with the proposed activity. In respect of (c) mitigation may include methods to address adverse impacts such as techniques to counteract adverse changes to water quality. Any case made to proceed at that location may also include considerations that:
- there are no known or foreseeable plans to develop aquaculture, or, e.g. that previous licence applications have been refused and development is therefore unlikely;
 - evidence has become available that the area of interest is unsuitable for aquaculture;
 - a successful application for aquaculture might not in any event be likely;
 - the development would not pose a serious hindrance to the aquaculture activity; or
 - there is a case that the development outweighs the safeguarding of the aquaculture resource in terms of contribution across Wales' well-being goals.

506. The test of considering whether an aquaculture development within an SRA may be likely must be applied on a basis that is a practical assessment; it is not intended that the developer undertake a full study on aquaculture feasibility.
507. In weighing any potential adverse impacts upon future potential use of an SRA for aquaculture against the benefits of an alternative proposal, decision makers should take into account:
- the strategic importance of the proposal e.g. that it is in line with an NPS, MPS or that the sector is of particular importance within this Plan;
 - the extent the proposal, if accepted, would help that sector meet this plan's objectives;
 - the extent to which this plan's aquaculture objectives would be adversely impacted;
 - alternative locations or that alternative locations present other or similar conflicts; and
 - opportunities for achieving sustainable development in different areas and the net effect upon the environment or other users.
508. However, developers and public authorities should also recognise that whilst the policy intent is to support aquaculture growth, achieving the sector objective is likely to require only a modest increase in the industry's footprint. Given the large spatial extent of aquaculture SRAs identified, it is likely that other activities could easily coexist, maximising planning outcomes and contributing across Wales' well-being goals.

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Figure 15: Policy map – Aquaculture



Defence

Introduction

509. The Ministry of Defence (MOD) is responsible for the defence and national security of the people of the United Kingdom and Overseas Territories and makes a significant contribution to the economic, social and environmental well-being of Wales. The MOD encompasses the Royal Navy, British Army, Royal Air Force and its reserve forces such as the Royal Fleet Auxiliary (the armed forces).
510. Although there are no major naval bases in Wales, the armed forces make extensive use of Wales' coasts and seas for a range of defence purposes, including exclusive use of certain areas at particular times for training, test and evaluation and operations involving:
- supporting vessels, aircraft and navigational interests;
 - conducting military training exercises; and
 - operating test and evaluation ranges and facilities including missile firing ranges and unmanned air systems (UAS) and unmanned surface and underwater vehicles (USUV) test areas.
511. Military practice areas cover 11,453 km² (37%) of the area of the Welsh Zone. In addition the Defence Infrastructure Organisation (DIO), who maintain the defence estate on behalf of the MOD, control and manage many coastal facilities, such as Castlemartin Training Area and MOD Pendine, which have implications for the wider management of the marine area.

Economic contribution of defence

In some coastal locations, the MOD is the major employer in the region and therefore makes an important contribution to the economic and social well-being of the local coastal community.

Public sector expenditure – Defence - Total expenditure for Wales (£million)³⁴

2010-11	2011-12	2012-13	2013-14	2014-15
1,910	1,872	1,755	1,752	1,747

Defence - Total expenditure: Wales & UK 2014-15

£million (Wales)	% of total expenditure (Wales)	£million (UK)	% of total expenditure (UK)	Wales as % of UK
1,747	4.6%	36,484	4.9%	4.8%

³⁴ Source: <http://sites.cardiff.ac.uk/wgc/files/2016/04/Government-Expenditure-and-Revenue-Wales-2016.pdf>

Current and potential future interactions with other sectors

512. The widespread presence of the MOD in Welsh waters and the variety of its activities means it interacts with a number of other marine users/sectors. MOD-related constraints prevent the development of certain fixed infrastructure, e.g. for oil and gas, renewable energy and some aquaculture activities. However, transient navigational activities, such as fishing, shipping and commercial and recreational boating may be permitted in MOD areas subject to temporal restrictions during operational and training periods.
513. The operation of radar systems can also be affected by wind turbine development which therefore requires careful consideration and liaison with the MOD. However, technical mitigation measures such as design considerations and navigation marking can help address some of these issues under certain circumstances.

Ecosystem interactions

514. Through restriction of certain developments, extensive areas of inshore waters have greatly reduced levels of human activity as a result of the MOD's presence. Closed areas provide a level of protection to seabed habitats from disturbance thereby contributing to the maintenance of wider marine ecosystem resilience.
515. Defence-related activities may also pose some risks to the natural and historic environment. In particular, certain sonar activity and use of live explosives can have impacts on marine species, including disturbance of behaviour and, in worst case, fatalities. However the MOD is committed to the protection of the environment and maintains management arrangements to ensure that negative impacts are avoided wherever possible. MOD policy is to ensure that natural environment considerations are fully integrated with operational and training requirements and safety issues. MOD's strategic objectives and targets for biodiversity are set out in the MOD Sustainable Development Action Plan and the Biodiversity Strategic Statement for the MOD estate.
516. Where defence has exemptions and derogations from environmental protection legislation, it is MOD's policy to maintain standards that are, so far as reasonably practicable, at least as good as those required by UK legislation.

Future

517. The Welsh seas will continue to be used for defence activities, including test and evaluation aspects in order to maintain operational effectiveness throughout UK waters.

Climate change

518. Whilst climate change is likely to affect MOD-owned facilities, assets and its operations in Welsh waters, adaptation measures will be brought forward as appropriate by the sector to address these challenges. Adaptation of this sector remains a reserved issue for the UK Government. The MOD has a target to reduce fossil fuel consumption by 18% by 2020/21 (against 2009/10 baseline) in line with wider climate change mitigation targets.

Key evidence needs

519. The siting and design of offshore wind turbines (and other renewable energy installations) or applications of technology to avert adverse impacts upon defence interests including unmanageable interference to defence radar systems. Any renewable energy installations within Welsh waters will need to be reviewed by the MOD Safeguarding team. All marine activities or developments proposed within MOD practice and exercise (PEXA) areas will need to be cleared by the MOD Safeguarding team).

Governance

520. Regulation of defence activities is a reserved matter.
521. Key decision making and advisory authorities include MOD, NRW, MMO and Welsh Government.

Sector objective

To contribute to the defence of the nation by ensuring that Defence and National Security activities are not compromised.



Defence sector policy and implementation guidance

522. Defence sector policy applies to both the inshore and offshore regions of the plan area.
523. The ability of the MOD to defend the nation is paramount and marine activities and developments must not adversely affect strategic defence interests. The MPS recognises the need for the MOD to maintain and deploy the operational capacity to provide defence and security to the UK. The MOD engages in the preparation of both terrestrial and marine development plans to ensure MOD interests are appropriately taken into account. In addition, the MOD is consulted on the licensing of proposals with the potential for conflict with defence interests and consent is only granted where MOD is satisfied that the proposal will not cause unacceptable risk to defence and national security interests.

524. **The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan**, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.
525. **In preparing defence related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policy

526. All proposals with the potential to impact upon MOD activities should apply the following defence safeguarding policies.

DEF_01: Defence (safeguarding)

Proposals that:

- potentially affect Ministry of Defence (MOD) Danger Areas, Exercise Areas or strategic defence interests; and/or
- potentially interfere with communication, surveillance and navigation facilities necessary for defence and national security;

should only be authorised with the agreement of MOD.

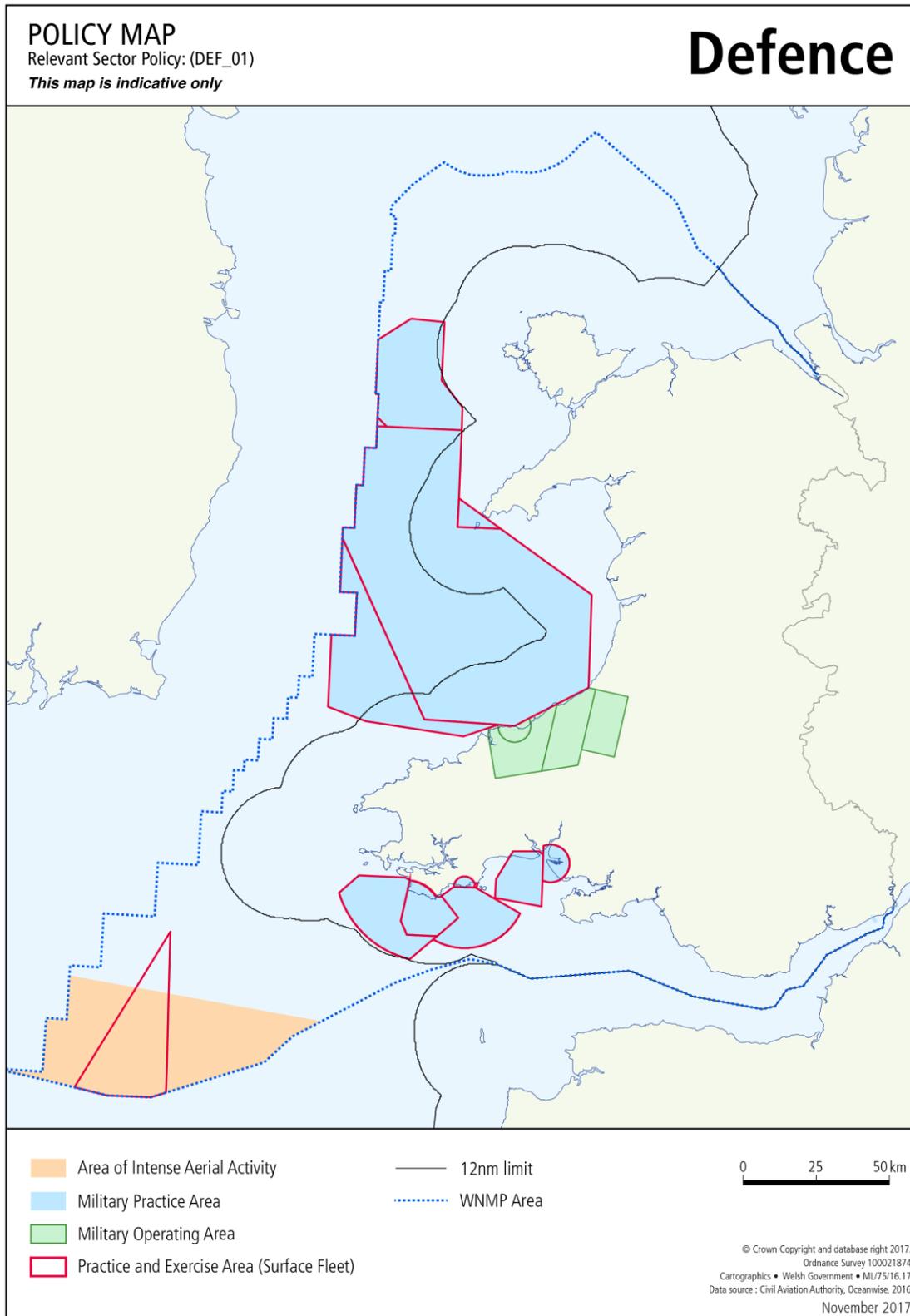
Safeguarding policy implementation

527. This safeguarding policy helps manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the defence sector. This policy is designed to promote a safe and secure Wales in which the armed services are able to fulfil their duties for the defence and security of the nation. It adds clarity to existing national policy (National Planning and Policy Framework Section 164) and the MPS). The extensive areas occupied by the variety of defence activities in Welsh waters results in the defence sector interacting with a number of other marine users. This policy helps ensure that new proposals from other sectors consider their potential individual and cumulative impacts on both marine and land-based MOD activities and avoid or minimise interference. It protects MOD activities from interference by other uses and users of the marine environment as well as safeguarding users from dangers associated with MOD activities. The defence of the nation is a clear contributor to the safety and well-being of its inhabitants but there are clearly dangers associated with the operations of firing ranges to those seeking to go about their business around the edges of these areas or indeed within, even when they are inactive. MOD

establishments are clearly marked on navigation charts and cover extensive areas of Welsh seas which are used for activities throughout the year.

528. Marine activities and developments must not adversely affect strategic defence interests, including communication and navigation systems, nor inhibit the use of designated Danger and Exercise Areas. Any development and use that either individually or cumulatively obstructs or otherwise prevents defence activities will not be permitted. For example, certain activities and fixed structures may be incompatible with defence activities, particularly within designated Firing Danger Areas. The development of new infrastructure, such as that of oil and gas and marine renewables including wind, wave and tidal, may lead to navigational issues and possible disruption to MOD activity. Radar activity necessary for national defence can also be affected by some installations such as wind turbines.
529. Additional areas may also require safeguarding. For example, some onshore coastal facilities such as aerodromes, transmitter sites and explosive stores have safeguarding zones extending over the marine area to regulate development that may otherwise affect their operational effectiveness. Activities involving the sea bed, such as certain fishing practices, may be restricted in areas historically used as munitions dump sites (see dredging & disposal). There are three known historical munitions disposal sites off Milford Haven and other areas in the vicinity of the Burry Inlet. Such areas are well documented on Admiralty charts and on the WG marine planning portal.
530. This policy recognises the potential for compatibility of some activities with MOD activities. Military firing ranges are not in constant use and, where appropriate, other activities are permitted where consistent with operational requirements. Permitted activities may have temporal restrictions imposed, such as fishing, shipping and recreational boating activity may be permitted during periods where areas are not under military use but may be restricted on a temporal basis during training and operations. The fishing sector and the MOD have an agreed code of conduct which aims to resolve conflicts arising from their respective activities.
531. The MOD is a consultee for the licensing of any proposed development at sea with the potential for conflict with defence interests. Proposals for development and use should be notified to the MOD at an early stage in the process. Planning permission, a marine licence or other consent will only be granted where MOD is satisfied that the proposal will not cause unacceptable risk to defence and national security. However where possible they will seek mitigation measures to overcome any identified adverse effects so that compatibility can be achieved and the development can proceed.

Figure 16: Policy map – Defence



Dredging and disposal

Introduction

532. Dredging and disposal (D&D) includes the removal of material from one area of the seabed and the relocation of the excavated material elsewhere for disposal. Most marine dredging and disposal is for the purposes of navigation of vessels and existing and future port development, although it may also take place to facilitate other marine works e.g. create underwater foundations or for flood defence. In this way it differs from aggregate dredging where the primary driver for the activity is recovery of material as an economic resource.
533. Dredging is vital to social and economic development, supporting the construction and maintenance of much of the coastal infrastructure upon which our well-being depends. The ports and shipping sector is particularly reliant upon D&D for the safe navigation of vessels in restricted channels. It is therefore considered an essential activity for the efficient functioning of the ports and shipping sector (see **Ports & Shipping**) and, in turn, benefits and supports a wide range of other sectors.
534. Marine dredging activities may comprise:
- Capital dredging (new-work or areas not dredged relatively recently, typically within the last ten years) which is the enlargement or deepening of existing channels and port areas or creating new ones, usually to allow access by larger vessels, provide longer tidal windows or provide passing places in narrow channels. Capital works also include dredging for engineering purposes such as constructing trenches for pipes or cables, removal of material unsuitable for foundations or aggregate overburden, immersed tube tunnels, or for hydraulic purposes to increase flow capacity of a waterway.
 - Maintenance dredging which is the regular, long-term maintenance of channels, berths or construction works, etc. at their designed dimensions, to counteract sedimentation and changes in morphology. Navigational dredging of this nature takes place within designated Statutory Harbour Authority (SHA) areas (see **Ports & Shipping**, Figure 21b), smaller harbours and marinas, and approach channels - the locations and timing of which are subject to need. Records of the locations of dredging activity and the disposal point are kept by the SHA.
 - Environmental dredging which is undertaken to improve ecosystem resilience in various ways. Dredged materials can be used to create or restore habitats, or for beach replenishment schemes designed to prevent, or reduce, the likelihood of erosion or flooding. Beach nourishment represents a “soft-engineering” solution that works with nature and is an important alternative to often more costly structural solutions. Another example includes initiatives designed to remove contaminated sediments, thus improving water quality and ecosystem resilience. There is the potential for large-scale environmental

dredging to provide multiple benefits for coastal communities and ecosystems.

535. Disposal of dredged material (whether from navigation or environmental dredging) includes both deposition for beneficial uses (e.g. beach nourishment) and at-sea disposal sites in licensed areas of seabed. Dredged material can be a valuable resource and the preference is, wherever possible, to re-use the material to support ecosystem resilience, in engineering projects for construction materials, flood defence, land reclamation and beach nourishment. In some cases, disposal to land may be appropriate.
536. Material can only be deposited at sea at defined locations in licensed areas of seabed. Disposal sites can be categorised as being open (and either active or disused (i.e. having not received material for 5 years)) or closed (i.e. no use for >10 years). In most cases sites have been closed either because disposal activities have terminated or because new sites usually further offshore have been established. Identification of new disposal sites are subject to a characterisation process which involves consideration of environmental characteristics and economic and operational feasibility. On average, between 2010 and 2015 there was 1.73mt (range: 1.43 – 1.98mt) dry dredged material was disposed to licensed disposal sites around the Welsh coast.

Economic contribution of dredging and disposal

The D&D sector is a relatively small employer with low values directly attributed to it. The main importance of the activity is in its relationship with the ports and shipping sector, without which their operations would be severely constrained. The greatest demand for marine disposal arises as a result of marine dredging operations, although there are other less common examples (e.g. disposal of whelk shells at Newquay) where at-sea disposal provides an economic benefit to businesses in comparison to more costly alternatives.

Vessels that undertake the dredging are often also involved in disposal operations. Few people are directly employed on a dedicated basis. Furthermore, dredging events are periodic and pre-planned therefore the small number of dedicated vessels involved share work in other parts of the UK making it difficult to attribute values directly to Wales.

The WMER calculated GVA for the D&D sector of £872,209 for 2013/14 and projection of £1,282,070 for 2032/33 (dredging includes sea disposal). Average annual disposal to sea is 1.73mt.

Current and potential future interactions with other sectors

537. Dredging and Disposal is essential for safe and efficient navigational access to ports, harbours and some marinas; activity in these sectors is often correlated, e.g. port expansion often involves the need for capital dredging. D&D supports economic and social development mainly by supporting the navigational activities

associated with multiple sectors including ports & shipping, tourism and recreation, aggregates, fishing, aquaculture and marine energy sectors. However, in terms of day-to-day activities, undertaking periodic maintenance D&D operations has a very limited impact upon most other sectors because it is an occasional activity of limited duration.

538. Localised ecosystem related impacts can have implications for other sectors e.g. on the distribution and availability of fish and on aquaculture activity. Interactions may occur with aggregate dredging (where the quality of the resource may become reduced by contamination from dredge spoil), and infrastructure associated with cables, pipelines and offshore renewables and which will be taken into consideration within the respective licencing processes. Tourism and recreation opportunities may be temporarily impacted by near-shore dredging activities. Capital works can be more intensive depending on the nature of the related development and may therefore result in greater sector interactions.
539. Dredging activity has the potential to expose or bring to the sea surface material of historical interest. The industry is keen to preserve marine heritage and improve understanding and has developed codes of with archaeological interests practice (see Aggregates section) and a monitoring regime may be implemented through the licensing process.
540. Disposal sites have the potential to interact with a range of sectors but this is relatively restricted given the typically small footprint and number of disposal sites active in Welsh waters. Explosives dump sites are not open for disposal but their presence can limit use of marine space by other sectors so can be an important consideration.

Ecosystem interactions

541. Direct or indirect environmental and socio-economic effects may be associated with dredging (excavation, transport and disposal). Dredging operations cause local disturbance of the seabed at the point of activity. The impact of dredging operations upon ecosystems depends greatly upon the sediment composition and location; impacts of disposal operations depend upon the nature of the material disposed, the location and characteristics of the disposal site and any mitigation measures applied. Seabed material can become suspended and be more widely dispersed depending upon sediment composition and environmental conditions. Dredged sediment can contain metals and/or other contaminants, depending upon the industrial history of the site, and these are either removed as part of the dredge spoil or may be mobilised and cause localised ecosystem effects.
542. The effects upon ecosystem resilience may be positive or negative, short term or long term and may include, amongst others, impacts on:
- water quality, e.g. increase of suspended solids concentration and potential release of contaminants during dredging or disposal; leaching of contaminants from disposal sites;
 - habitats and species, e.g. habitat enhancement or creation, removal or destruction of benthos, smothering; and / or

- bathymetry or topography and physical processes, e.g. waves, currents, or drainage and hence erosion or deposition.

543. In some areas D&D of spoil can represent a major disturbance to benthic communities and therefore to ecosystem resilience. However, studies have shown that communities can recover following dredged material disposal, with recovery times in more stressed environments generally taking less time than recovery in relatively unstressed areas. The nature of the physical environment in combination with the status (and role) of associated marine benthic communities should be considered in determining the resilience of the ecosystem to potential effects.
544. Whilst intertidal recharge schemes can provide long-term benefits including environmental enhancement and protection, the act of placing material over existing intertidal habitats has the potential to cause the same short-term impacts of any disposal operation, generally associated with smothering and increased suspended solids.

Future

545. The amount of dredged material disposed at sea has remained relatively constant over the last 20 years with a slight reduction in the trend as operators seek to reduce ongoing costs. The requirement for the disposal of dredged material at sea is in the most part directly linked to the activity of the ports sector and there will be a limit to which operators can reduce their maintenance dredging requirements. This, together with the increasing size and draft of vessels and opportunities for port expansion, means that the level of maintenance dredging seems likely to continue at current levels or increase to a relatively small extent. Overall, D&D is considered to be an ongoing function with little requirement for major expansion or technological improvement. Navigation provision must keep pace with waterborne transport needs in order to support and maintain local, national and regional economies.

Climate change

546. Climate change could lead to increased storminess, flooding and coastal erosion, which in turn could lead to changing sediment loading and sediment distribution in estuaries and coastal areas which could require changes to D&D activity.

Key evidence needs

547. Identifying opportunities for minimising disposal requirements and maximising beneficial use of excavated material/spoil.

Governance

548. Regulation of D&D is a devolved matter in the inshore plan region, where all D&D activity currently takes place.

549. Key decision making and advisory authorities include: WG, NRW, Crown Estate, Statutory Harbour Authorities; Cefas; JNCC (beyond 12nm).
550. Under the MCAA, D&D operations require a marine licence issued by the NRW Permitting Service which includes consideration of a range of issues and attaches relevant and appropriate conditions in-order-to minimise environmental impacts. However, some Statutory Harbour Authorities (SHA) are covered by an exemption under section 75 of the MCAA if they exercise powers to consent their own navigation dredging or disposal or dredge material operations under a Local Act or the Harbours Act 1964 (as amended). Where a particular dredging operation or a deposit of dredge materials is already authorised by such legislation they do not also require a marine licence for dredging (or disposal if the relevant authorities are satisfied that the material is not hazardous waste) within the jurisdictional area of the relevant Harbour Order. In all other cases, a marine licence is required for dredging and marine disposal, within which the SHA discloses the location of dredging and composition of the dredge material. The determination of a marine licence for dredging and / or disposal provides a robust mechanism to assess the potential environmental effects of dredging and at-sea disposal of dredged material.
551. Determinations on the suitability of dredged material for re-use or at-sea disposal are subject to regulatory assessment to reduce adverse impact on the environmental, human health and legitimate uses of the sea. Assessments are undertaken in-order-to characterise the physical, chemical and biological characteristics of the dredged material at source and at the re-use or disposal site.
552. Most dredging operations take place in relatively shallow inshore areas where as disposal operations are located further offshore. Where appropriate they must take account off cross border implications, especially in the Bristol Channel and Dee Estuary where the adjoining boundary line between England and Wales follows the mid line.
553. Guidance controlling at-sea disposal sea operations is provided by the Oslo and Paris (OSPAR) and London Conventions, under which signatories (including Wales as part of the UK returns) provide annual reports of the location and quantities of dredged material disposed at sea and details of any chemical contaminants within the dredged material. Reporting of licences issued and amounts of dredged material deposited, together with the associated contaminants, and locations of disposal sites is a requirement of the OSPAR Convention. Cefas collate the UK data from Welsh Government annually and submit these to the OSPAR Commission for the UK.

Sector objective

To maintain safe and effective navigational access for shipping, fishing and leisure craft and support future growth and increases in port facilities and vessel size whilst promoting the optimal sustainable use of dredged material and ensuring adequate disposal facilities are available.



Dredging and disposal sector policy and implementation guidance

554. Dredging and disposal sector policy applies to both the inshore and offshore regions of the plan area; however no dredging or disposal activity currently takes place in the offshore region.
555. The MPS recognises the vital role of dredging and disposal for the effective operation of the ports and shipping sector, which is an area of priority for Welsh Government. The beneficial use of excavated material is encouraged.
556. The beneficial use of excavated material is encouraged. In accordance with the Waste (England and Wales) Regulations 2011, relevant authorities should apply the waste hierarchy. This requires the applicant for a marine licence to have regard to the practical availability of alternative means of disposal or treatment (other than deposit at sea) when determining whether to issue a licence. Applications to dispose of all forms of wastes (including dredged material) or other matter must therefore demonstrate that appropriate consideration has been given to the internationally agreed hierarchy of waste management options for at-sea disposal. All options for beneficial reuse of dredged material should be evaluated as part of any proposal. Operational feasibility is an important consideration in assessing potential for beneficial uses. No waste should be disposed at sea if there is a safe and practicable alternative.
557. Disposal within the system that the material originated from may prove feasible and provide an optimum solution. Marine sediment transport regimes contribute to the proper functioning and resilience of natural ecosystems. Their role in coastal processes should be respected wherever possible and the sustainable relocation of excavated materials should be considered as a first option.
558. New disposal site selection should ensure that the deposition of material does not significantly interfere with, or devalue, legitimate commercial and economic uses of the marine environment or result in significant adverse effects upon ecosystem resilience.
559. The OSPAR Convention and London Protocol provide complementary guidelines for the management of dredged material operations, including characterisation of the material, determinations on alternative uses, selection of disposal sites, assessment of potential environmental effects and monitoring. Relevant public authorities should set appropriate licence conditions to ensure that sediment analysis is carried out with sufficient frequency to be compliant with OSPAR requirements. Sediment samples should be taken every 3 years unless relevant considerations indicate otherwise.
560. When considering suitable management options, it is generally the preferred option to retain dredged material within the same system from where it originated,

if it is environmentally, technically, socially and economically feasible to do so. Preferred areas for disposal are those with a long record of use and / or those that have been characterised to receive dredged materials in line with Chapter 6 of the Dredged material assessment guidelines³⁵ (*Waste Assessment Guidelines under the London Convention and Protocol: 2014 edition*). Minimising the distance between dredge and re-use/disposal locations can reduce environmental impacts and supports sustainable development.

561. Closed disposal sites should be subject to new application procedures and have not been identified for the purpose of this plan.
562. Proposals for disposal of non-dredged material into the marine area (e.g. fish waste) will need to be carefully considered by public authorities. New disposal activities should only be supported where they can demonstrate there is no alternative option for use of the waste material, where a suitable at-sea disposal site can be identified (through a site characterisation study) and that is not counter to the other objectives and policies of this plan.
563. **The [Sector policy generic implementation guidance] applies.**
564. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.

³⁵ *Waste Assessment Guidelines under the London Convention and Protocol: 2014 edition*, <http://www.imo.org/Publications/Pages/Home.aspx>; the OSPAR Guidelines for the Management of Dredged Material at Sea – Agreement 2014-06, www.ospar.org/documents?d=34060

Supporting policy

D&D_01: Dredging and disposal (supporting)

Proposals that maintain navigable channels and long term access to open at-sea disposal sites for appropriate material are encouraged.

Supporting policy implementation guidance

565. Policy **D&D_01** seeks to provide confidence to the port and shipping sector that appropriate navigable channels can be established and suitably maintained. Relevant public authorities should collaborate to ensure adequate provision for port access and disposal sites. Consideration should be given to securing longer-term authorisations for maintenance dredging activities where an adequate evidence base can be provided that adequately demonstrates the sustainability of ongoing operations.
566. Where potentially significant adverse effects are anticipated, management techniques should be implemented, where possible, to address potential issues; thereafter identification and implementation of practical, cost-effective compensation or mitigation measures will be required for any residual effects. With management practices and effective mitigation, impacts which might otherwise threaten the viability of a particular scheme or initiative can often be reduced to an acceptable level, or avoided altogether.
567. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector.
568. **In preparing dredging and disposal related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policies

All proposals (including new dredging and disposal sector proposals) with the potential to impact upon existing or planned dredging and disposal activities should apply the following dredging and disposal safeguarding policies.

D&D_02: Dredging and disposal (safeguarding)

Proposals potentially affecting areas where a consent or authorisation for:

- navigation dredging; or
- at-sea disposal of dredged material;

has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed dredging or disposal activity can be satisfactorily demonstrated or there are exceptional circumstances.

Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

D&D_03: Dredging and disposal (safeguarding)

Proposals potentially affecting areas undergoing investigation for capital dredging or disposal site characterisation should not be authorised unless compatibility with the existing, authorised or proposed aggregate activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on the areas undergoing investigation; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

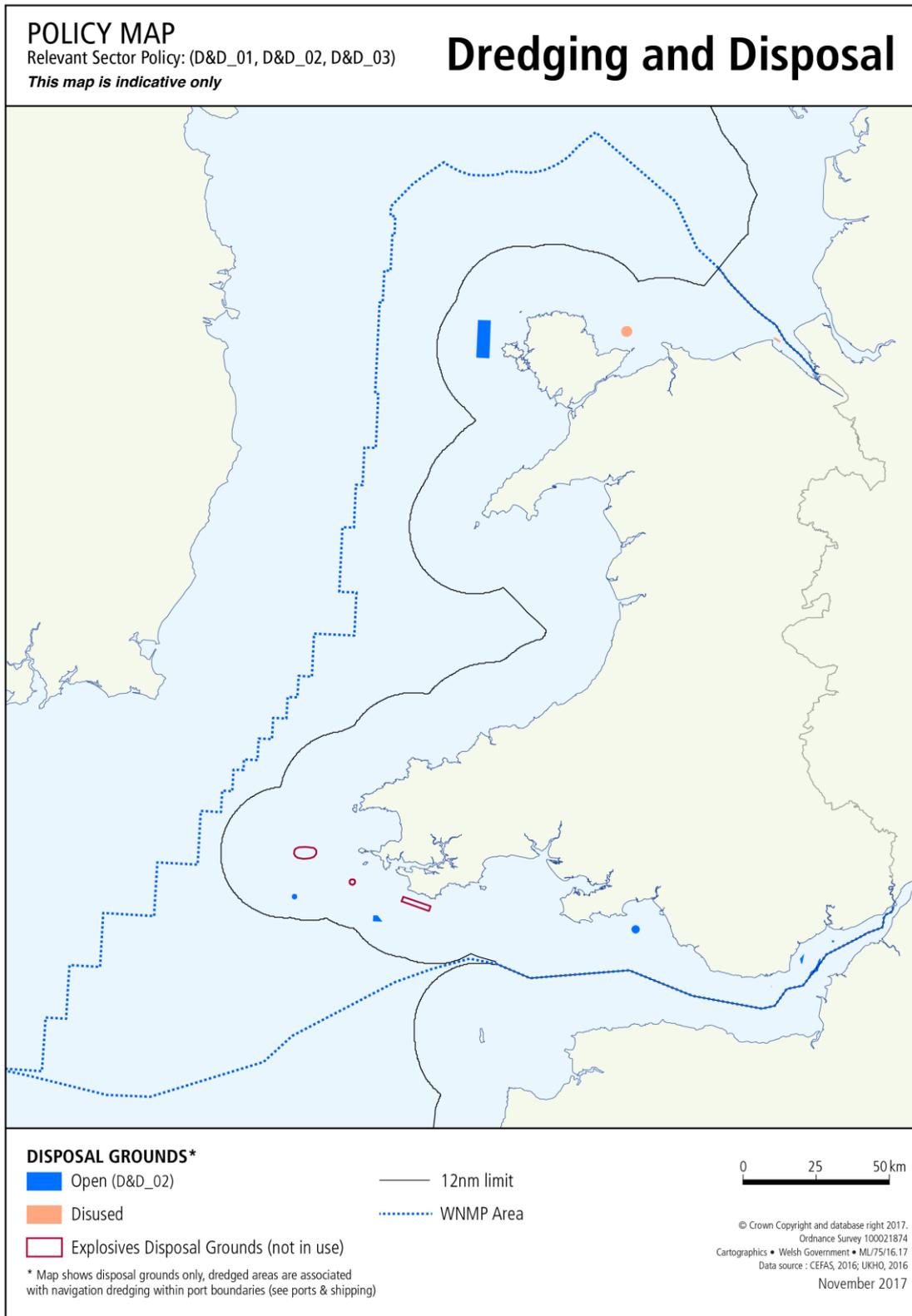
If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

Safeguarding policies implementation guidance

569. These safeguarding policies help manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the dredging and disposal sector. Policy **D&D_02** provides protection to dredging sites (and therefore areas of significance for transport access) and disposal sites that have been designated or formally applied for. Policy **D&D_03** offers protection where survey work is being undertaken in order to characterise the site before making an application. In each instance, the policy recognises the work and investment required to identify appropriate sites and apply for a licence which can be costly and time consuming for developers, particularly where alternative options may be limited. Policies safeguard the sector by ensuring that, wherever possible, proposals do not have adverse impacts upon D&D activities or are effectively minimised or mitigated.
570. Impacts may be addressed by temporal restrictions on access for the duration of the dredging or disposal campaign, and burial or rerouting of infrastructure (e.g. cables, pipelines) to avoid interaction with dredging and disposal operations.

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Figure 17: Policy map – Dredge and disposal



Energy – Low carbon

Introduction

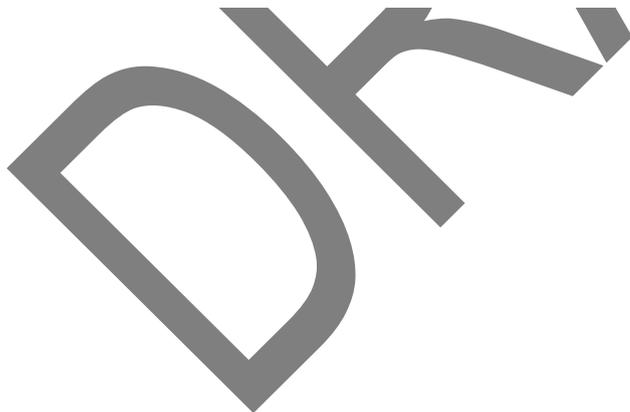
571. This sector relates to marine renewable energy generation (from wind, wave and tidal resources) and associated activity. The continued requirement for energy supply and the need to transition to a low carbon economy cannot be ignored; our use of energy must be carefully managed but it is clear that demand is unlikely to decrease significantly in the foreseeable future. Wales is therefore committed to transitioning to a sustainable low carbon economy.
572. The marine energy resource around Wales offers a unique opportunity to deliver significant renewable energy generation whilst establishing new markets and providing new jobs. Our aim is to enhance the economic, social and environmental well-being of Wales by ensuring that moving to a low carbon economy contributes to a wealthier, more resilient and sustainable future. Increasing the amount of energy from renewable and low carbon technologies will contribute to a secure energy supply, reduce greenhouse gas emissions, support ecosystem resilience and stimulate investment in jobs and business. Marine planning has an important role in supporting the delivery of new renewable and low carbon energy infrastructure.
573. Wales has substantial and constantly replenished marine energy natural resources. If harnessed sustainably, our abundant wind, wave and tidal resource can play a major role in meeting the energy needs of current and future generations. The marine renewable energy (low carbon) sector is identified as having significant potential for sustainable growth over this plan's lifetime and is therefore a strategic priority for marine planning.
574. Offshore wind currently provides the largest single contribution to marine renewable electricity in Wales but wave and tidal technologies also offer significant potential in the medium to long-term. The Crown Estate awarded demonstration zones off south Pembrokeshire (wave) and west Anglesey (tidal stream) provide good opportunity for developers to deploy, refine and demonstrate their technologies before expanding projects into wider commercial scale resource areas, subject to successful tests. Current activity and potential in Wales includes:

Offshore Wind: Potentially suitable wind resource in Wales is very widespread. There are three commercial scale offshore wind energy developments in North Wales generating a total of 726 MW (Figure 18c).

Tidal Range: A substantial tidal range exists in Welsh waters which represents a strategically important natural resource. There are a number of early stage tidal lagoon concepts

at various stages of feasibility around the Welsh coast, including a proposal between Cardiff and Newport in formal planning pre-application stage and a formal proposal for Swansea Bay Tidal Lagoon.

- Tidal Stream:** A substantial tidal stream resource occurs in several parts of Welsh inshore waters, mainly where water flows are restricted such as around coastal headlands. A demonstration zone has been established off Anglesey and there are several projects in the planning or development stage for demonstration phase projects.
- Wave:** An extensive wave resource exists, particularly in the exposed south west of Wales, both inshore and offshore. Whilst this offers considerable opportunity, wave technology is still in the stage of development. A demonstration zone has been established off Pembrokeshire.
- Nuclear:** Whilst low carbon includes nuclear, development is predominantly terrestrial and planned for accordingly. Some coastal nuclear power stations have infrastructure in the marine environment. The Wylfa Nuclear Power Station (490 MW peak) on Anglesey operated from 1971 to 2016 and there is potential for further generation from a new build at Wylfa.



Economic contribution of marine low carbon energy

Marine low carbon energy GVA for 2013/14 is calculated at £127,181,650, with 1149 direct employees and a further 862 indirectly employed in the sector.

In March 2015, Marine Energy Pembrokeshire³⁶ published the outputs of a survey of the economic contribution from the marine energy sector in Wales, for wave, tidal stream and tidal range. This highlighted that technology and project developers have spent £34.5 million, directly creating 99 person years of employment (or 174 if Welsh academic research is included). The figures suggest that every £10 million invested in wave power and tidal stream has an associated GVA in Wales of £2.5 million and 75 person years of employment (once direct, supply chain and household effects are taken into account).

Current and potential future interactions with other sectors

575. The nature of interaction of the marine low-carbon energy industry with other sea users depends on the device type, size, location and the characteristics of other marine activities. Interactions could be positive or negative. Significant positive interactions are expected with manufacturing, construction, maintenance and ports and harbours. Wales has strategically located deep-sea ports and an established manufacturing base to support the growth of the sector.
576. Key marine sectors may be affected by marine renewable energy development, including navigation (all vessel types), fishing, aggregates, MOD and oil and gas. There is also the potential for interaction with tourist and recreational activities and aquaculture depending upon the technology. Energy developments proposed within MOD areas may face constraints depending on the nature of the devices and the specified use of the MOD zone, e.g. interference by wind turbines with radar and communications. Offshore wind, wave and tidal developments would be most likely to have key interactions that would need consideration with shipping, fishing, MOD and potential aggregate resource areas.
577. Tidal lagoons would be large scale projects established in near-shore waters and could have extensive interactions with many other sectors. Tidal lagoons would change the nature, and therefore future use potential of an area. They may constrain established activities as well as limit new opportunities. They also have the potential to complement / enhance established activities and facilitate new opportunities. There is some overlap between areas of tidal lagoon potential and the south Wales tidal stream SRA, where studies suggest that deploying one

³⁶ <http://www.marineenergywales.co.uk/wp-content/uploads/2016/03/Marine-Energy-in-Wales-Investment-Jobs-Supply-Chain-2015-m.pdf>

technology may preclude the other; the potential for coexistence would be worth of further investigation and analysis.

578. Marine sectoral strategies can be developed at the planning stage and sectoral mitigation strategies at the project assessment and application stage to ensure that all affected sectors are aware of developer activities and timetables in appropriate timescales. This will allow other sectoral activities to be planned to minimise impact as much as possible and for mutual benefits to be maximised.
579. Coherence across land-sea planning and consenting and with wider electricity cable considerations are important to ensure sufficient capacity to enable grid connection of new technologies.

Ecosystem interactions

580. Marine renewable energy generation may have a wide range of potential consequences for marine ecosystem resilience, with effects occurring at different scales depending upon the development and its location. At a broad level, projects that support decarbonisation will contribute to wider ecosystem resilience by helping to mitigate climate change related ecosystem effects.
581. Construction and decommissioning are likely to cause significant physical disturbance of the local environment with both short and long-term implications. The significance of any effects is likely to depend on the scale and duration of disturbance and the stability and resilience of the ecosystem affected. Mobile organisms may be displaced and may be able to relocate if similar habitats exist nearby.
582. Depending on the construction, new habitat created by semi-permanent structures on the seabed could benefit ecosystem resilience by supporting particular habitats or species or have negative effects e.g. by facilitating the spread of non-native species.
583. Operation of marine renewable energy technologies will extract energy which could affect wave height or currents in the area and cause changes to sediment transport, potentially with broader ecosystem effects resulting from large-scale developments. Underwater noise, emission of electromagnetic fields and collision or avoidance with the installations represent further potential impacts for certain species. Cumulative impacts require particular attention as the number of installations in the plan area and neighbouring areas increases.
584. Large scale deployment and construction activities associated with large marine renewable energy schemes can have extensive potential impacts that will need to be avoided, minimised or mitigated.

Future

585. This plan recognises that there may well be significant change in the use of Welsh seas over this plan's lifetime, in particular as a result of renewable energy developments. The Welsh Government's Marine Renewable Energy Strategic Framework³⁷ highlighted practical opportunities to use marine energy resources and identified a scenario which has the potential to secure 6.4GW through tidal stream and wave energy development. However, a key constraint to development in some rural locations is the capacity of the electricity grid to receive additional connections. The sector as a whole has a key role to play in mitigating climate change by providing a strong contribution to future energy supply.
586. There is scope for significant future deployment of further offshore wind although sites explored during Round 3 off north Anglesey (Rhiannon) and Bristol Channel (Atlantic Array) have not been progressed to date, with the developers stating technical and financial reasons. Whilst no SRA for wind has been yet identified for wind energy because the resource is broad based and the opportunities and constraints not yet fully understood, this does not preclude projects coming forwards. TCE, developers and government will work to understand future, especially offshore, opportunities within developing technologies (such as floating and fixed structures) which are both technically and economically viable. Figure 18b is illustrative at high level of possible early stage modelled outcomes that may be further considered (i.e. not including social, economic or environmental considerations). Tidal stream technologies are likely to be focussed on small scale demonstration devices in prime locations including the demonstration zone over the next 5-10 years, with subsequent larger scale deployment within wider resource areas. Wave technologies are less well developed and may take longer to be deployed commercially with a similar approach – smaller scale test devices offering proof of concept followed by larger-scale arrays beyond the demonstration zone.
587. The Bristol Channel (including the Severn Estuary) and North Wales represents a strategically important source of renewable energy. Whilst barrage technology has been evaluated for many years, new tidal lagoon technology presents a new opportunity to harness our tidal range resources. There are a number of lagoon proposals at various stages of concept around North and South Wales. Tidal range projects cover large areas and consequently require detailed feasibility and environmental impact studies but also present the potential to offer substantial local and national long-term contributions to well-being.
588. Welsh Government believes that nuclear energy has a continuing role to play, as part of the energy mix, in providing a reliable, secure and diverse electricity supply. Nationally significant infrastructure projects are determined by the Planning Commission.

³⁷ <http://gov.wales/topics/environmentcountryside/energy/renewable/marine/framework/?lang=en>

Climate change

589. Wales's well-being goals recognise that the case for action on climate change is clear and fundamental to our future prosperity and resilience of our communities. Marine low carbon energy has a key role in mitigating climate change and achieving a sustainable low carbon economy. New technologies are evolving rapidly and will make an important contribution to the decarbonisation of electricity generation.
590. A changing climate may result in changes in extreme weather events which could create difficult operating conditions for offshore installations. Climate change effects on energy infrastructure are likely to result from increased storminess, (eg changes in waves and currents) which could result in increased scouring and operation and maintenance issues. Associated onshore installations might be more vulnerable to coastal flooding.
591. In terms of resource, the changes to waves, wind and tides may result in an increased source of energy for electrical generation, although there are considerable uncertainties at this stage.
592. Subject to appropriate design, tidal lagoons and barrages adjoining the coast could reduce the future impacts of increased storminess and sea level rise on adjacent coastal areas.

Key evidence needs

593. Welsh Government collaborates through the Offshore Renewables Joint Industry Programme (ORJIP) to address evidence gaps and other practical opportunities to support the sector. Welsh Government also supports research and development initiatives that provide strategic opportunities to develop and promote Welsh expertise and to improve understanding of the constraints on, and opportunities for, low carbon energy development and deployment which will enable the growth of the sector. Key evidence needs for the sector, in relation to marine planning, include:
- interactions between devices and mobile species including fish during construction and operation;
 - opportunity for co-location of submerged tidal energy converters with commercial shipping, e.g. developers are be required to collect data on a range of variables, including vessel draughts, water depths and tidal variations to facilitate decisions on a case by case basis;
 - interactions and mitigation between tidal range technologies and migratory species such as fish and birds;
 - potential coexistence and co-location with tidal lagoons to optimise use of space;
 - opportunity for co-location of wind and aquaculture technologies;
 - further field hydrological effects of tidal range schemes upon tidal regimes and coastal dynamics;

- carrying capacity at local, and Welsh and regional (e.g. Irish seas) level for renewable technologies;
- suitability of geological / geomorphological conditions for fixing energy devices; and
- opportunities and constraints for grid connection and energy storage opportunities.

Governance

594. Large-scale energy policy (including Nuclear) is largely the responsibility of the UK Government in the inshore and offshore plan regions. Offshore renewable energy developments over 1MW require consent from the MMO whilst developments over 100MW are considered as nationally significant infrastructure projects (NSIPs). However, policy and threshold for consenting low-carbon energy developments by The Welsh Ministers is to be increased to projects up to 350MW following the Wales Act 2017. The consenting regime for the new powers will be developed in consultation with stakeholders.
595. Section 39 of the Act enables Welsh Ministers to determine development consent for energy generating projects up to and including 350MW in Welsh territorial waters (to the seaward limits of the Welsh Zone).
596. Section 42 will enable the Welsh Ministers to consent overhead electric lines if they are:
- 132 Kilovolts (KV) or less, and
 - associated with a devolved energy generating station in Wales (one with a generating capacity of 350MW or less, or any onshore wind generating station).
597. Section 41 enables Welsh Ministers to exercise functions in relation to declaring safety zones around the construction or decommissioning of devolved energy generating stations. Where a devolved energy generating station is proposed to be, or is, extended outside the seaward limit of the Welsh Zone, the SoS will exercise the functions in relation to declaring safety zones in respect of that part of the generating station, unless the Welsh Ministers and the SoS agree the Welsh Ministers should do so.
598. In many cases there will be ancillary structures onshore associated with offshore renewable energy generation which will require planning permission and local planning authorities should ensure that decisions relating to these ancillary structures are taken in a timely way.
599. For developments >350 MW the Welsh Government will work closely with the UK Department for Business, Energy and Industrial Strategy (BEIS) to ensure that Welsh and UK interests are aligned. We will also continue to engage with the National Grid and others to ensure that the supply grid supports future connectivity opportunities.

600. Key decision making and advisory authorities include: The Secretary of State for Business, Energy and Industrial Strategy, The Welsh Ministers, NRW, The Crown Estate, MMO, and Planning Inspectorate. Producing marine energy developments can only take place when the necessary infrastructure is in place on land; therefore other authorities have key roles e.g. Local Authorities and National Grid.
601. UK Government's overarching National Policy Statements for Energy (EN-1) and Renewable Energy (EN-3) provide the primary basis for decisions on applications for nationally significant infrastructure projects (NSIPs). However, EN-3 only covers offshore wind (not wave, tidal stream or tidal range technologies). In the event that additional National Policy Statements (NPS) are put in place in future for NSIPs (e.g. tidal lagoons), the NPS will provide the primary basis for decision-making on proposals. This plan should be considered as part of any application and decision making process, including alongside NPSs for NSIPs.
602. The scale of tidal lagoon projects means that they are likely to be considered as Nationally Significant Infrastructure Projects (NSIPs) under the UK Planning Act and any decision on individual projects would be taken within this framework alongside any other authorisations that might be required, for example, a marine licence. If a National Policy Statement is adopted for tidal lagoons then this would provide the primary decision making policy context for the project. Because tidal lagoon schemes would require multiple consents from UK to Welsh Government to the local level, opportunities should be taken to align application and authorisation processes where possible.
603. The Welsh Government supports the nuclear energy sector, in particular development on existing sites such as Wylfa Newydd. Whilst nuclear energy is an important means of energy supply in Wales, it has not been a major consideration of this plan with most strategic decisions taken at a UK level and guided by the relevant National Policy Statement. However, coastal nuclear generation is of relevance to marine planning where some infrastructure e.g. jetties, cooling water intakes and outfalls fall below high water mark, and in the regulation of discharges which are considered by The Welsh Ministers.
604. The UK Offshore Energy Strategic Environmental Assessment (OESEA) process considers and informs decisions on plans and programmes for potential future offshore energy developments at a UK level (including renewable, oil and gas and potential for carbon dioxide storage). The OESEA process considers the UK's offshore energy resources in the context of environmental issues. It is a strategic sector planning process supported by Welsh Government and undertaken by BEIS. SEAs 1-7 (2001 – 2008), the Round 2 offshore wind SEA (2003) and more recent OESEAs (2009, 2014 and 2016) have made a number of recommendations on SEA processes and conclusions, the natural and wider environment, and regulatory and other controls.

605. A strategic view needs to be taken on any potential energy developments in cross-border areas such as in the Bristol Channel and in North Wales. In many cases the large scale of the proposals means that decisions are reserved and taken jointly by government which provides for consistency. Where development proposals are located offshore (such as was the case for Round 3 offshore Wind farms) then the application process requires liaison with other country authorities (as occurred with IoM for proposals north of Anglesey). The Severn Estuary Partnership (SEP) has played an important role in drawing together evidence and engaging on policy options with interested parties within the Severn Estuary, including on potential energy developments. Further information is available from SEP³⁸.

Sector objectives

<p>To contribute significantly to the decarbonisation of our economy and blue growth by increasing the amount of low-carbon marine energy generated, by:</p> <ul style="list-style-type: none"> • Supporting the development and demonstration of tidal stream and wave energy technologies over the next 5-10 years; • Increasing (where appropriate) the number of generation devices deployed in commercial scale developments over the next 10-20 years; • Supporting (where appropriate) further commercial development of offshore wind and tidal lagoon technologies over the next 5-10 years taking advantage of any favourable UK Government financial mechanisms under the Contract for Difference; • Promote evidence gathering and research on tidal range development to support the sustainable development and deployment of the technology; and • Supporting the nuclear energy sector. 	
<p>To develop Wales as an exemplar of marine renewable energy technology by developing the essential skill base and technical knowledge to support the growth of the industry over the next 20 years.</p>	

³⁸ [http://www.severnpartnership.org.uk/sep/strategy/15-16/;](http://www.severnpartnership.org.uk/sep/strategy/15-16/)

<http://www.severnpartnership.org.uk/sep/resouces/state-of-the-severn-estuary/>

Energy – Low Carbon sector policy and implementation guidance

606. Low carbon sector policy applies to both the inshore and offshore regions of the plan area.
607. The MPS recognises that a secure, sustainable and affordable supply of energy is of central importance to the economic and social well-being of the UK. The Welsh Ministers have established a legally-binding emissions reduction target to tackle climate change. It is important that relevant public authorities support Government in moving to a secure, diverse and affordable electricity supply. Welsh Government wants marine renewable energy to make an increasingly significant contribution to the energy mix.
608. Welsh Government has considered alternatives to the need for large scale deployment of marine renewable technologies and concluded that, whilst opportunities such as reducing demand, supporting other technologies and supporting wider connectivity will make important contributions to climate change mitigation, there is a strategic need to develop marine renewable energy generation capacity. Sustainably realising the potential of Wales' marine renewable energy resources will be achieved through the deployment of demonstration and commercial scale renewable technologies. This plan seeks to maximise appropriate opportunities for sustainable low carbon marine energy solutions as part of part of Welsh Government's positive planning framework for transitioning to a low carbon economy.
609. The Welsh Government is therefore strongly committed to unlocking the energy potential from Welsh waters and we continue to bring together expertise across government, industry and academia to focus on the delivery of marine energy projects in Welsh waters. We support the sustainable deployment of all types of marine renewable devices that can advance understanding and promote sector growth. The Welsh Government is also committed to the development of Wales as an exemplar of renewable energy technology, skills and knowledge in the marine renewable energy sector.
610. Wales is already a net exporter of electricity and the Welsh Government aims to further improve this status within a diversified supply by encouraging the deployment of devices to increase the amount of renewable energy generated from our marine environment. This plan identifies marine low-carbon energy technologies as a priority area for future growth in Wales and recognises that there are likely to be significant changes to the way that we use our marine area through their deployment.

611. We want to encourage people in Wales to take control of their own energy needs. Our vision is to see all communities and businesses using locally generated electricity and heat, from a range of renewable installations, including marine, to supply local demand and reduce dependence on central generation. In order to benefit from the transition to renewable energy, we are also committed to the development of Wales as an exemplar of renewable energy technology, skills and knowledge in the marine renewable energy sector.
612. Welsh Government supports sustainable growth in all marine energy sectors: wind, tidal stream, tidal range and wave. We want to increase the contribution to electricity generation from marine energy resources sustainably and as soon as possible to ensure that Wales can take advantage of global market opportunities. Different technologies are at different stages of maturity and will require different support; tidal and wave technologies are at an early stage of development and it may take time for these technologies to be deployed at scale.
613. Tidal lagoons represent a completely new type of activity of strategic significance that requires careful consideration. During the lifetime of this plan it is possible that there could be large-scale deployment of tidal lagoons around the Welsh coast, with Swansea Bay Tidal Lagoon (SBTL), should it secure the necessary consents and be progressed, potentially acting as a pathfinder project for the strategic and sustainable development of this new sector. UK government are considering if there is a strategic case for tidal lagoons as part of the UK energy mix and may set national policy relating to this sector.
614. Welsh Government is supportive in principle of tidal lagoon technology and will engage positively in non-devolved policy development and planning for the future development of tidal lagoons in Welsh waters. Because of the strategic importance of the tidal range resource around Wales, this plan includes in principle Welsh Government policy support for sustainable tidal lagoon projects and policy that safeguards the resource through the identification of a broad based SRA for future potential use as the industry develops. Welsh Government, however, recognises that the nature and scale of some marine renewable developments have the potential to have a significant adverse effect on the environment and which will be considered in decision making. Welsh Government does not encourage developments that do not comply with the Habitats Directive.
615. The SRAs identified for other sectors in this plan are not expected to constrain or present an obstacle to the development of tidal lagoon projects, where national policy dictates, given their strategic significance to achieving the UK's energy and climate goals.
616. Plan policies support the coexistence of activities where this is practical. Potential coexistence of aquaculture with offshore wind and tidal lagoons is encouraged and should be explored. There is an expectation upon each party to demonstrate that they have had a dialogue and have each attempted to work together to best mutual advantage.

617. Wind energy is a proven and strategically important energy technology and the costs of deployment are decreasing rapidly, making this a viable and attractive renewable energy option for the Welsh plan area. There is considerable scope for further large-scale offshore wind activity in Welsh seas given the extent of the potentially viable resource, the geography of the seabed, and developing technologies. Further sustainable offshore wind developments in the plan area are strongly encouraged including extensions to existing projects.
618. Meeting the sector objective includes developing the evidence on the potential impacts of and opportunities for the different technologies in this sector. The Offshore Renewable Joint Industry Project (ORJIP) Ocean Energy, a UK collaborative group with the aim of reducing consenting risks for wave, tidal stream and tidal range projects has produced a Forward Look document which identifies priority evidence gaps³⁹. This identifies the priority evidence gaps and information needs for the wave, tidal stream and tidal range sectors, to address key consenting issues. The evidence needs include that relating to specific receptors and impact pathways, as well as those relating to regulatory and consenting processes.
619. **The [Sector policy generic implementation guidance] applies.**
620. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.

³⁹ <http://www.orjip.org.uk/documents>

Supporting policies

ELC_01: Low carbon energy (supporting)

Proposals for all types of marine renewable energy generation (wind, tidal and wave energy) and associated infrastructure are strongly encouraged, especially:

- a) in corresponding wave, tidal stream and any other defined renewable energy technology test and demonstration zones; and
- b) in corresponding wave, tidal stream and tidal lagoon Strategic Resource Areas.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:

- a) renewable energy Strategic Resource Areas; and
- b) wider natural resources that provide renewable energy potential;

in order to support the sustainable growth of the renewable energy sector through marine planning.

In order to understand future opportunities for **offshore wind** development, proposals are encouraged that support strategic planning for the sector.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:

- collect evidence to support understanding of environmental constraints and opportunities
- support understanding of the optimal siting of offshore wind developments across Wales.

Relevant public authorities should make relevant evidence widely available to support planning and decision making.

Supporting policy implementation guidance

621. Policy **ELC_01** encourages the development of renewable energy activities within specific areas and seeks to ensure the area's potential for energy generation from renewable sources is achieved (in line with climate and energy targets), giving due regard to relevant environmental, social and cumulative impact considerations. The policy relates to all technologies where demonstration zones or SRAs have been identified (Figure 18 a). The processes to identify SRAs have taken account of the location of the broad resource area and which are viable to be developed during the term of the plan. Each SRA also considers potential interactions with other key users e.g. shipping SRA and Defence and other constraints.

622. An SRA for offshore wind has not been defined given the existing process for identifying areas which are both practically and economically viable. This does not mean that offshore wind developments are not wanted nor unlikely. Relevant public authorities and industry are encouraged to collaborate to better understand and identify future opportunities for new development working through the offshore energy SEA and with The Crown Estate. Given the extensive resource and policy need for an increase in renewable generation, there is very good opportunity in the plan area for new offshore wind developments and these are encouraged during the lifetime of this plan. Opportunities for both extending existing developments and bringing forward new sites is encouraged. An illustration of early stage modelled opportunity is given at Figure 18b and map of wind resource area at Figure 18c.
623. In practice, any additional renewable energy SRAs will be identified and refined through a combination of sector specific processes such as changes to economic viability, the ongoing UK Government Offshore Energy SEA, changing technology reducing constraints to development and revisions of this plan. **ELC_01** in combination with **GEN_02** and **SCI_01** are intended to support innovation and help to provide clarity to developers and investors on constraints and opportunities.
624. Marine renewable energy proposals have good potential to contribute strongly across a range of the economic and social objectives of this plan and the sustainable growth of the sector should be supported by:
- developing, locating and investing in marine renewable energy businesses and nearby communities;
 - training and employing people and businesses in the planning, construction, maintenance and supply of materials for equipment and infrastructure;
 - developing and utilising existing infrastructure (e.g. ports) for construction and maintenance;
 - supporting research and development to address evidence gaps and facilitate timely consenting of projects;
 - optimising the use of marine space through encouraging multiple activities that can coexist, e.g. a tidal lagoon proposal supporting a range of additional activities such as aquaculture or water-based recreation;
 - leading the development of a competitive marine energy sector in Wales by helping businesses, academia and the public sector work together;
 - benefitting from the experience and knowledge of institutions like Marine Energy Wales and the Low Carbon Research Institute (LCRI) to develop expertise and technologies;
 - providing focussed, proactive information and guidance on development opportunities; and
 - enabling training providers to provide a workforce with the skills needed to support the sector.
 - a consenting regime at Wales and UK level (according to the scale and location of development) that reflects an appropriate balance between sustainability and development.

625. The Welsh Government is working with The Crown Estate, NRW, industry and others to identify and lease testing and demonstration zones for wave and tidal energy to third party managers who are responsible for site preparation works and sub-letting sections of the demonstration zones to developers in order to enhance and further develop knowledge and understanding of risks, opportunities and capabilities. These demonstration zones and the SRA indicative allocation in this plan should be supported and facilitated through an adaptive, risk-based approach to decision-making. Proposals should consider opportunities to work collaboratively to promote and increase the attractiveness of the demonstration zones for development, for example by undertaking preparatory activity such as survey work, the installation of infrastructure or seeking pre-consent at the zone level. Relevant public authorities should encourage and support pro-active, strategic activity to enable the sector to develop.
626. Proposals for marine low carbon energy developments should clearly demonstrate how the proposal will support this plan's wider policies and, in particular, contribute to climate change targets, the Welsh economy and provide benefits for local coastal communities, whilst taking account of marine environmental impacts.
627. NRW should consider providing guidance and advice on the key natural resources and potential opportunities and constraints that relate to areas identified for future use (demonstration zones and SRAs) in order to support the identification of opportunities whilst ensuring the Sustainable Management of Natural Resources.
628. New tidal lagoon technology is presenting new opportunities to harness the tidal range and there are a number of lagoon proposals around the Welsh coastline. By their nature, tidal range projects cover large areas and have the potential to offer substantial local and national benefits. The Welsh Government encourages technologies that can exploit this energy resource in a sustainable way and to consider the outcome of the HRA of plan policies to help inform future applications for appropriate development. We believe this will benefit the long-term interests of business, communities and the environment. Although this policy relates only to the plan area, it will be important to consider the cross-border implications of such projects at such a scale that also fully considers any implications for planning and licensing in English waters.
629. The scale of any project may prove to be a major factor. A small-scale installation can have very localised effects, whereas projects at multiple locations require to take into account the duration and frequency of stressors over a larger geographic area in order to understand the effects upon ecosystem resilience.
630. A tidal lagoon RA has been developed (Figure 18d) based on a limited number of parameters (i.e. tidal range and water depth). A SRA has been established within this broader RA to which a general supporting policy is applied, and a stronger safeguarding policy. Further policy support may be expected to develop as we gain understanding of the environmental implications of lagoons (both individually and collectively) and how any adverse impacts upon the environment may be minimised or mitigated (including through the provision of adequate compensation arrangements). The plan level HRA aims to contribute to this understanding.

631. Given the scale and proximity of tidal lagoons to coastal communities, policy and planning should include careful consideration of how to ensure additional local benefits and long term legacies can be secured. Welsh Government would expect projects to contribute positively across Wales' well-being goals.
632. Early dialogue and collaboration between developers and other sea users/sectors should facilitate the development of schemes that provide multiple benefits, e.g. consideration should also be given to the opportunity presented by such schemes to provide positive coastal defence benefits, optimise the use of natural resources, minimise conflicts, e.g. for safe access to ports and make a positive net contribution to sustainable development, e.g. through aquaculture.
633. Notwithstanding the policy support for marine renewable energy set out in this plan, decisions on consents for individual projects should be based upon all relevant considerations (in addition to this plan) at the time of determination. Welsh Government anticipates that UK Government may choose to be mindful of the policy considerations set out in this plan when making consent and strategic plan decisions, in particular that the Welsh Government has identified a strategic and urgent need for substantial growth of the marine energy sector and electricity production in Wales.
634. The Welsh Government anticipates that marine renewable energy proposals should be supported that comply with the policies of this plan, in particular it's emphasis on low carbon energy proposals, and other relevant considerations.
635. Some adverse impacts are an inevitable consequence of large scale infrastructure development. The Welsh Government therefore expects that decision makers will take all relevant considerations into account when reaching any decision, which may require them to satisfy themselves that any adverse impacts have been appropriately addressed as part of project scoping and design and that opportunity for mitigation has been fully explored.
636. Some residual impacts are unavoidable. It is the responsibility of the proposer to identify such impacts and to set out the options considered for avoiding or mitigating them. In considering a proposal and weighing any potential adverse impacts against the benefits of such a proposal, decision makers may take into account:
- The above sector policies including the desire to increase low carbon electricity production within Wales further improving upon its net exporter status within a diversified supply.
 - Its potential benefits including its contribution to supporting the transition to a Welsh commercial scale marine energy sector and across Wales' well-being goals in the context of the other policies in this plan
 - Its potential adverse impact upon the environment or other users, including any significant long-term impacts upon the sustainability of natural resources and any measures to avoid, minimise or mitigate adverse impacts.
 - That there will be some inevitable uncertainties in project design and these should be accommodated where possible and that some flexibility may be required in the consent where-in there may be opportunities to manage risk

through an adaptive consenting processes such as deploy and monitor (if agreed appropriate for the site, technology, parameter(s) requiring monitoring and management measures to avoid significant negative effects).

637. The potential benefits and adverse effects of renewable energy developments will vary greatly, depending, for example, on the technology type and their size, structure and geographical location and the nature of other marine activities or environmental characteristics.
638. Given the scale and potential significance of the tidal lagoon sector, strategic, sector specific Government policy may be developed to guide the development of the sector.
639. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.
640. Where a project would sterilise a natural resource in another sector's SRA, e.g. aggregates, consideration should be given to sequential use of the area; optimising benefits from the aggregate resource before the opportunity for using the resource is lost.
641. **In preparing low carbon related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policies

642. All proposals (including new low carbon sector proposals) with the potential to impact upon existing, planned or future potential low carbon activities in SRAs should apply the following low carbon safeguarding policies.

ELC_02: Low carbon energy (safeguarding)

Proposals potentially affecting areas where a consent or authorisation for renewable energy generation has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed renewable energy activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

ELC_03: Low carbon energy (safeguarding)

Proposals potentially affecting areas where an exploration or option agreement has been offered or is in place for renewable energy generation, including for demonstration areas, should not be authorised unless compatibility with the intended activity can be satisfactorily demonstrated. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

ELC_04: Low carbon energy (safeguarding)

Proposals potentially affecting Strategic Resource Areas for renewable energy (including those within the UK Offshore Energy SEA process) should demonstrate how they, in order of preference:

- a) avoid adverse impacts on future potential renewable energy activities in those areas; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

Safeguarding policy implementation guidance

643. These safeguarding policies help manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the low carbon sector, including wind, wave, tidal lagoon infrastructure, inter-array and export cables, safety zones and any materials placed on the seabed associated with low carbon energy generation. They recognise that planning policy and decision-making for other sectors in the marine area need to be aligned with our vision for future marine energy objectives.
644. It is important that access to specific locations in relation to marine renewable energy resources which society may need to use in the future to support provision of low carbon energy generation is safeguarded.

645. Under policy **ELC_02** proposals that overlap with consented or authorised areas will need to demonstrate that they can safely coexist with the generation of low carbon energy unless, unusually, they would be making the case to proceed under exceptional circumstances. This helps to identify parties with interest in utilising / developing the same areas and facilitate a dialogue between them and the relevant public authorities at the earliest opportunity to identify constraints and opportunities for coexistence.
646. Exceptional circumstances may include circumstances where the economic or social benefit to be derived from the proposed activity significantly outweighs that which will be lost. Proposals seeking to be permitted on the basis of exceptional circumstances should present a clear, evidenced and convincing justification for proceeding. Specifically, in relation to the low carbon policies under this plan, the presented case will need to consider as a relevant consideration:
- UK Government's overarching National Policy Statements for Energy (EN-1) and Renewable Energy (EN-3) and any other relevant NPS or Government policy;
 - that this sector is a priority area of the Plan and that decision makers will be taking into account the extent to which the low carbon sector objectives are being met or may be compromised by a proposal;
 - National Development Framework (NDF) for Wales that, once adopted, will replace the current Wales Spatial Plan
647. Policies **ELC_02** and **ELC_03** relate to areas either considered by the OESEA and / or identified in this Plan as appropriate for renewable energy exploration and production including energy demonstration zones and test sites which BEIS, TCE, NRW and WG have identified as strategically important but for which no licence or permit for exclusive use of the area may yet have been issued.
648. Areas where exploration or option agreements are in place or in areas offered for lease, include those for:
- marine renewable energy projects in the wave and tidal stream test and demonstration zones;
 - commercial scale tidal stream or wave energy projects in SRA s;
 - commercial scale wind farms or tidal range planned activity; and
 - infrastructure associated with any of the above
649. **ELC_04** relates to areas that contain suitable resource for renewable energy exploration and production (see Figures 18 a) and c)), including those considered by the OESEA but for which no formal licensing or leasing round has been initiated.
650. Proposals for consents in or affecting low carbon energy areas (exploration & option areas, demonstration zones or SRAs) will need to demonstrate that they can either safely coexist with the generation of renewable energy or if they cannot, make a clear and convincing justification for proceeding (where (a-c) are not possible).

651. Safeguarding policy **ELC_04** also addresses potential adverse impacts of other sector activities on potential future tidal lagoon activities and aims to ensure that the resource is protected for future potential sustainable use.
652. Proposals for consents in or affecting renewable energy SRAs will need to demonstrate that they can either safely coexist with the sector or, if they cannot, make a clear and convincing justification for proceeding (where (a-c) are not possible). Circumstances under which (a) adverse impacts may be avoided; include presenting evidence to show that the area of interest is unsuitable for tidal lagoons. Circumstances under which (b) might be satisfied could include moving the proposal to a less favourable area for tidal lagoons (based on best available evidence), or proposing coexistence.

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Figure 18(a) Tidal Stream and wave (SRA)

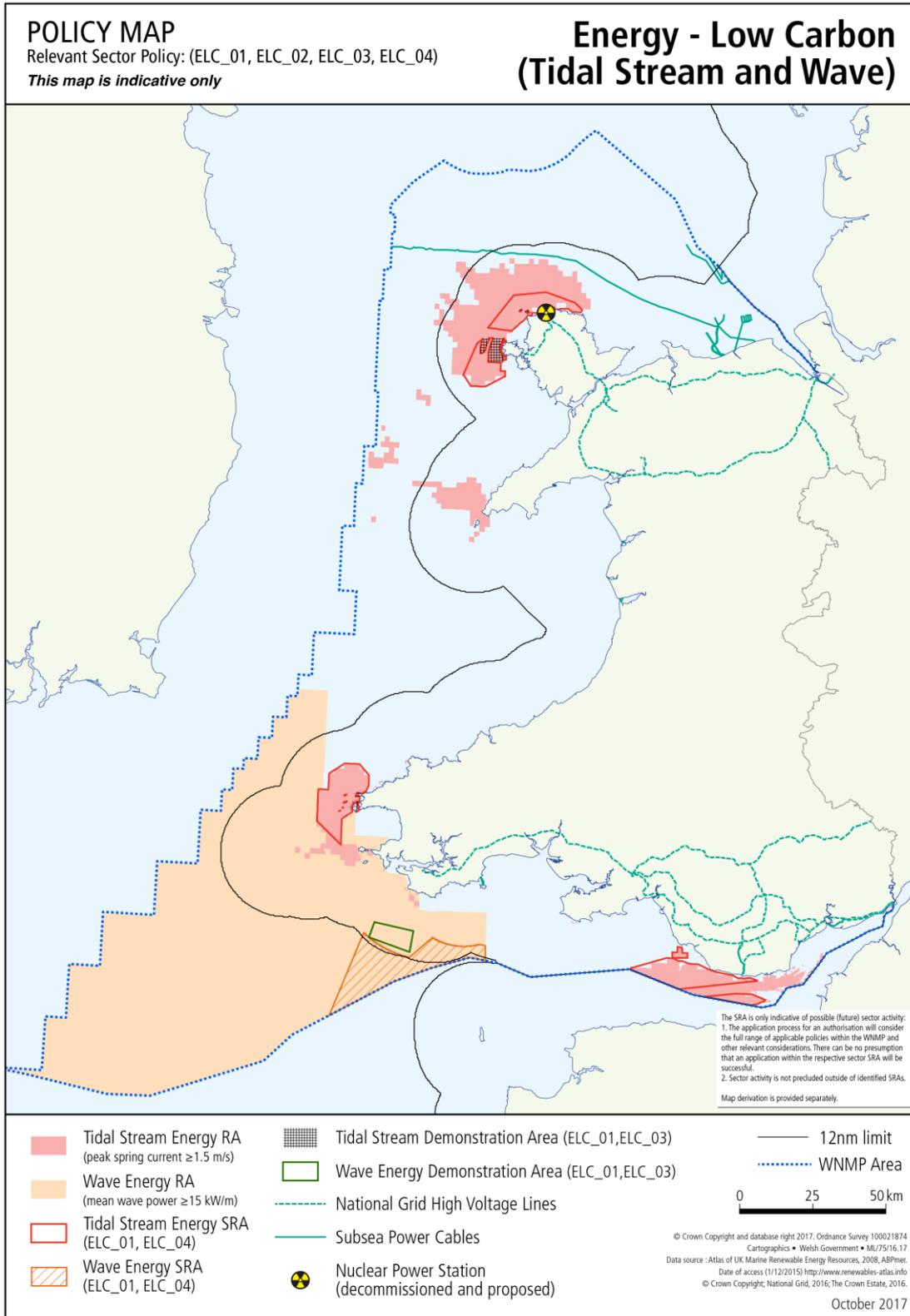


Figure 18(b): Early stage wind resource area assessment for wind farm (foundation) type.

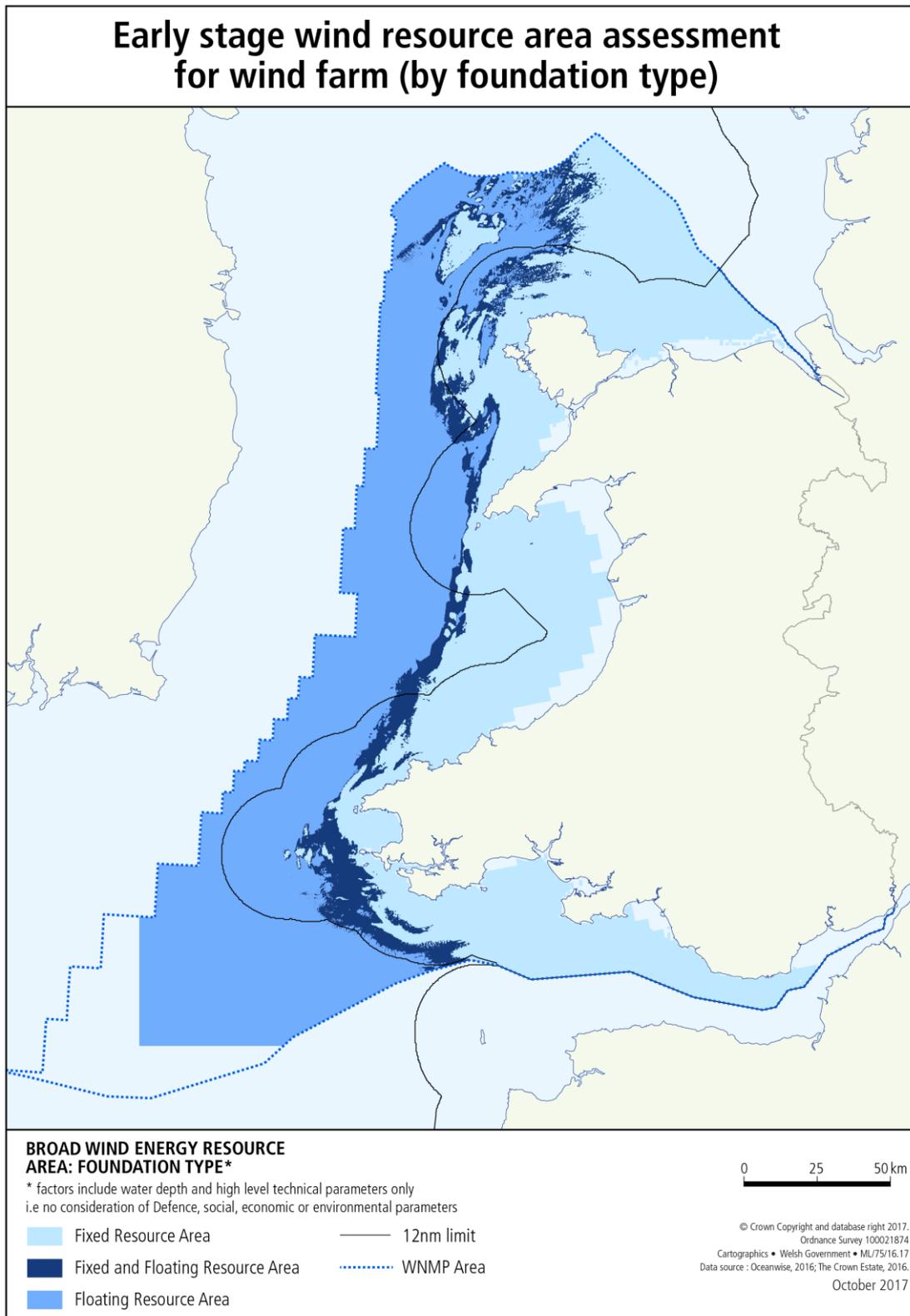


Figure 18(c): Policy map - Wind power and wind farm sites

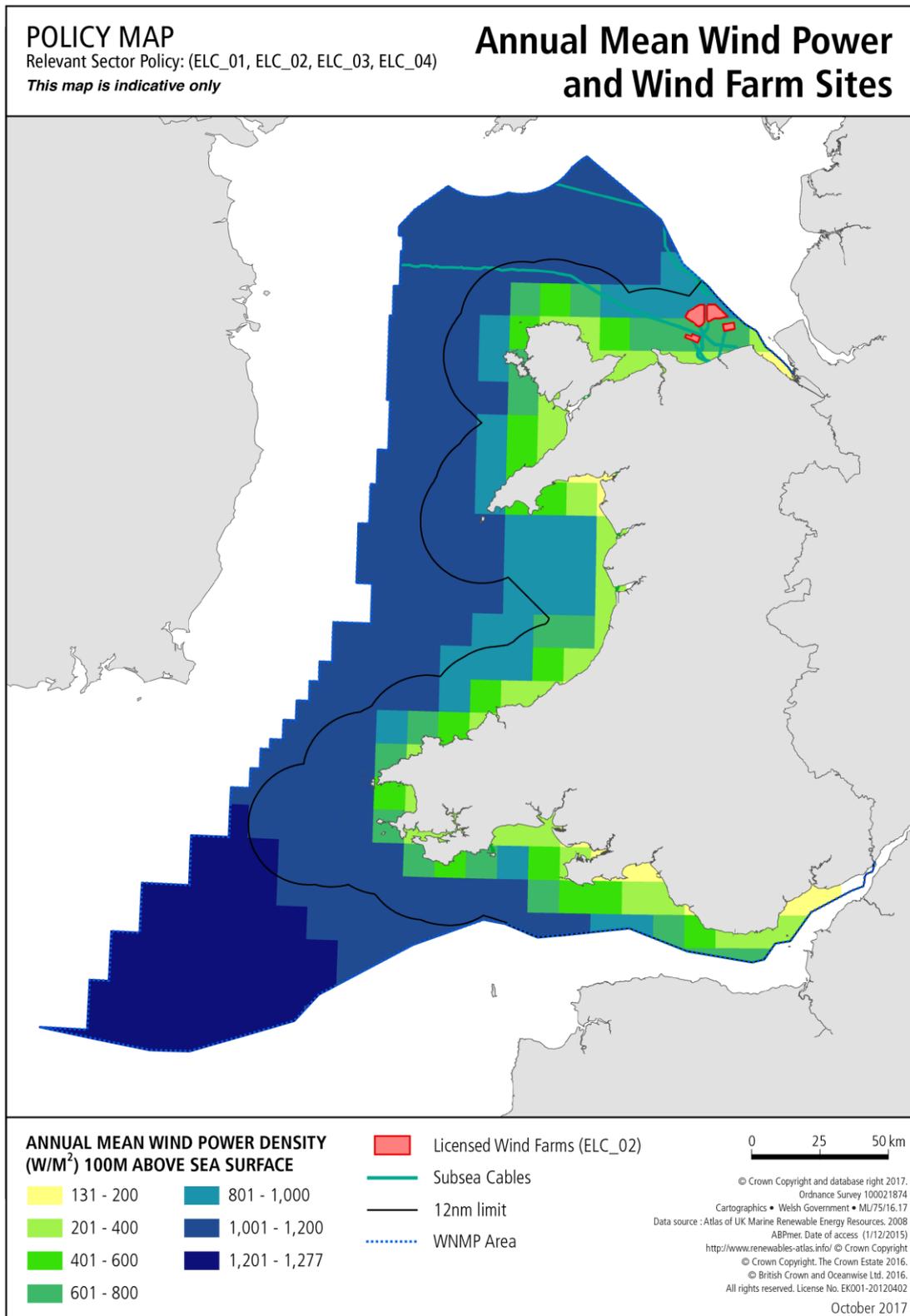
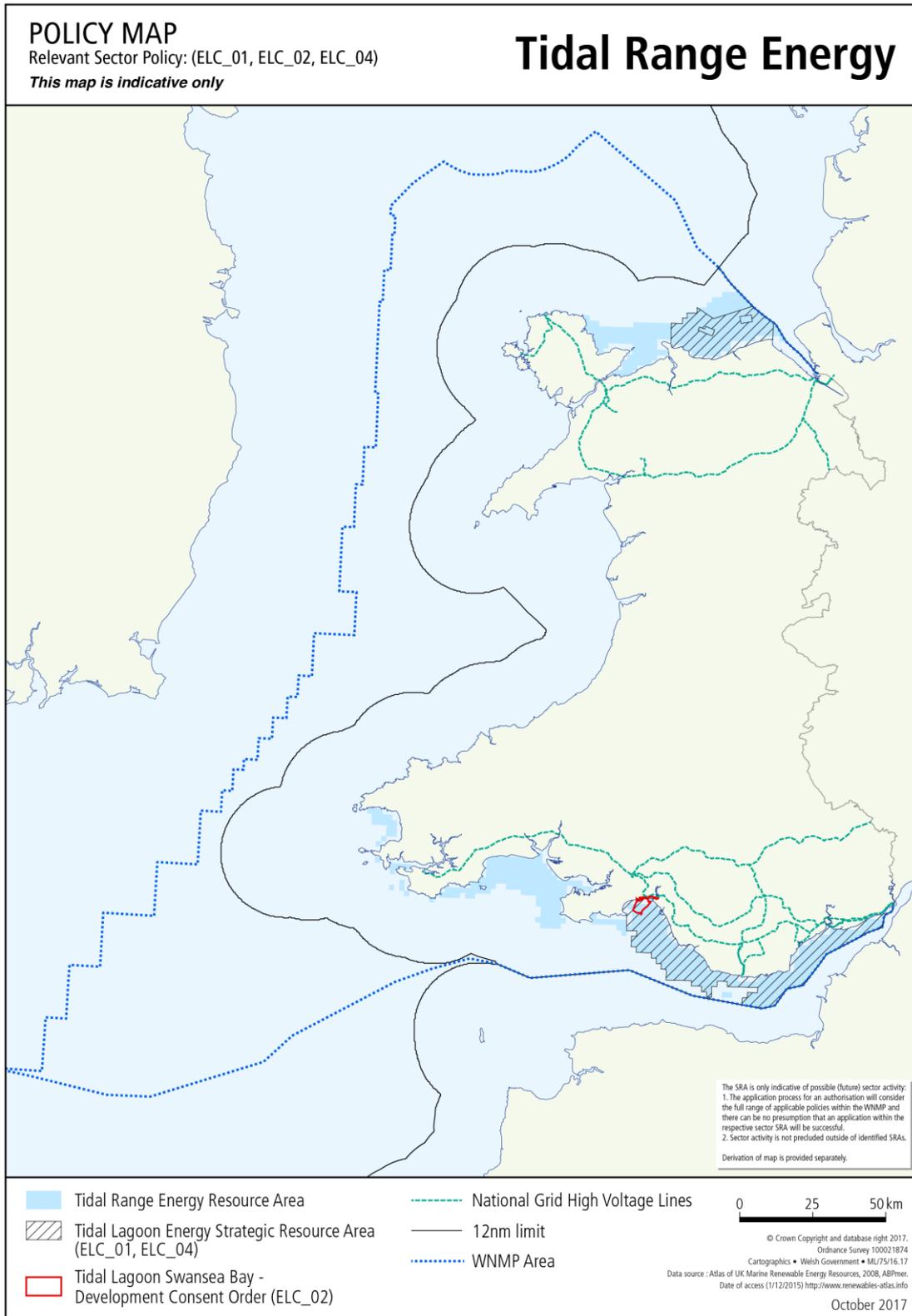


Figure 18(d): Policy map – Tidal range SRA



Energy – Oil and gas (including gas unloading and storage and carbon dioxide capture and storage)

Introduction

653. Oil and gas energy includes the exploration, development and production of oil and gas resources. Exploration is the search for oil and gas resources using a variety of technologies including seismic surveying, reprocessing of existing seismic data, and the drilling and testing of wells to identify and prove commercially viable resources. Production is the extraction of these resources from an identified oil or gas field using fixed production platforms, floating production and storage vessels (FPSOs) or subsea infrastructure tied back to existing installations or directly to shore, with products exported through pipelines or using vessels.
654. Welsh Government is committed to moving to a low carbon energy system but acknowledges that this will be a gradual transition. Meanwhile, fossil fuel resources (including oil and gas) and exploring options for the capture and storage of waste carbon dioxide in geological formations will continue to play an important role in the energy mix. When managed prudently, oil and gas investments and the vast revenues they generate can support achievement of sustainable development goals and contribute significantly to the well-being of current and future generations as we move to decarbonise our economy. Key considerations in our continued reliance on fossil fuels include climate change, energy security, cost of energy to businesses and consumers and environmental impact.
655. Offshore oil and gas from the UK continental shelf in 2008 satisfied about two thirds of primary energy demand (91% of oil demand and 73% of gas demand)⁴⁰. Oil and gas development is also an important source of employment, supplies valuable chemicals for the manufacturing of goods and is a significant contributor to tax revenue.
656. There is currently limited conventional oil and gas exploration or production taking place within Welsh waters. The UK Government's 28th Oil and Gas Licence Round included licensed blocks in the Welsh Marine Planning Regions Wales but the most recent (29th Round) did not include any blocks in Welsh waters. Many of the blocks in Cardigan Bay have restrictions placed upon their licensing because they either lie within MOD training ranges and / or danger areas and they are currently excluded from licensing due to environmental sensitivities

⁴⁰ <http://oilandgasuk.co.uk/wp-content/uploads/2015/05/EC006.pdf>

657. Supporting onshore facilities include:
- the Point of Ayr Gas Terminal which processes gas exported from the Liverpool Bay gas fields via a subsea and land pipeline to the combined cycle gas turbine (CCGT) power station at Connah's Quay;
 - two Liquefied Natural Gas (LNG) terminals and several oil refineries at Milford Haven which play a strategically important role in the UK's energy sector. Liquid natural gas is imported by vessel to Milford Haven port and represents an important economic activity and contributor to electricity generation; and
 - conventional power stations in coastal locations: Aberthaw (CCGT⁴¹ – 1555 MW); Pembroke (CCGT – 2000 MW); Uskmouth (coal-fired – 240 MW); Connah's Quay (CCGT – 1420 MW); Deeside (CCGT – 500 MW) and the proposed Abernedd (CCGT).
 - The south side of the Bristol Channel has an active power station at Hinkley B (nuclear), with Oldbury and Berkley under decommissioning. A new nuclear build is underway at Hinkley C, and a CCGT plant scheduled for construction at Avonmouth - Seabank3.
658. Whilst oil and gas exploration in Wales has been limited to date, gas is the dominant source for electricity generation responsible for almost 50% of all electricity generated in Wales. Coal and nuclear have gradually decreased as generating plants are decommissioned (e.g. Trawsfynydd) although there are plans to replace the nuclear plant at Wylfa A with Wylfa Newydd. Gas is a flexible, reliable, responsive energy source with lower emissions than other fossil fuels and will have a key role in the transition to a low carbon energy system.

⁴¹ Combined Cycle Gas Turbine (CCGT) – combines a gas-fired turbine with a steam turbine

Economic contribution of oil and gas

Gross Value Added in the Marine Sector in Wales, £ million⁴²

	2010	2011	2012	2013	2014
Oil and Gas	457	642	748	702	173

Enterprises in the Marine Sector in Wales⁴³

	2010	2011	2012	2013	2014	2015
Oil and Gas	20	15	15	15	10	15

Employee jobs in the marine sector in Wales⁴⁴

	2010	2011	2012	2013	2014
Oil and Gas	1,300	1,000	300	1,300	800

During 2013 about 59 million tonnes of freight traffic passed through Welsh ports comprising 12 per cent of the total UK port traffic. The majority (about 71 per cent) was liquefied bulk (mainly liquid oil products, crude oil and liquefied gas).

Current and potential future interactions with other sectors

659. Future oil and gas activity has the potential to require access to the same area of seabed or sea surface as other activities. Interactions with other sea users will vary depending on the technology, location and intensity of use of other marine activities. In most cases, the consequence of this will be minor due to the current offshore location of oil and gas interests, the small footprint of oil and gas exploration and production infrastructure and the limited duration of any exploration activities, e.g. regional or site-specific seismic surveys and drilling operations. Other activities may therefore continue in proximity outside of a safety buffer zone.
660. Initial exploration for oil and gas is generally undertaken by seismic survey vessels but this exploration usually has limited interaction with other sea users although activities in near shore waters can significantly interfere with fishing operations and liaison is essential.

⁴² Welsh Government analysis of Annual Business Survey, Regional Accounts (Office for National Statistics)

⁴³ Welsh Government analysis of Inter-Departmental Business Survey (Office for National Statistics)

⁴⁴ Welsh Government analysis of Business Register and Employment Survey (Office for National Statistics)

661. The seabed area covered by a speculative seismic survey or a seaward production licence will be fairly large to provide a reasonable chance of locating reserves. However, the reserves are likely to be confined to a much smaller area, so the footprint of any drilling or production infrastructure is comparatively small and may have only a limited impact on other sea users.
662. Future oil and gas activity nevertheless has the potential to require access to the same area of seabed as other activities. Owing to its national strategic importance and relatively small footprint, few other industries will impact upon the oil and gas sector. During the licensing and consenting stages the impacts of the oil and gas sector on other users (and *vice versa*) will be considered and taken into account in the application processes. In the majority of cases they will consider the needs of other users and balance these against the imperative to maximise the economic recovery of oil and gas resources.
663. MOD activity may act as a particular constraint on the industry, in:
- MOD training ranges (for which the Oil and Gas Authority (OGA) may attach special conditions to licences which, in part or whole, overlap); and
 - MOD danger Areas protected by byelaw giving the MOD rights in relation to denying the presence and activities of persons and vessels, including oil and gas installations. Whilst the MOD will work with oil and gas companies to enable exploration and development to proceed where it is able to accommodate those activities, it cannot be assumed that the MOD will necessarily agree to operations or the presence of facilities at any given location, within such an area, or at any given time.
664. Extensive areas of inshore waters adjacent to Wales lie within MOD designated areas (see Figure 16). The presence of MOD areas and environmental sensitivities has had a large influence on the number of blocks offered to date for oil and gas development e.g. in Cardigan Bay certain blocks have been excluded from licensing due to environmental sensitivities and other blocks have MOD restriction imposed as licence conditions⁴⁵).
665. In recognition of the nature of oil and gas extraction process (large exploration areas but with limited impact on other users, followed by drilling and production in comparatively small areas with the need to offer high level of protection to associated infrastructure), the sector has only limited impact upon other sea users. In most cases, the consequence of any interaction will be minor due to the small footprint of oil and gas production infrastructure. However, in some cases this may not be the case, such as where another user of the sea bed has a lease in place e.g. for a wind farm. Where a lease has been agreed for a co-located

⁴⁵ <https://ogauthority.maps.arcgis.com/apps/webappviewer/index.html?id=adbe5a796f5c41c68fc762ea137a682e>

activity there may be a requirement for negotiation between parties involved (see UK Government Guidance, 2014⁴⁶).

666. As part of the project application process Oil and Gas Authority (OGA) and Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) will ensure that developers consult with other sea users to consider their interactions and seek to avoid, minimise or mitigate their effects. As a consequence, surface oil & gas infrastructure will normally be located outside of established shipping and MOD areas and relevant bodies will be advised of seabed infrastructure. The consent to locate process regulated by OPRED identifies the existence of hazards caused by the infrastructure and, through the UKHO, MCA and Seafish updates are made to navigation and fishing charts.

Ecosystem interactions

667. Oil and gas production may result in a range of potential environmental pressures, the impact of which upon ecosystem resilience depends on the location, longevity, intensity and timing of activities. These include noise generated during exploration (e.g. seismic surveys), production (e.g. drilling) and decommissioning activities; (although there is no evidence that normal production and decommissioning noise has an adverse effect), localised chemical or oil contamination of water and sediments and habitat modification caused by the introduction of fixed infrastructure.
668. The offshore environmental protection regime covers oil and gas development throughout its life cycle, from the initial licence application to the final decommissioning of facilities. All activities that could potentially impact on the environment are subject to careful assessment, and activities are controlled through issue of permits, consents or other authorisations. Environmental considerations (particularly related to species protection measures for birds and cetaceans) may result in constraints being applied for particular activities such as seismic work or drilling, at certain times of the year when species are most vulnerable. There is also a robust inspection and enforcement regime in place to confirm compliance with the conditions included in the environmental approvals.

Future

669. The Environment (Wales) Act 2016 sets a legal target of reducing emissions by a minimum of 80% by 2050 and places a duty on the Welsh Ministers to set a series of carbon budgets and interim targets (for 2020, 2030 and 2040), which will inevitably have implications for the future development of the sector. Whilst gas is important in a low carbon transition, it is unlikely to be a long-term basis for the energy economy of Wales without measures to mitigate the environmental effects,

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318704/Crown_Estate_Lease_Independent_Valuer_Guidance.pdf

such as carbon capture and storage (CCS). Opportunities for the wider use of carbon capture and storage (CCS) are currently low because of the geology of Wales and the fact that there are currently no suitable depleted oil and gas reservoirs. Should a development opportunity arise during the term of this plan, it is likely to be in North Wales, associated with the potential use of the Liverpool Bay gas reservoirs. Aberthaw power station is operating a multi-million pound pilot CCS facility on land, and further efforts to develop the CCS industry in Wales are being investigated by several institutions. No proposal for CCS currently exist in Wales but next-generation capture using “carbon water exchange” technology developed by Future Environmental Technologies (FET), is to be tested on a Combined Heat and Power unit at the Solutia manufacturing plant in Newport.

670. Welsh Government takes a precautionary approach to unconventional gas (e.g. shale gas) and considers there is a need to carefully consider all the issues, including economic, environmental and social impacts associated with its development. At present, efforts relating to the exploration and potential development of shale gas reserves are being concentrated onshore, however this exploitation may become viable offshore if the relevant geology and economic drivers indicate potential.

Climate change

671. Climate change impacts are likely to include extreme storms and waves which may adversely affect a wide range of marine structures (e.g. oil and gas platforms, and connecting infrastructure) and safe working at sea from ships (including exploration activity). This may affect decisions on whether to establish fixed structures or alternatively use Floating Production Storage Offloading (FPSO) stations although water depth and development lifespan are more important considerations.
672. Welsh Government recognises the need to a move away from fossil fuel based energy consumption towards investment in renewable energy and increased energy efficiency to meet emissions targets and tackle climate change.

Key evidence needs

673. Further exploration is required to identify whether gas from indigenous sources might contribute to the future energy mix and benefit the people of Wales. The Welsh Government supports the UK Offshore Energy Strategic Environmental Assessment (OESEA) the evidence from which informs decision-making on environmental protection and sustainable development for oil and gas licensing and other offshore energy developments, including renewable sources and gas and carbon dioxide storage.

Governance

674. Management of oil & gas exploration and extraction is largely reserved and licensing and environmental regulations are administered by the Oil and Gas Authority (OGA) and the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) respectively with overall UK energy policy the responsibility of the Department for Business, Energy and Industrial Strategy (BEIS).
675. Key decision making and advisory authorities in relation to the Welsh marine planning regions include: the Oil and Gas Authority (OGA), a Government Company; the Department for Business, Energy and Industrial Strategy itself (BEIS); the Health & Safety Executive (HSE); TCE, Welsh Government and NRW and JNCC.
676. Whilst oil and gas energy policy for Wales is largely the responsibility of the UK Government, it is vital for all the enabling policy areas that are Welsh Government's responsibility to work together in order to make the most of the opportunity to deliver Welsh Government's energy ambitions. The Welsh Government believes that it is best placed to align Wales' energy aspirations with the needs of our communities and our natural environment. We will therefore continue to seek full powers over energy consenting (with the exception of Nuclear) and seek the necessary levers that will enable us to provide incentives for the right technologies for Wales.
677. The OGA issues Seaward Exploration Licences which grant rights to explore only (not produce) and are non-exclusive, covering all acreage outside those areas covered by any production licences in force at the time. Exploration Licences allow seismic contractors to gather data to sell rather than to exploit geological resources themselves, and to allow the holders of production licences to undertake exploration outside the areas where they hold exclusive rights.
678. Seaward production licences are awarded by the OGA during regular Offshore Oil & Gas licencing rounds (the latest being the 29th round) to a company (or group of companies). The OGA may also run Supplementary Licensing Rounds and individual out of round applications are also possible. It gives the licensee exclusive rights to explore for, drill for, and produce native oil and gas within a specified area. Licensees seek to be assured of this exclusive right before they make the necessary investments to search for and potentially develop oil and gas fields.
679. The award of the production licence requires the operator to undertake the work programme specified in the application, which may include drilling well(s) to determine hydrocarbon potential. If economic reserves are located, a field development plan must be submitted to the OGA for approval and a Production Consent obtained. The environmental submissions to support this process are submitted to and determined by OPRED.

680. Strategic Environmental Assessment (SEA) is the process of appraisal through which environmental protection and sustainable development is considered and factored into decisions regarding Government (and other) plans and programmes, such as oil and gas licensing rounds and other offshore energy developments, including renewables and gas and carbon dioxide storage. The UK Government has undertaken a series of offshore energy SEAs to support licensing and leasing rounds (including all offshore oil and gas licensing rounds since the 19th Round in 2001 to the latest 29th Round in 2016). The SEA process aims to help inform Ministerial decisions through consideration of the environmental implications of the outcome of a proposed plan/programme. This plan will inform future offshore energy SEAs which will also inform future iterations of this plan.
681. The statutory process of applying for a development and production consent or requires an Environmental Impact Assessment to be undertaken, including a Cumulative impact assessment. Applications might also require an assessment under the Habitats Directive when in or potentially affecting any European Marine Site. Subsequent environmental etc. permitting are activity specific⁴⁷
682. As part of the project application process, the OGA and OPRED will ensure that developers (i.e. oil & gas operators) consult with other sea users to consider their interactions and seek to avoid, minimise or mitigate their effects. Consultations are site and activity specific but may include Welsh Government, NRW and those sector representatives who operate in the area of the proposed activity or development. In Wales, most of the oil and gas developments to date have occurred further offshore where the number of users is relatively low and sector interactions are easily managed. Cross border liaison takes place with other government departments as part of the application process such as with England (North Wales / England boundary) IoM, N Ireland and Eire.
683. Carbon Capture and Storage (CCS) is a three-step process which includes: capturing carbon dioxide from power plants and other industrial sources; transporting it, usually via pipelines (although shipping is a possibility), to storage points; and storing it safely in offshore geological sites such as saline formations or depleted oil and gas fields. CCS is not yet a commercially proven technology where the OGA and BEIS are responsible for the framework of licensing, consenting and environmental protection measures

⁴⁷ Further information on environmental regulations and guidance is available at:

<https://www.gov.uk/guidance/oil-and-gas-offshore-environmental-legislation>

Sector objective

Optimising the economic development and recovery of UK oil and gas resource in order to provide Welsh and wider UK businesses and consumers with a secure and resilient supply of fossil fuels.



Oil and gas sector policy and implementation guidance

684. Oil and gas sector policy applies to both the inshore and offshore regions of the plan area.
685. Although indigenous production is now in long-term decline, oil and gas are expected to remain of central importance as the country moves towards a low carbon economy. Obtaining the UK's hydrocarbon supplies from indigenous sources minimises dependence upon foreign imports and thus enhances our security of energy supply. The MPS states that maximising the economic development and recovery of oil and gas resource sustainably is a priority in the United Kingdom's energy supply and energy security strategies'. It will be necessary to explore new areas for discoveries and allow access for the objective of maximum economic recovery to be achieved. This plan incorporates the National priority objective. It reflects the fact that exploration activities need not be a permanent barrier to other users of the sea, and even when hydrocarbons are found, the exclusion footprint of any drilling or offshore production facilities required can be relatively small.
686. The Welsh Government's aim is to secure an appropriate mix of energy provision for Wales which maximises benefits to our economy and communities, whilst minimising potential environmental impacts. This forms part of the Welsh Government's aim to pursue sustainable development policies that underpin growth and prosperity in Wales recognising the importance of reliable and affordable energy and the sustainable management of natural resources. In the long-term, sustainable development depends on the availability of energy in increasing quantities from sources that are dependable, safe, and environmentally sound. For this reason, Welsh Government is committed to reducing our reliance on non-renewable energy sources and moving to a low-carbon energy system.
687. However, given the challenges of energy security, continued reliance on oil and gas is essential in this transition. Nevertheless, opportunities to reduce carbon emissions from the use of oil and gas are being sought. Carbon capture and storage, if successfully commercialised and supported by the appropriate regulatory framework, will be a vital component of our medium to long term energy future. It can provide a solution consistent with current demands, whilst giving the time needed to develop alternative renewable approaches.

688. Where it is necessary to use non-renewable resources such as gas, they should be used as efficiently as possible. The MER UK strategy⁴⁸ is a policy designed to maximise the economic recovery (MER) of UK reserves and sets out a range of obligations for developers and regulators covering all aspects of exploration and development to ensure that the maximum value of the resource is recovered. Overarching National Policy Statements for Energy are also relevant to plan activities, and provide planning policy in relation to nationally significant energy infrastructure projects (NSIPs).
689. This plan reiterates national policy and therefore does not introduce any new burdens upon the industry.
690. **The [Sector policy generic implementation guidance] applies.**
691. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/509000/MER_UK_Strategy_FIN_AL.pdf

Supporting policies

O&G_01: Oil and gas (supporting)

Proposals that maximise the long-term supply of oil and gas are encouraged, provided they fully meet the environmental safeguards contained within the statutory processes of awarding production licences and subsequent activity-specific approvals.

O&G_02: Oil and gas (supporting)

Proposals that support the long-term development of carbon capture and storage technology are encouraged.

Supporting policy implementation guidance

692. **O&G_01** This policy recognises the continued role of fossil fuels during the lifetime of this plan in the transition to a low carbon energy mix and ensures that supplies of non-renewable energy resources are used as efficiently as possible. The policy encourages the development of oil and gas activities within waters adjacent to Wales.
693. The UK Offshore Energy SEA process covers areas (blocks) for which production licences may be applied for and this policy supports appropriate development of oil and gas production of these areas. The OESEA has assessed the environmental implications of the proposed plan/programme e.g. licensing of certain blocks and the potential activities which could result in order to inform licensing and leasing decisions. However the OESEA does not identify where the relevant resources are located. Accordingly the policy in this plan does not relate to any particular Resource Area or Strategic Resource Area.
694. **O&G_02** This policy is intended to safeguard energy supply in line with Welsh Government / UK energy policy and the sector objectives whilst minimising carbon emissions. Carbon capture and storage (CCS) is the process of capturing waste carbon dioxide (CO₂) from large point sources, such as fossil fuel power plants, transporting it to a storage site, and depositing it where it will not enter the atmosphere, in an underground geological formation. The Energy Act 2008 provides for a licensing regime that governs the offshore storage of carbon dioxide. The OGA oversees the licensing of carbon storage and the carbon storage public register, BEIS oversees the policy and supports the development of CCS in the UK and OPRED assesses and determines the environmental applications associated with CCS

695. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.
696. **In preparing oil and gas related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policies

697. All proposals (including new oil and gas sector proposals) with the potential to impact upon existing, planned or future potential oil and gas activities should apply the following oil and gas safeguarding policies

O&G_03: Oil and gas (safeguarding)

Proposals in areas where approval for oil and gas infrastructure has been granted or formally applied for should only be authorised where compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

In exceptional circumstances, if adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

O&G_04: Oil and gas (safeguarding)

Proposals potentially affecting future potential activity in areas (blocks) offered for oil and gas licensing should avoid sterilisation of that area for future oil and gas extraction and demonstrate how they, in order of preference:

- a) avoid potential adverse impacts on those activities; and/or
- b) minimise potential impacts where they cannot be avoided; and/or
- c) mitigate potential impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

Safeguarding policy implementation guidance

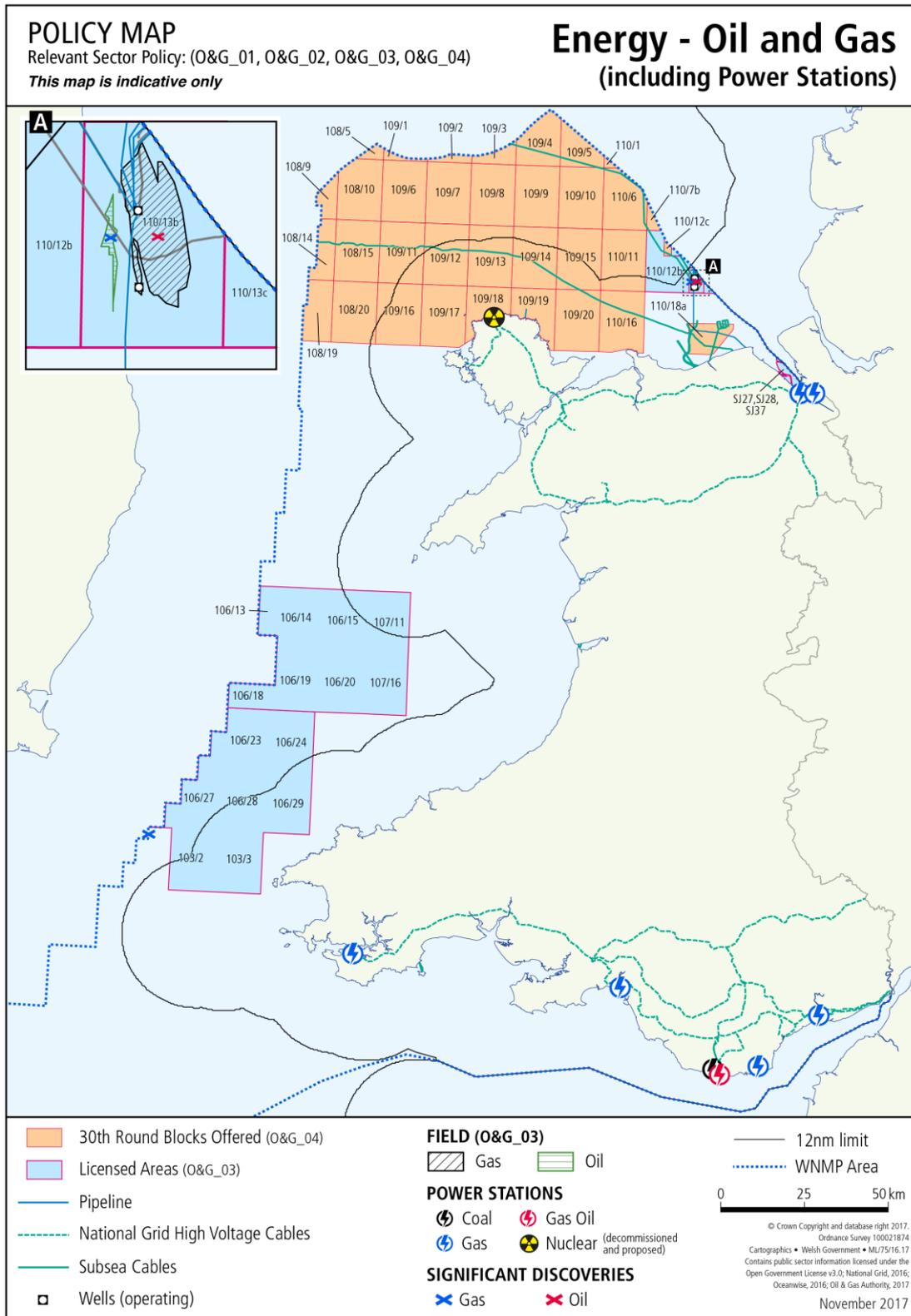
698. These safeguarding policies help manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the oil and gas sector.
699. Oil and gas safeguarding policies operate at two levels; a very general policy relating to blocks offered for licensing, i.e. not precluded by the SEA process (**O&G_04**) and a stronger level of safeguarding relating more specifically to where oil and gas production and development consents have been approved (or applied for), including any associated activity specific approvals (**O&G_03**).
700. Under policy **O&G_03** proposals that overlap with areas where licenses have been awarded or where oil and gas developments have been approved or applied for will need to demonstrate that they can safely coexist with the exploration or production of oil and gas unless, unusually, they would be making the case to proceed under exceptional circumstances [see **Introduction to sector chapters**]. This policy helps to identify parties with interest in utilising / developing the same areas and facilitate a dialogue between them and the relevant public authorities at the earliest opportunity to identify constraints and opportunities for coexistence.
701. Policy **O&G_03** applies to the area of extant or proposed infrastructure including well heads, manifolds, terminals and platforms, pipelines (including export routes), cables, safety zones and any materials placed on the seabed. It will include any area of exclusion within a 500m radius around fixed installations as defined by legislation and a precautionary area with 250m radius around pipelines and manifolds.
702. The term “granted or formally applied for” will take effect when the OGA have received an application or agreed with the developer either a defined area for exploration drilling or a field development plan which defines the development including where the infrastructure may sit.
703. Any proposal will need to take into account that the decision makers will be considering the importance of the area in meeting the oil and gas sector objectives and the extent to which that requirement may be adversely impacted if the application is accepted.
704. Proposals seeking to be permitted on the basis of exceptional circumstances should present a clear, evidenced and convincing justification for proceeding, considering for example:
- The strategic significance of the proposal to achieving government policy in line with any overarching UK Government NPS and whether the proposal is a development of national significance under the Planning Act 2015/16 (consideration may also include smaller proposals depending on the nature of the existing use).
 - Whether the supported sector is a priority growth sector in this plan and that decision makers will be taking into account the extent to which the sector and

plan strategic objectives are being met or may be adversely impacted if the application be accepted.

705. The decision maker shall refer to the MPS and to any guidance or Written Ministerial statement that may from time to time be issued and whether any compensatory agreement has in principle been reached between respective sector interests.
706. **O&G_04** Proposals within blocks offered or awarded by OGA for seaward production licences will need to demonstrate that they can safely coexist with the extraction of oil and gas⁴⁹.
707. The term “proposals in or potentially affecting future potential activity in areas (blocks) offered for oil and gas licensing” will take effect when the OGA have opened a licencing round, a supplementary licence round (and applications are in the process of being applied for) or an out of round application has been submitted. The OESEA process considers broad-scale environmental implications of exploration and production activities within prospective areas and can also identify areas that are unsuitable for development. Any, new proposal should therefore consider the content of the relevant OESEA for the area for any information and recommendations that could be related to their proposed activities.
708. No specific Resource Areas have been identified under this policy in view of the impracticality of defining the extent of underground oil and gas reservoirs and the best location(s) for drilling.
709. Any new proposals under **O&G_04** will need to demonstrate that they can either coexist with the exploration and production of oil and gas or, if they cannot, they must make a clear and convincing justification for proceeding (where (a-c) are not possible). This policy is designed prevent the sterilisation of areas that are prospective for oil & gas and ensure that any new proposals within such areas are compatible with the oil and gas sector.
710. Any case made to proceed at that location would be made to the relevant decision-maker to consider in dialogue with OGA / OPRED before it issues any development consent.

⁴⁹ <https://www.ogauthority.co.uk/licensing-consents/licensing-rounds/>

Figure 19: policy map – Oil and gas (including power stations)



Fisheries

Introduction

711. The Welsh commercial sea fishing sector is a diverse industry active across the inshore and offshore plan regions with most activities occurring within 6nm of the coast. The sea-going fleet comprises a range of different types, sizes and nationalities of vessel and associated businesses that use a range of fishing methods reflecting the diversity of available species and markets. The focus for most vessels is on non-quota species, principally crustacean shellfish (e.g. lobster, crab species), molluscan shellfish (e.g. scallops, whelks) but also a range of finfish, notably sea bass, plaice, sole and rays. The most common fishing methods are hand gathering, rod and line angling (including for salmon and sea trout), long-lining, dredging, netting (fixed and drift), potting/ trapping (lobster, crab, whelk and prawn) and trawling (beam or otter). A thriving recreational sea angling sector also exists in Wales [see **Tourism & Recreation**].
712. The commercial sea fishing sector also relates to the handling of catch, e.g. distribution, processing and sale; boat building and maintenance; and manufacturing and maintenance or repair of fishing gear. The fishing sector is a key contributor to rural coastal communities where employment opportunities can be limited. The economic and social value of the sector goes beyond the first sale value of fish and fishery products or the wider service sector i.e. supplies and provisions, fuel, chandlery and port fees. It also has cultural and heritage linkages and in so doing often adds to a coastal location's identity. Fish and shellfish are an important source of protein; their availability can therefore contribute to a healthier Wales and to food security.
713. A particular characteristic of the Welsh fishing sector is that it comprises mainly small businesses operating from the shore or from small (<10m) vessels in dispersed coastal locations. Small vessel and fixed location operations are particularly constrained and therefore vulnerable to disruption and possible displacement a range of factors. In particular, consideration must be given to the often cumulative or interacting effects of:
- Weather (windows of opportunity can be small, requiring that operators work with maximum flexibility);
 - Strong tidal flows (at certain locations and on each spring tide period twice a month);
 - Other sector activities either through their direct operations or their fixed infrastructure;
 - MOD firing range restriction areas, which are extensive in Wales;
 - Marine Protected Areas (e.g. set for nature conservation imperatives);
 - Fishery management restrictions (e.g. area or temporal closures / restrictions to aid stock management or recovery);
 - Other competing fishing activities such as the presence of static gear (pots or nets) which prevents the operation of mobile gear (trawls or dredges).

714. The aim of fishery management is to provide for sustainable fishing activity, that is, to align fishery exploitation activity to the capacity of the natural environment to replenish itself and thereby provide sufficient fishery products to meet human needs for perpetuity. Sustainable fisheries are based on a viable fishing sector that does not threaten the resilience of fish populations over the long term and fishing practices that do not harm the ability of fish populations to reproduce and stocks to recover (i.e. using natural resources in away and at a rate that maintains and enhances marine ecosystem resilience). Ensuring that the fisheries sector is environmentally, economically and socially sustainable, to provide a source of healthy food involves ensuring a dynamic fishing sector that affords a fair standard of living for fishing communities. Safety considerations also rank highly, as the fishing sector is typically a very hazardous occupation where daily risks are significant.

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Economic contribution of fisheries

In 2013 there were 731 fishermen (472 regular and 259 part-time) in Wales, around 6% of the UK total. This compares to around 1,020 fishermen in Wales in 2012.

Gross Value Added in the Marine Sector in Wales, £ million⁵⁰

	2010	2011	2012	2013	2014
Fish	35	30	30	26	35

Enterprises in the Marine Sector in Wales⁵¹

	2010	2011	2012	2013	2014	2015
Fish	280	280	280	280	275	280

Employee jobs in the marine sector in Wales⁵²

	2010	2011	2012	2013	2014
Fish	800	400	700	700	900

There were around 13,285 tonnes of fish and shellfish landed into Wales by UK vessels in 2013, including 11,510 tonnes of shellfish and 1,773 tonnes of demersal fish. The total value of landings by UK vessels into Wales was around £16.5 million in 2013, around 70% of this derived from shellfish.

Around 4,335 tonnes of shellfish was landed by UK vessels into Holyhead in 2013, with 2,123 tonnes landed in Saundersfoot and 1,647 tonnes into Milford Haven ports, in the latter case with landings of around of 1,620 tonnes of demersal fish. The total value of landings into these three ports was £2.7 million, £1.7 million and £6.9 million, respectively.

About 7,640 tonnes of fish was landed by the Welsh Fleet in 2013, with 6,927 tonnes being shellfish and 712 tonnes of demersal fish, with a notable fall in the total quantity of landings in 2013 compared to other recent years. The value of these landings was also lower in 2013 at £9.7 million.

⁵⁰ Details of Fishing, Aquaculture and Processing & Preserving, Welsh Government analysis of Annual Business Survey, Regional Accounts (Office for National Statistics)

⁵¹ Details of Fishing, Aquaculture and Processing & Preserving, Welsh Government analysis of Inter-Departmental Business Survey (Office for National Statistics)

⁵² Details of Fishing, Aquaculture and Processing & Preserving, Welsh Government analysis of Business Register and Employment Survey (Office for National Statistics)

In 2012 an estimated £3.3million of cockles were gathered from Welsh estuaries mainly from the Dee and Burry Inlet.

Small scale fisheries (vessels that are 12m or less in length) contribute most to the Welsh economy in volume and value. In 2014, 466 fishing vessels were registered in Wales (426 under 10m and 40 Over 10m) operating from around 33 harbours and launching points directly employing around 850 commercial fishers. In 2014, £2.8 million (1,213 tonnes) of fish and £12.0 million (10,500 tonnes) of shellfish were landed in Wales by UK vessels (mainly scallops, whelks and crabs/lobsters). Over 90% of the lobsters and crab species are live transported by vivier lorries and sold live in France, Spain and Portugal and by air freight to China and Hong Kong.

In 2015, Welsh seafood exports were worth £29.2m, down 18% from £35.6m in 2014, partly reflecting the strength of sterling. Spain was the main destination at 57%, followed by South Korea at 14%, Netherlands 12% and France 11%. Welsh exports account for 22% of total UK seafood export value.

Current and potential future interactions with other sectors

715. The marine environment is viewed as a common fishery asset, underpinned by public rights of fishery and supports a large and diverse mix of fisheries interests. Fishing activity is often very localised and dependent upon a particular area or habitat and may therefore be disrupted or prevented by other maritime activities. Given its dispersed and widespread footprint, these factors make the fishing industry, particularly of smaller vessels, extremely vulnerable to disruption from other maritime activities and the permanent displacement to new areas is often not a viable alternative.
716. Fisheries operations, depending upon type, will interact with a variety of other marine users in a range of ways. Interactions between established fisheries interests and other sectors can be extensive due to the widespread nature of fishing and its dependence upon often broad spawning and nursery habitats that support resilient fish stocks.
717. The MPS highlights the value of commercial fishing to local communities and that fishing can be radically affected by other activities. There are concerns within the fishing sector that new and emerging marine activities may have adverse effects on ecosystems services and result in displacement from fishing grounds. Fishing activities may interact with and be disrupted or prevented by other maritime activities, including energy generation, aggregate extraction, capital and navigation dredging, disposal, MOD firing ranges, shipping and navigation routes, cables, pipelines, platforms or other underlying structures. Proposals for new development by other sectors may result in displacement from fishing grounds, changes to the distribution of the resource, or potential impacts upon spawning or nursery grounds that support fish stocks. Aside from displacement, potential impacts upon fishing activities may arise from fixed installations which represent a navigation risk or could involve the snagging of towed fishing gears resulting in

potentially expensive damage and with safety implications. Opportunities for coexistence of fixed infrastructure with fishing may be possible.

718. Given its widespread and mobile nature, fishing activity can impact upon other sectors; mobile and static gear fishing methods can obstruct vessel navigation and interfere with aggregate dredging and MOD activity. These matters are best addressed through voluntary means and effective liaison between respective parties although, on occasion, it may be necessary to introduce statutory controls, e.g. restricting fishing in designated navigation channels or around oil related structures.
719. The coexistence of activities, including fishing, is encouraged in this plan. Often, activities can coexist through effective liaison and practical management measures, e.g. fishing in MOD areas or in areas being surveyed (e.g. aggregates or oil and gas) which can be conducted at mutually convenient times. Not all areas are of equal fishery value, and not all fishing takes place year round; this variety and variability provides good opportunity for coexistence.
720. The supply of good quality product to local communities can enhance local tourism by providing quality locally sourced seafood thereby offering a positive contribution to the sense of place and character of an area. The fishing sector is a provider of income for ports and harbours and has a history of working constructively with other sectors to achieve synergistic outcomes.
721. Damage to fishing grounds and stocks can have significant economic, environmental and social consequences, such as job losses, displacement of fishing activity, and damage to wider ecosystems and productivity. In addition, impacts on nursery and spawning grounds and associated habitat and migratory routes need to be considered carefully in terms of potential effects on wider ecosystem resilience. In contrast, sea bed structures can form areas of shelter and protection (including from fishing).

Ecosystem interactions

722. Fish are an important natural resource and the status of Welsh fisheries is an indicator of the health and resilience of marine ecosystems. It is important to manage fisheries with the best available evidence to ensure that fish stocks are sustainably fished and remain in a healthy state and that potential wider environmental impacts of fishing are addressed.
723. Fish stocks are a renewable resource where biological production dictates the rate of yield from a fishery. The aim of fishery management is to provide for sustainable fishing activity; that is, to align fishery exploitation activity to the capacity of the natural environment to replenish itself and thereby provide sufficient resource to meet human needs without compromising ecosystem resilience. Sustainable fisheries require a viable fishing sector with fishing practices that sustains stocks and their productivity over the long-term, i.e. using natural resources in a way and at a rate that maintains and enhances the resilience of marine ecosystems).

724. Maximum Sustainable Yield (MSY) is an estimation of the largest yield that can be sustainably taken from a species stock over an indefinite period allowing the fishery to therefore sustain itself. Welsh Government operates a programme for monitoring, control and surveillance of sea fishing activity to ensure that fish stocks are managed adaptively to avoid overexploitation. In a multispecies fishery (i.e. for most fisheries), it is challenging to maximise or optimise the yield from all stocks simultaneously. Achieving MSY of some Welsh stocks is part of achieving the Good Environmental Status of our seas under the Marine Strategy Framework Directive.
725. Fisheries can have adverse impacts upon various components of marine ecosystems (aside from removal of target species). Removal of species that act as a food source for other species may have wider food-chain impacts; other fish and marine mammal species can be caught incidentally; physical impacts on the seabed and benthic habitats can occur. These impacts, if not properly managed, can affect the future productivity of the resource for future generations by undermining ecosystem resilience.
726. Commercial fishing already occurs in many areas with some level of environmental designation. Welsh Government are working with NRW on evaluating the impacts of fishing on the features of MPAs to ensure that protected sites are safeguarded and continue to support sustainable fisheries and that wider ecosystem resilience is safeguarded.

Future

727. Many commercial stocks of finfish are currently managed under restricted access and use of total allowable catch limits (quota). These are frequently fully exploited leaving little opportunity for expansion. Due to the long history of fishing the emergence of new unfished areas is unlikely. Planning ahead should focus on improving the economic strength of the sector which hinges upon the scope to sustainably exploit under-utilised species, including some finfish and bivalve shellfish, and increasing the economic value of what is already caught. The sector may also be able to diversify; fishing vessels can be used for tourism and recreation, research and monitoring and support vessel purposes at certain times of the year.
728. Sector growth opportunities should focus on improving transport systems to keep catches fresh and minimise wastage, alongside measures to add value rather than increase catch levels. These include using existing mechanisms e.g. marketing co-operatives, as well as developing new markets for new products, greater local processing and product enhancement with more effective logistics all of which lower costs and improve profitability.
729. Initiatives that reduce sector fragmentation, improve stewardship of the coastal environment and shoulder greater management responsibility on fishermen and improve sector organisation and representation are likely to lead to improved long term fishery opportunities through sustainable fishing activity, maintained or enhanced stock levels and greater value added.

Climate change

730. The key likely climate change impacts arise from sea temperature changes influencing species productivity and distributions (e.g. cod (a northern species) moving further north and out of the plan area; squid and spider crab (southern species) becoming more established in the plan area), as well as the potential impacts of more frequent storms and increased run-off. In the long term, ocean acidification could have significant implications for marine ecosystem structure and function.
731. Changes in species distribution and productivity might provide opportunities in terms of new markets or increase pressure on quota allocations (locally and nationally). Profitability might be impacted by changes in weather patterns and storminess disrupting activities, damaging fishing gear or hampering access to processing facilities and markets. Fishermen might need greater flexibility to move between fishing grounds to respond to climate change impacts on stock distribution but adaptability at the individual business level could be hampered by practical constraints.

Key evidence needs

732. Key evidence gaps relating to the fisheries sector of relevance to marine planning, include:
- Good spatial data for fisheries activities and their catches;
 - Information on some lifecycle stages is better for some species than others, e.g. spawning and nursery grounds for some species are reasonably well defined but feeding and migration areas less well understood;
 - Understanding the implications of changes in fishing effort by method on fish stocks and the environment and their interaction (e.g. to attain Maximum Sustainable Yield);
 - Understanding the options and value of alternative management or governance approaches that might aid effective decision making and investment on a long-term basis;
 - Socio-economic interactions and wider community benefits, including recreational fisheries;
 - Costs and value of marine protected areas and their benefits and interaction with fisheries;
 - Gaining an understanding as to how to maximise long term economic value of fishing activity, without compromising stock or the ecosystem resilience;
 - Improving knowledge of the impacts of climate change on fish stocks and ecosystems; and
 - Understanding potential options for coexistence.

Governance

733. Regulation of the fisheries sector is essentially devolved within the marine plan area, however is currently subject to EU CFP considerations generally, and in particular historical access by some EU vessels in the 6- 12nm and >12 nm zones.

734. Key decision making and advisory authorities include: EU, Welsh Government, MMO, NRW, Cefas, and Seafish Wales. The Food Safety Agency, Fish Health Inspectorate and Local Authorities are also involved in the public health classification of areas subject to the commercial sale of bivalve molluscs or certification of associated premises and shellfish movements. Liaison takes place directly with the fishing sector through their Associations and the Wales Marine Fisheries Advisory Group (WMFAG) acting as a strategic advisory group to Welsh Government.
735. Fishery management restrictions (such as fish sizes, gear controls, vessel restrictions and closures) apply to all persons who may fish. Bivalve molluscan fisheries can be variable and unpredictable as they are reliant on periodic juvenile (spat) settlements, associated with environmental conditions. Cockle fisheries can be managed under a Regulating Order (RO) (Fisheries (Shellfish) Act, 1967) such as in the Burry Inlet and Dee Estuaries where licences are issued as an effort control measure (see the Aquaculture section for Several Orders).
736. Fishing within 6 nm and on-shore / in intertidal areas is managed exclusively by Welsh Government under Welsh legislation (Statutory Instrument) and beyond 6 nm under the revised Common Fisheries Policy (to the offshore limit between adjacent countries as defined by the Welsh Fishery Zone) and in compliance with CFP access rights.
737. As fishing is such a widespread activity it takes place in all areas including within those areas adjoining other country boundaries. In such circumstances it is important that public authorities liaise on matters including shared evidence, management and joint enforcement. In particular, joint liaison takes place in the Dee Estuary through a management group (involving NW IFCA, WG, MMO and EA) and more general liaison takes place within the Bristol Channel (MMO, WG and D&S IFCA). In the Dee Estuary a Sea Fisheries (users) Liaison group is also established and another dedicated to the Dee Estuary Cockle Regulating Order managed by NRW. Management of offshore fin fish stocks (including those in waters close to Eire, N Ireland and IoM are generally coordinated by the MMO and often undertaken through EU CFP mechanisms (e.g. Regional Fisheries Advisory Councils) in which WG play an active part. However, joint fisheries enforcement operations also periodically take place especially when intelligence is available.
738. Contrary to other sectors, fishing takes place under a public right of fishery and as a consequence is not generally “assented to” (i.e. consented or licenced), but is restricted where necessary to meet wider marine objectives. Where licences or permissions are issued (e.g. in the case of commercial fishing vessels or fishing for cockles) then they may restrict numbers or impose conditions including limits on the amount of fish taken, control the time or place of fishing and the gears used. Such permissions are usually the subject of assessment, particularly if fishing takes place in designated conservation sites.

Sector objective

To support and safeguard a diversified and profitable fishing sector including promoting sustainable capture fisheries and optimising the economic value of fish caught as a supply of sustainable protein.



Fisheries sector policy and implementation guidance

739. Fisheries sector policy applies to both the inshore and offshore regions of the plan area.
740. The MPS states that ‘the UK has a long history of fishing in both inshore and offshore waters which the UK administrations wish to see continue’. It makes clear that the process of marine planning will ‘enable the coexistence of compatible activities wherever possible’ and supports the reduction of real and potential conflict as well as maximising compatibility and encouraging coexistence of activities.
741. At the time of plan development, The EU Common Fisheries Policy (CFP) has direct effect and provides the main framework for the sustainable management of fish stocks in EU waters including Wales. In the absence of the CFP and as the UK withdraws from the EU, it is likely that measures of some equivalence would be established using national measures. Fishing is already managed and controlled on-shore and within the Welsh Zone and will be considered as part of this process.
742. Fishery management requires that fish and shellfish stocks are fished sustainably in line with requirements for the sustainable management of natural resources under the Environment (Wales) Act. National fishery managers comply with requirements to protect protected marine species and habitats and wider marine measures to protect marine ecosystems.
743. To ensure the long-term viability of the fishing sector, fishing activity should be managed sustainably i.e. participants should align fishing effort to the availability and sensitivity of the fish stocks, taking a long-term view, and not have an adverse effect on wider ecosystem resilience. In practice, this means working towards ensuring stocks are managed at MSY and that ecosystems resilience is maintained or secured. The long-term sustainability of fisheries will continue to rely upon a suite of fishery management measures controlling e.g. fishery access, fishery method (including vessel size) or minimum fish size (including Minimum Conservation Reference Sizes (MCRS)). These are designed to manage fishing effort to protect ecosystems and allow fish populations to reproduce and, where necessary, for stocks to recover. Measures also relate to the marketing of fish and fishery products on land which align with at-sea measures.

744. Welsh Government is committed to planning positively for the sustainable future of the fishing sector. Opportunities for diversification and/or increasing the value of current activities and catches should be supported and future planning to address challenges associated with climate change is encouraged. Relevant Welsh Government strategic documents include: Wales Marine and Fisheries Strategic Action Plan (2013)⁵³; and Food Strategy for Wales (2010)⁵⁴. Fishery management should also reflect the needs of the high value recreational sector which has a direct interest in the state of fish stocks.
745. **The [Sector policy generic implementation guidance] applies.**
746. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.

Supporting policy

FIS_01: Fisheries (supporting)

Proposals that support and enhance sustainable fishing activities are encouraged. Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:

- develop a strategic evidence base to improve understanding of opportunities for the sustainable development of fisheries; and
- support the development and refinement of Strategic Resource Areas;

in order to support the sustainable growth of the fisheries sector through marine planning.

⁵³ <http://gov.wales/docs/drah/publications/131127-marine-and-fisheries-strategic-action-plan-en.p>

⁵⁴ <http://gov.wales/topics/environmentcountryside/foodanddrink/foodpolicyandstrategy/?lang=en>

Supporting policy implementation guidance

747. This policy seeks to support the sustainable development of the fishing industry. While fishing activities are by and large not regulated through the marine licensing system, public authorities should positively consider opportunities to support the sector, in dialogue with sector representatives. Proposals that support and enhance sustainable fishing activities might include:
- application of grant support schemes to provide support for adapting to environmental and fishery management regimes;
 - initiatives that improve coexistence of activities and that reduce the risk of displacement;
 - initiatives that support collaborative working;
 - initiatives that promote fishermen in particular being custodians of the fisheries resources that they depend upon including the establishment of co-operatives and fishermen's association(s);
 - initiatives that support appropriate fishery diversification to take under-utilised species;
 - initiatives that obtain increased value of the catch and reduce costs and wastage, including encouraging processing in Wales, all of which improve sector profitability;
 - initiatives to identify domestic markets in the retail and hospitality sectors;
 - initiatives to identify higher value, sustainable export markets;
 - initiatives that support sustainable fishing such as MSC accreditation;
 - initiatives that support better understanding of fisheries and fishery / environment;
 - initiatives that help to identify SRAs of strategic importance to the fishing sector; and
 - establishment of a new sustainable fishery targeting new / novel species.
748. This plan includes a displacement focussed safeguarding policy that supports this sector, however, the availability of fishing activity data in inshore waters is a limiting factor in understanding and demonstrating the importance of different fishing grounds and enabling marine planning to develop more targeted and spatial safeguarding policies for fisheries. **FIS_01** encourages the sector to work with relevant public authorities and other interested parties to identify important fishing grounds so that they can be taken account of in a strategic and systematic way that supports the coexistence of fishing with other sectors. This approach can only be taken forward with the support of the sector. Mapping these areas does not mean that planning policy support for the sector in other areas where fishing takes place will be diminished, but should help to reduce conflict and improve compatibility in areas of greatest strategic importance to the sector. Making such evidence available would support other sectors in considering and addressing the interests of fisheries in planning for future activity under the safeguarding policies of this plan.
749. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.

750. In preparing fisheries related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.

Safeguarding policies

751. All proposals (including new fisheries sector proposals) with the potential to impact upon existing fisheries activities should apply the following fisheries safeguarding policies.

FIS_02: Fisheries (safeguarding)

Proposals potentially displacing commercial fishing activities should demonstrate how they, in order of preference:

- a) avoid displacing those activities; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

FIS_03: Fisheries (safeguarding)

Proposals potentially affecting important feeding, breeding (including spawning & nursery) and migration areas or habitats for key species of commercial or ecological importance should demonstrate how they, in order of preference:

- a) avoid adverse impacts on those areas; and/or
- b) minimise impacts where they cannot be avoided; and/or
- c) mitigate impacts where they cannot be minimised; and

should present a clear and convincing justification for proceeding where (a-c) are not possible.

Safeguarding policy implementation guidance

752. These safeguarding policies help manage the potential adverse impacts of other sector activities on existing activities of the fisheries sector.
753. Safeguarding policies apply to sectors that have the potential to impact established fishing activity (**FIS_02**) and areas of ecological importance that support fisheries (**FIS_03**). In line with positive planning, these policies **seek** to enable established activities to continue and thrive wherever possible. Public authorities should, wherever possible, encourage opportunities for coexistence between established fishing activities and any new proposals.
754. When a proposal has the potential to impact on commercial fishing or supporting areas, the proposer is strongly encouraged to engage with relevant fisheries' stakeholders at the earliest stages of concept, planning and design. Relevant stakeholders may include fishery managers, local fishermen, relevant public authorities and fish producer organisations. There will be occasions when proposals will have a temporary impact upon fishing activities. These should be identified through early engagement and addressed following the avoid, minimise, mitigate policy hierarchy.
755. Unlike larger, more nomadic vessels with mobile gears, Welsh inshore vessels cannot easily relocate to other areas where, in any case, the available space and catch opportunity is likely to be limited. If decisions by public authorities were to require displacement, resulting in the permanent relocation of fishing vessels to other areas, such relocation is unlikely to be a viable option for individual fishers. Any disruption to fishing activity, even temporary, may impact upon the financial viability of small, location-based businesses. There may be other social or economic effects associated with permanent displacement, such as new grounds being less profitable for fishermen, or beyond the capacity of some vessels and/or unable to provide the mix of species on which current business models rely. Displacement may also increase pressure on any alternative grounds into which fishing efforts may be concentrated, resulting in a greater impact on stocks or increased damage to the ecosystem. This plan therefore makes provision for the particular sensitivities of the Welsh commercial fishing sector to displacement, especially the risk of permanent displacement, to be taken into account.
756. Under policy **FIS_02**, proposals should take into account the nature, intensity and value of established fishing activity in the proposed development area and the implications of any likely displacement of fishing activity, with an emphasis on commercially important activities and the permanence of any effects. Commercially important activities should be interpreted broadly due to the variability of stocks and their commercial availability (e.g. through quotas or other temporary fishery management restrictions). Consideration should focus on the top 12 finfish species by weight or value, and all shellfish species which are of actual commercial value above nominal amounts (examples of species of lesser economic importance include flounder, dab, most gurnard species, poor cod and dragonet, which can be numerically abundant in scientific trawl surveys inshore but commercially less significant).

757. When considering displacement under **FIS_02** public authorities should also have regard to:
- whether potential displacement impacts from new proposals are permanent or temporary;
 - the potential economic impact (e.g. increased fuel costs or time at sea);
 - whether it is practically possible for existing vessels to relocate
 - displacement effects on other fish stocks and ecosystems resilience;
 - likely impacts on land-based elements dependent upon commercial fishing activities; and
 - the likely impact on local communities.
758. When a proposal has the potential to adversely impact on commercial fishing activities the public authority should ensure the proposer demonstrates that any potential impacts have been considered and measures are included to avoid minimise or mitigate such impacts as appropriate. If it is not possible to avoid, minimise or mitigate the adverse impacts the proposer should make a clear and convincing justification for proceeding by setting out how the public benefit of the proposal clearly outweighs adverse impacts.
759. Engagement with other plan regions in relation to displacement of fishing effort may be necessary to ensure an understanding of potential impacts.
760. Policy **FIS_03** recognises that in order to support fisheries activities, fish life-cycles and the ecosystems upon which they depend need to be sustained. Under this policy other users should consider the potential adverse impacts upon feeding, breeding and migration areas for key commercial and protected species and set out how they will avoid, minimise or mitigate potential impacts. Important species includes those of commercial, conservation, ecological or recreational importance. Important fish stocks are those of commercial or recreational value (see **FIS_02**) or those given protection as having wider conservation value under national⁵⁵ or international legislation.
761. A range of indicative information is available on the Welsh Government marine planning portal and from industry and regulators to assist the identification of important spawning / nursery areas and established commercial fishing areas and their likely relative significance.
762. **FIS_03** contribute to ecosystem resilience by affording due consideration of and protection to areas of ecological importance for a range of fish species, including those of commercial importance and those on which such species are ecologically dependent. Such measures also provide wider benefits for ecological resilience for any coincident species (e.g. benthic organisms, seabirds, marine mammals) supported by these feeding, breeding (including spawning & nursery) and migration areas or habitats.

⁵⁵ Species of Principal Importance, listed under Section 7 of the Environment (Wales) Act 2016.

Figure 20(a): Policy map - Fishing activity – mobile gear

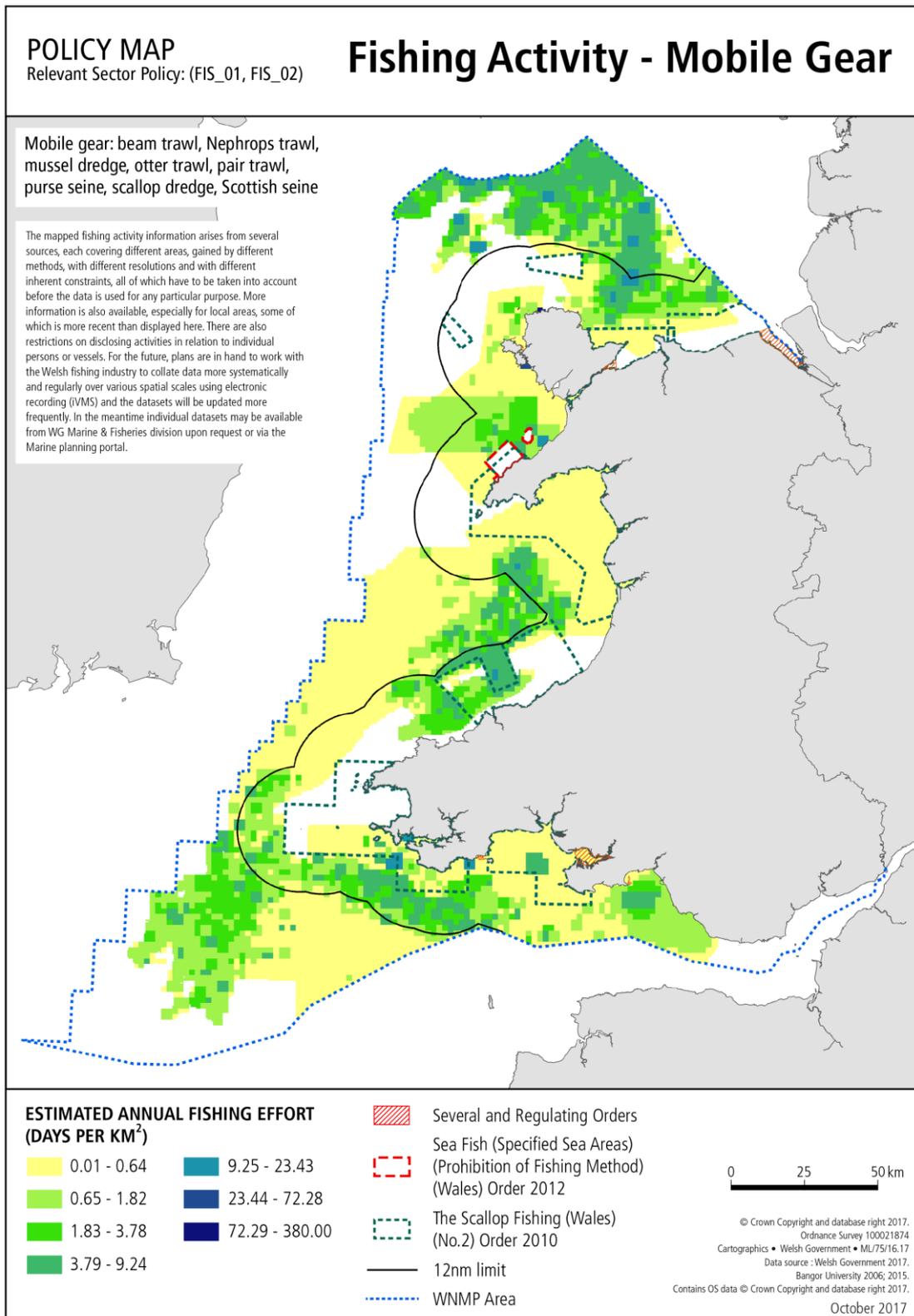


Figure 20(b): Policy map - Fishing activity – static gear

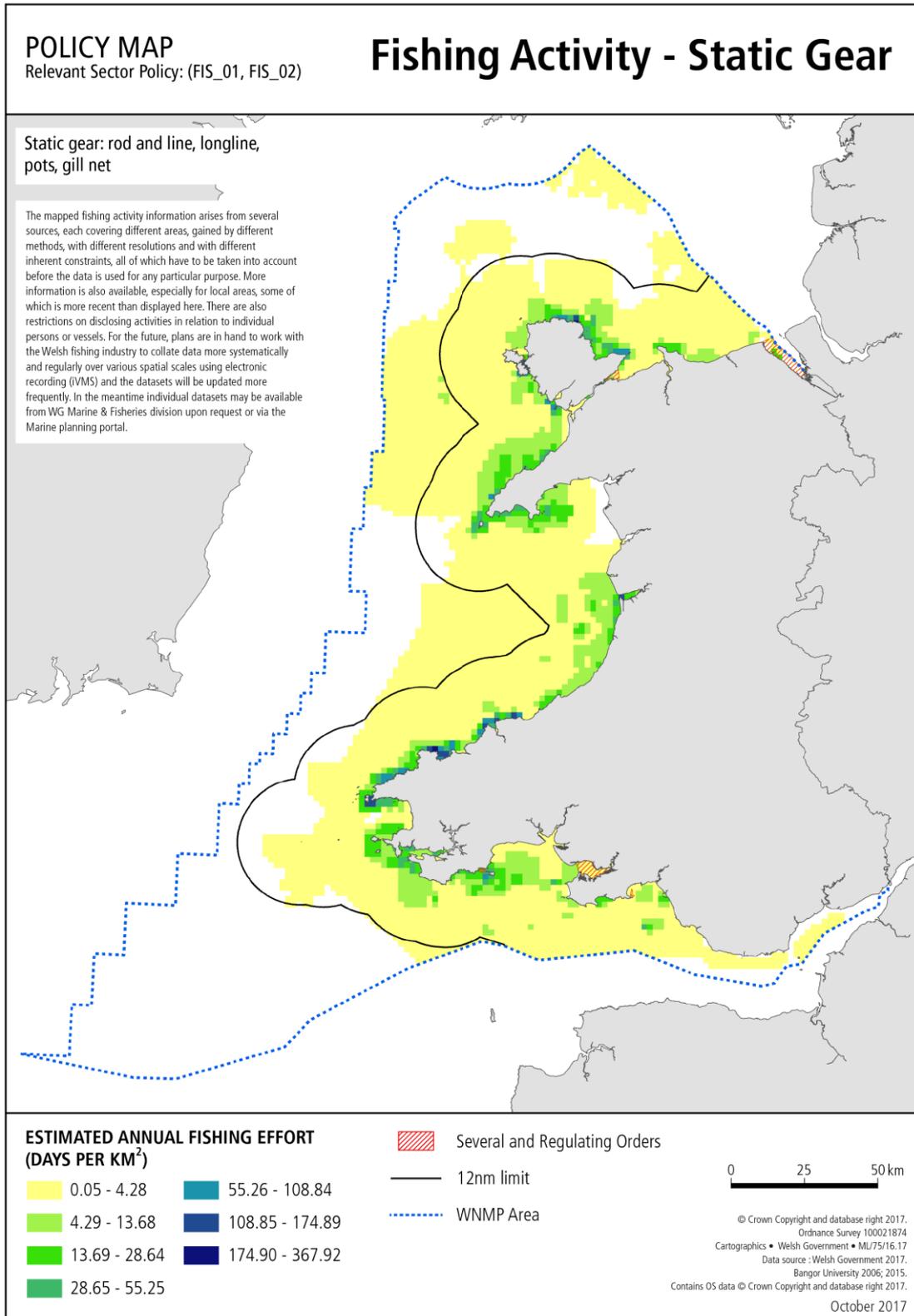
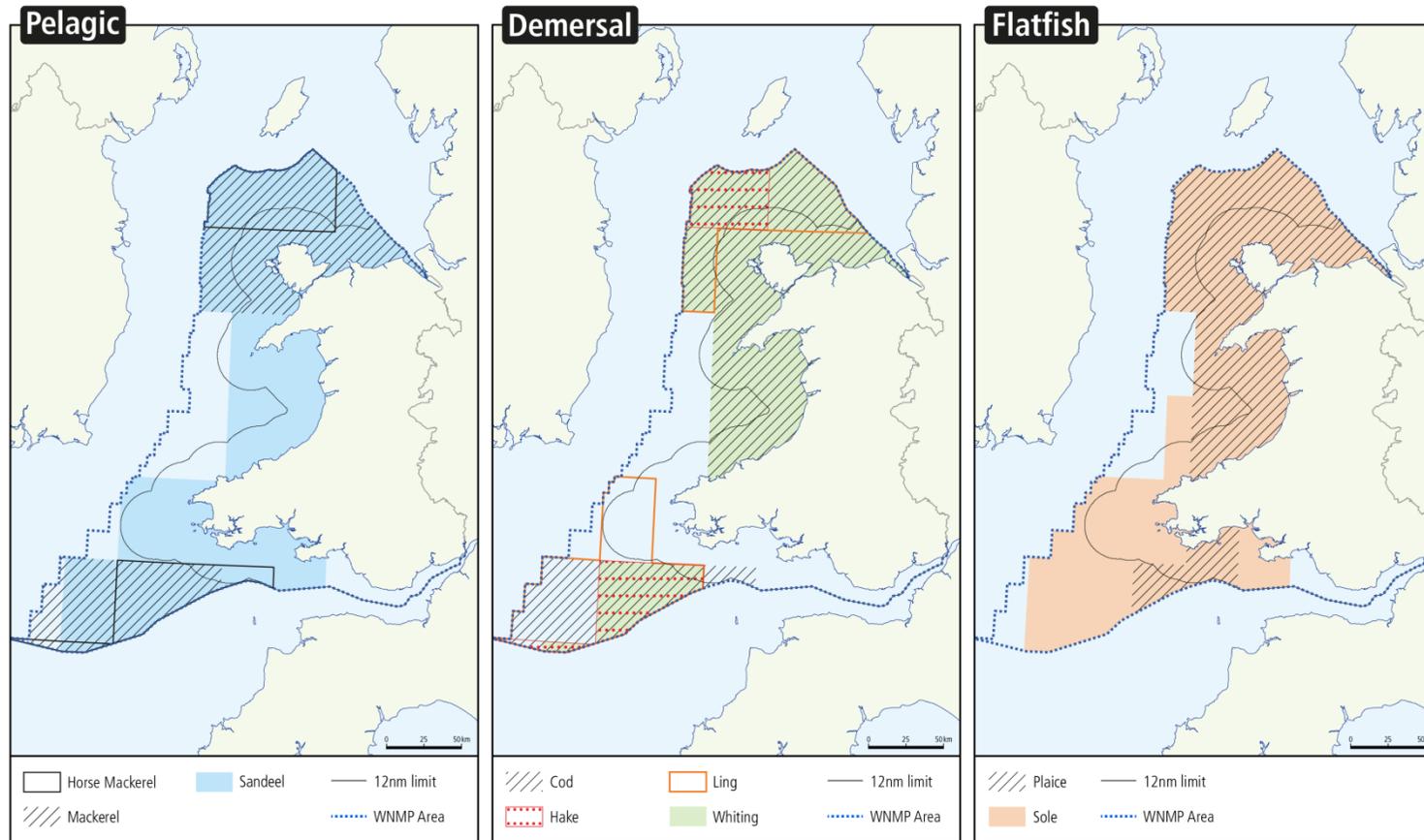


Figure 20(c): Fish spawning areas

POLICY MAP
Relevant Sector Policy: (FIS_01, FIS_03)

Fish Spawning Areas



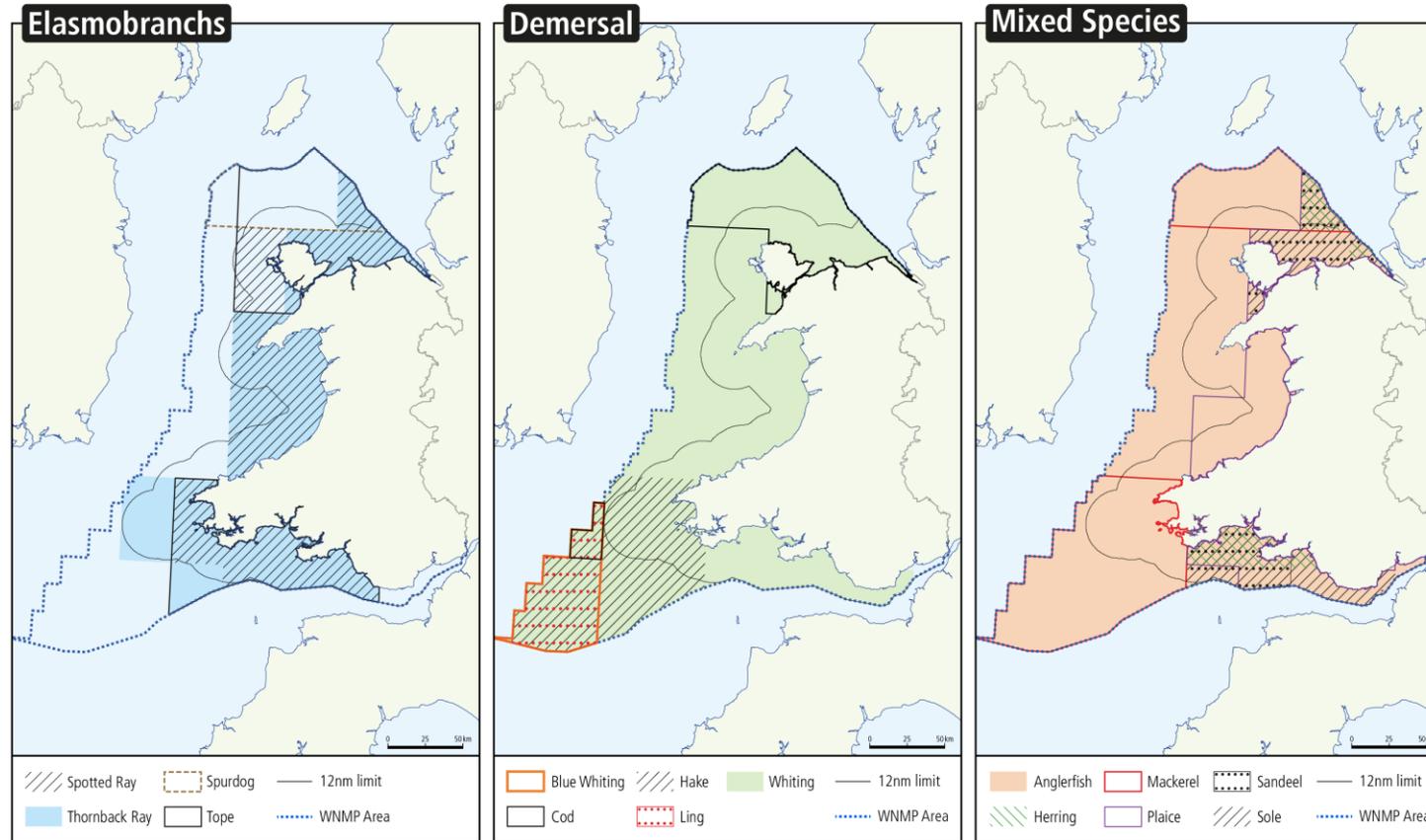
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Figure 20(d): Fish nursery areas

POLICY MAP

Relevant Sector Policy: (FIS_01, FIS_03)

Fish Nursery Areas



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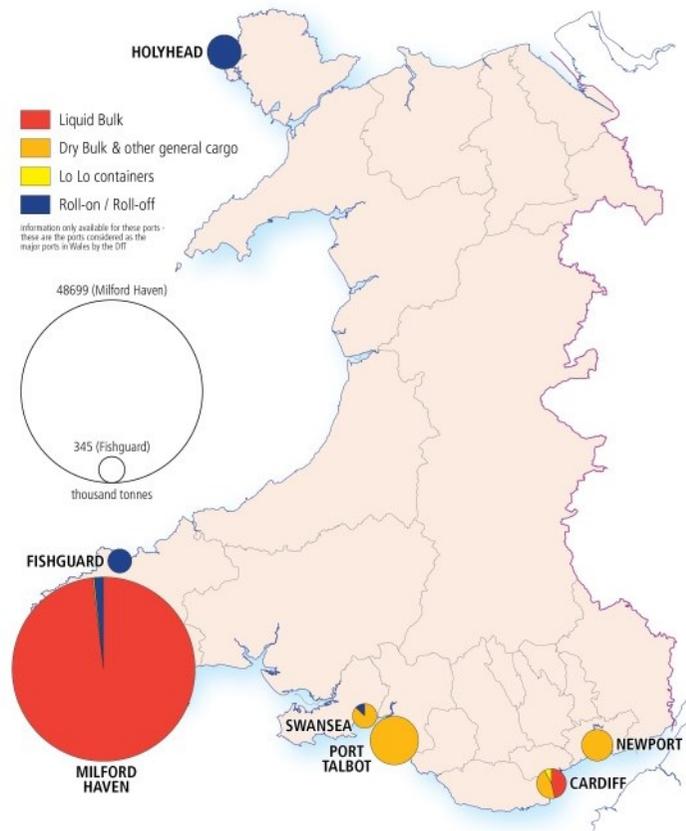
Ports and shipping

Introduction

763. The ports and shipping sector covers the construction, operation and maintenance of ports, harbours and terminals and marinas to support the commercial and ancillary activities associated with shipping cargo and transporting passengers by sea, and work associated with offshore energy (oil, gas and renewables) industries. Ports enable connection between land and sea transport. The sector is critical to the effective movement of cargo and people as part of networks or supply chains within the UK and as part of the global economy. The activities of the sector support a wide range of other sectors and depend upon and support a diverse range of associated activities and services including shipbuilding and repair, storage and warehousing and specialised capabilities to add value to cargoes that are stored and handled in the port. Many ports have become the location for industrial clusters of private companies that may compete with one another or complement each other as customers and suppliers in specialised areas of production and distribution.
764. The ports and shipping sector is identified as having significant potential for sustainable growth over this plan's lifetime and is therefore a strategic priority for marine planning.
765. There are currently 14 ports in Wales that handle commercial traffic, collectively accounting for 11% of UK port traffic (2012); seven 'major' ports (Milford Haven, Port Talbot, Holyhead, Fishguard, Swansea, Cardiff and Newport) each handle more than 1 million tonnes of freight a year. Milford Haven is by far the largest in Wales, handling 74% of all Welsh traffic and is the largest liquid bulk port in the UK. Holyhead, Fishguard and Pembroke Dock support a crucial passenger ferry link with Ireland, through which 2.8 million passengers travelled in 2015. This traffic along with energy related traffic at Milford Haven makes these areas the busiest waters for shipping within this plan's area. Smaller Welsh ports serve specific key markets: Mostyn supports offshore wind construction and servicing and the export of aircraft wings (Airbus); Newport, Cardiff, Port Talbot and Swansea handle dry and liquid bulk as well some container traffic, mixed general cargo and significant fishing and leisure activity. Substantial port facilities also exist in the Bristol Channel at Port of Bristol (Avonmouth and Portbury) which has motorway and rail connections and smaller ports at Sharpness and Bridgwater. These ports have a greater variety and throughput of cargo (including motor vehicles) than the south Wales ports combined, adding significantly to shipping traffic in the region.

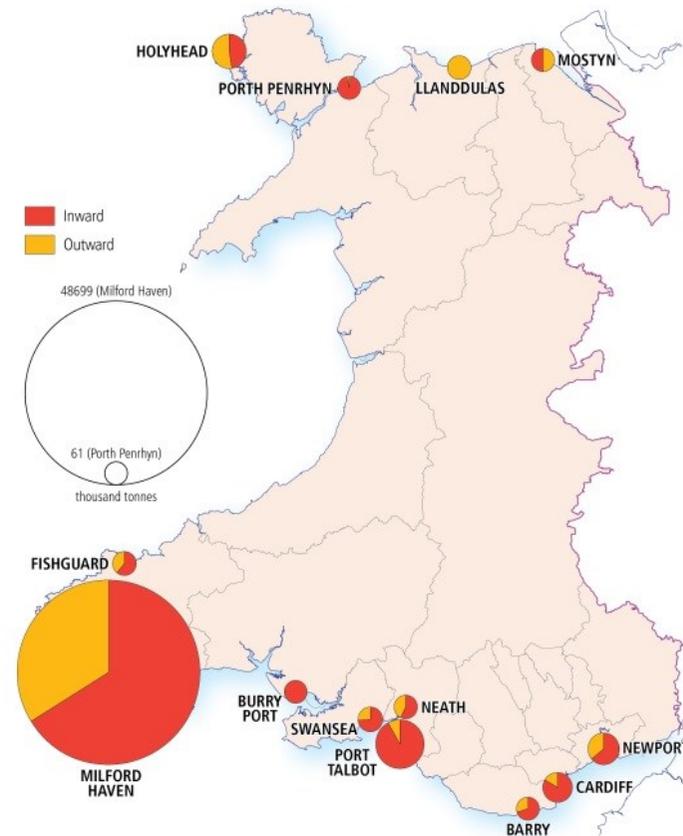
Figure 21(a): All Freight Traffic and Cargo Type

WALES All traffic by cargo type and direction, 2011



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March 2014

WALES All freight traffic, by port and direction, 2011



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March 2014

766. There are four models of port authority ownership; trust, private, municipal and miscellaneous all of which operate in competitive and commercial markets:
- Trust ports, e.g. Milford Haven Port Authority are independent statutory bodies controlled by an independent board, although are publicly accountable to their stakeholders. Any profits must be re-invested in the interests of the port and its stakeholders. Trust ports in Wales include Milford Haven Port Authority (a “Major Trust Port”), Neath Harbour Commissioners, Newport Harbour Commissioners, Caernarvon Harbour Trust and Saundersfoot Harbour Commissioners.
 - Private ports, e.g. Cardiff are operated and owned by individual or collective companies, e.g.: Barry, Cardiff, Newport, Port Talbot and Swansea (Associated British Ports); Holyhead and Fishguard (the Stena Line) and Mostyn (independent);
 - Municipal ports, are usually smaller harbours specialising in leisure and fishing activities which are run by local authorities; and
 - Miscellaneous ports are owned and / or managed by other organisations such as the National Trust or National Parks Authority. Typically these are smaller ports and are usually subject to the same national legislation.
767. There are approximately 41 ports and harbours in Wales, of which 5 are Trust, 21 are privatised / miscellaneous and 16 are municipal. These include the many smaller harbours and facilities that may lie within, but are more frequently outside of, port boundaries.
768. Shipping activity in the plan area comprises established navigation routes for commercial cargo and passenger vessels, widespread navigation of smaller vessels and associated aids to navigation, such as lighthouses, buoys and telecommunications equipment. These, along with areas such as anchorages and pilot boarding places, play an essential role in the movement and safety of maritime traffic. There are also International Maritime Organisation (IMO) routes operating as Traffic Separation Scheme (TSS) areas off Pembrokeshire, North Anglesey and in Liverpool bay. Busier traffic areas occur around areas of access to ports and around headlands (e.g. Anglesey and Pembrokeshire).

Economic contribution of ports and shipping

The ports and shipping sector supports around 3,400 directly port related jobs in Wales, supporting almost 11,000 wider jobs as well as sustaining other vital parts of the economy.

Total freight traffic through Welsh ports accounted for 54.6 million tonnes (Mt) of goods: 36.5 Mt goods inwards; and 18.1 Mt goods outwards. Welsh ports accounted for 11% of the total UK port traffic of 501 Mt.

Gross Value Added in the Marine Sector in Wales, £ million⁵⁶

	2010	2011	2012	2013	2014
Marine Transport	180	250	242	250	219

Enterprises in the Marine Sector in Wales⁵⁷

	2010	2011	2012	2013	2014	2015
Marine Transport	180	185	175	185	195	195

Employee jobs in the marine sector in Wales⁵⁸

	2010	2011	2012	2013	2014
Marine Transport	3,600	3,700	3,200	3,200	3,400

There were 9,079 recorded vessels arriving into Wales in 2014 (around 6% of UK arrivals); overall arrivals have been relatively stable over the last five years. Cargo vessels (tanker, Ro-Ro, container and general cargo vessels) represented 8,511 vessel arrivals to Wales in 2014. Of these, 4,821 were Ro-Ro vessels (two-thirds into Holyhead), 2,110 were tankers (primarily into Milford Haven), with around 1,578 other dry cargo vessels (around 43 percent into Newport). 28 ship arrivals into ports in Wales in 2014 were classified as Passenger vessels.

In terms of the recorded ships arriving in Wales, around half of the total deadweight (dwt) tonnage was attributable to tankers arriving at Milford Haven, 49.2 million dwt, with 21.7 million dwt associated with Ro-Ro vessels arriving in Holyhead, and 15.7 million dwt with arrivals of other dry cargo vessels at Port Talbot.

⁵⁶ Welsh Government analysis of Annual Business Survey, Regional Accounts (Office for National Statistics)

⁵⁷ Welsh Government analysis of Inter-Departmental Business Survey (Office for National Statistics)

⁵⁸ Welsh Government analysis of Business Register and Employment Survey (Office for National Statistics)

Milford Haven is a major UK port in terms of commodities such as bulk fuel, liquefied gas, crude oil and oil products, with total inwards and outwards tonnage of around 34.3 million tonnes in 2014, representing around 6.8 percent of all activity through UK ports. Port Talbot also provides a significant share of UK port activity (by tonnage) in both ores and coal, with Newport additionally providing notable port traffic in iron and steel products, and to a lesser extent ores.

One of the most important roles for Welsh ports is as the principal route for lorry traffic between Ireland and Great Britain (and the rest of Europe). Nearly three quarters of goods taken by Heavy Goods Vehicle (HGV) from Ireland to GB and the rest of the EU goes through Wales, the majority of which is through Holyhead.

Current and potential future interactions with other sectors

769. Port infrastructure and operations can have a range of interactions with other sectors. Ports support a wide variety of marine sectors, and provide a vital role in, e.g. construction and servicing of offshore energy installations and in supporting terminals for oil and gas pipelines. Ports also support the tourism industry by providing vibrant waterfront destinations as well as landing points for passenger ferries, cruise ships and other marine tourism operators and offer facilities for recreational users.
770. Operation of our ports, harbours and marinas is enabled through the creation and maintenance of channels, berths and docks which may require periodic dredging. Continued safe navigational access would not be possible without maintenance dredging, whilst capital dredging enables new activities by creating new, deeper and wider channels and berths. This often takes place within prescribed port boundaries [see **Dredging & Disposal**].
771. Shipping is a widespread activity but the passage of larger vessels in confined areas is often restricted to navigation channels or transit routes (such as IMO routing measures). Large vessels also spend time at fixed locations (anchorage, pilotage or port berth situations) whilst in inshore waters. The most significant potential interaction for commercial shipping in transit is with fishing, aggregates, tourism and recreation activity or with oil and gas and renewable energy infrastructure. Various regulatory controls and guidance are applied to the shipping sector to safely manage these interactions including the International Convention for the Safety of Life at Sea (SOLAS 1974)⁵⁹. Interactions with many sectors are low impact and good coexistence opportunities often exist, e.g.

⁵⁹ (e.g. IMO Collision Regulations (COLREGS), Marine Guidance Notes issued by the MCA, Notices to Mariners issued by Trinity House)

SOLAS : [http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-for-the-safety-of-life-at-sea-\(solas\),-1974.aspx](http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-for-the-safety-of-life-at-sea-(solas),-1974.aspx)

shipping and submerged tidal stream technologies may coexist if sufficient under-keel clearance is provided.

772. Activity of other sectors might impact on port and shipping operations; obstructions can lead to increased voyage distance and time resulting in financial and related environmental costs (e.g. emission increases) and safety concerns, particularly for passenger vessels. Potential risks include increased collision or displacement of vessels from safe anchorages, the implications of which may be severe and therefore should be avoided. Port authorities exercise vessel controls in order to manage safety and environmental risks and interactions within their jurisdiction.

Ecosystem interactions

773. A range of environmental impacts might arise from the use of vessels and associated supporting infrastructure. Commercial port facilities may have a long-term impact on a number of environmental receptors depending on the nature and scale of activities undertaken.
774. Coastal ports are often situated in areas of importance for biodiversity, particularly for birds and fish, with estuarine and near-shore areas acting as nursery grounds for a range of species and as migration pathways for others. Port and shipping activities can affect ecosystem resilience in a number of ways. The construction of a port development may involve, for example, dredging, dredge spoil deposition, marine landing facility construction and flood and coastal protection measures, which could result in direct effects on the coastline, seabed and associated habitats. Additionally, indirect changes to the ecosystem might arise as a result of changes to local hydrodynamics.
775. Development proposals provide many opportunities for building in beneficial biodiversity features as part of good design to benefit ecosystem resilience. When considering proposals, the decision-maker should maximise such opportunities in and around developments, using requirements or planning agreements where appropriate to enhance existing habitats and, where practicable, to create new habitats of value.
776. Operational activities associated with ports and shipping can also affect ecosystem resilience, depending on the nature and scale of the disturbance, e.g.:
- dredging to maintain channels and berths can affect sediment transport, which can in turn affect marine ecosystems including through remobilisation of pollutants;
 - cargo handling and storage may cause run-off, spills, or leakages, leading to a localised deterioration in water quality;
 - erosion of intertidal habitats may result from regular vessel movements;
 - non-native species can be introduced by ships and may have far reaching ecosystem impacts;
 - noise and light pollution may have impacts on fish, birds and marine mammals.

777. Where environmental impacts are predicted, the applicant should include appropriate mitigation measures as an integral part of the proposal in line with the NPS on Ports. For example, the applicant should demonstrate that during construction, it will seek to ensure that activities will be confined to the minimum areas required for the works; best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised; and habitats will, where practicable, be restored after construction works have finished.

Future

778. The provision of sufficient port and shipping capacity will remain an essential element of ensuring sustainable economic growth and will remain strongly linked to the state of the Welsh economy. Welsh ports have the potential to expand and diversify their operations, playing a greater role within inter-modal freight networks. Between 2007 and 2011, despite a difficult economic climate, ports invested more than £1.4bn and further investment is ongoing. This plan identifies the ports and shipping sector as a strategic priority for continued future growth.
779. The importance of UK sea trade is predicted to grow, for example by 37% in six years, contributing £700 billion to UK GDP by 2017⁶⁰. Relevant national planning policy documents indicate the overall national level of need for port development based on port forecasts in the context of a market-led sector and this suggests strong growth opportunities for various Welsh ports.
780. Port of Bristol has received development consent to construct a deep-water container port at Avonmouth to take ultra large container ships up to 400m in length and 18m depth. Construction is awaiting commercial consideration.
781. It is anticipated that ports will play an increasingly significant role in supporting the growth of the renewables sector, increasing their strategic importance. Holyhead, Mostyn, Milford Haven (including Pembroke Dock), Port Talbot, Newport and Swansea have all been identified as having the greatest competitive advantage in exploiting low carbon growth opportunities, although this doesn't preclude niche roles for other ports.
782. The Welsh Government would like to see an increase in 'short sea shipping' activities through Welsh ports to help improve the sustainability of the freight network, as well as enhancing local economic growth and jobs. Facilities to support cruise visits will be an increasingly important component of Welsh port capacity and future investment in Welsh cruise tourism is seen as important to the cruise industry of the UK as a whole. There is potential to develop cruise ship facilities particularly at Holyhead, Swansea and Milford Haven.

⁶⁰ A study by RSA / CEBR in 2012

783. Port Master Plans provide relevant authorities with a strategic view of the potential direction of future port development. Current trends indicate:
- larger ships which require larger ports and wider/deeper navigational channels;
 - sustained growth of 3% to 4% on average per year in the container and Ro-Ro sectors;
 - opportunities to host value added processes such as manufacturing, e.g. supporting and servicing offshore renewable energy, particularly for ports in close proximity to developments;
 - a growing cruise ship industry that represents a clear opportunity for Wales; and
 - opportunities in servicing the fishing industry and a growing marine leisure industry.
784. However, ports and shipping is sensitive to economic trends and the activities of other sectors; such dynamics are variable and therefore difficult to forecast.

Climate change

785. Shipping may contribute to and be affected by climate change. Shipping accounts for 10.6% of greenhouse gas emissions from transportation in Europe (compared to 73.4% from road; 12.6% from aviation and 1.6% from rail)⁶¹. However, in comparison to other transportation methods, shipping (along with rail transport) is a one of the most fuel efficient methods of moving bulk freight⁶²
786. Sea level rise, surge events and more extreme sea conditions could damage, or cause disruption to ports and shipping activities including changing time spent and speed of travel at sea. UK ports recognise the issues concerned with climate change and balance risk against the cost of implementing adaptation measures.
787. The 2013 Marine Climate Change Impacts Partnership (MCCIP) review on ports and shipping⁶³ covers both the contribution that shipping makes to climate change and the impacts of climate change on this sector. Greenhouse gas emissions from shipping are regulated by the International Maritime Organisation control framework under the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), which is enforced in the UK by the MCA. In addition, some port authorities have developed Climate Change Adaptation Plans that consider the impact of climate change upon their operations and infrastructure⁶⁴.

⁶¹ Data for 2014 from the EEA

⁶² <http://www.ics-shipping.org/docs/default-source/resources/environmental-protection/shipsandco2-cop21.pdf?sfvrsn=16>

⁶³ Wright et al. 2013 <http://www.mccip.org.uk/annual-report-card/2013/commercially-productive-seas/ports-and-shipping/>

⁶⁴ (including MHPA, 2011)

Key evidence needs

788. Key sector evidence needs of relevance to marine planning include:
- identification of where investment should be targeted to enable the port sector to thrive;
 - identification of future navigation routes;
 - a better understanding of the supply chain;
 - understanding of the opportunities provided by the energy sector and
 - understanding of cross-border connectivity and how it may be improved.

Governance

789. The ports and shipping sectors are very different in terms of their governance.
790. Ports policy, including harbour orders and confirming byelaws is being devolved to Wales (with the exception of major trust ports, the only one in Wales being Milford Haven). The Welsh Government also has responsibility for many related functions (e.g. transport and land-use planning). Works to change infrastructure within or to develop new port, harbour and marina facilities below high-water requires a marine licence. The devolution of powers in relation to ports should provide opportunities to improve and better co-ordinate port planning and wider development in Wales. Devolution may also support integration of ports into related and wider strategies for economic growth and transport. The Welsh Government is working with the Welsh Ports Group, which represents the range of ports in Wales, as well as with individual ports to maximise these opportunities.
791. Port operations are shaped by a range of terrestrial plans and policy, including the UK ports National Policy Statement, the National Development Framework (once adopted) and Planning Policy Wales; the Wales Transport Strategy and the National and Regional Transport Plans (2009); Technical Advice Note 18 on Transport; and for appraisals, the Welsh Government's Welsh Transport Planning and Appraisal Guidance (WelTAG) 2008) where the appraisal relates to transport infrastructure or services and Local Authority Local Development Plans.

Ports

792. The majority of ports are Statutory Harbour Authorities (SHAs) charged with managing and developing the harbour. Most of the major ports are also Competent Harbour Authorities i.e. additionally have statutory powers for navigation and pilotage.
793. Prior to devolution under the Wales Act 2017, the principal authorities with a regulatory role for ports and harbours currently include: Statutory and Competent Harbour Authorities, Welsh Government (fishery harbours), Department for Transport (DfT), Local Authorities (planning authority and municipal harbours) and NRW.

794. The Port Marine Safety Code⁶⁵ sets UK standards for safe marine operation at ports and harbours including the legal duties that apply. A port's statutory duties and powers are set out in local legislation, which generally includes provisions from the Harbours, Docks and Piers Clauses Act 1847. Ports are also subject to general public legislation such as the Harbours Act 1964 (as amended). The majority have statutory powers and responsibilities for the safety of navigation and to manage and maintain a harbour. Most ports with commercial traffic also have powers and responsibilities in relation to pilotage (Pilotage Act 1987).
795. SHAs have considerable autonomy over their area of jurisdiction, which often includes Permitted Development Rights. They operate in a competitive environment largely independent of any cross border considerations, although the navigation traffic created is considered over a wider area. Harbour Revision Orders (HRO) are used to change the harbour specific legislation governing its management. Harbour Empowerment Orders (HEO) are mainly concerned with the building of new harbours or creating harbour authorities with a responsibility to improve, maintain and manage them. Some SHAs have an exemption under section 75 of the MCAA and exercise powers to consent their own navigation dredging operations under a local Act or the Harbours Act 1964 and do not require a marine licence for dredging (or disposal if the relevant authorities are satisfied that the material is non-hazardous).
796. Responsibility for certain functions in the Harbours Act 1964 for smaller fishery harbours in Wales rest with the Welsh Ministers.

Shipping

797. The principal authorities with a responsibility for safe navigation of shipping include: Statutory and Competent Harbour Authorities, Trinity House, Maritime and Coastguard Agency (MCA) and DfT (including Port State Control), Flag States (offshore).
798. A considerable number of vessels navigate through cross –border areas particularly in the upper Bristol Channel and Dee / Liverpool bay areas. Developments in adjoining areas have the potential to impact upon navigation and must be considered by public authorities prior to their approval.
799. International maritime law, and in particular the United Nations Convention on the Law of the Sea (UNCLOS), provides obligations to respect the rights of innocent passage and freedom of navigation through territorial seas. Throughout the marine area there are aids to navigation such as lighthouses, buoys and telecommunications equipment which, along with areas such as IMO routeing, anchorages and pilot boarding places, play an essential role in maintaining safety of maritime traffic.

⁶⁵ <https://www.gov.uk/government/publications/port-marine-safety-code>

800. Regulations which govern shipping fall under UK legislation and international legislation and agreements including resolutions and conventions made by various UN agencies, such as the International Maritime Organization (IMO); and the International Labour Organisation. These protocols and conventions address security, safety, laws of the sea and pollution prevention. Government and regulators have a responsibility to ensure that measures are implemented. The principal responsibility for enforcing IMO regulations concerning ship safety, emissions and environmental protection rests with the Flag State (i.e. the country in which the merchant ship is registered). Flag State enforcement is supplemented by Port State Control, whereby officials in any country which a ship may visit can inspect foreign flag ships to ensure that they comply with international requirements. Both are administered in the UK by the MCA.
801. The International Regulations for Preventing Collisions at Sea (COLREGs) 1972 as amended, have been adopted by the IMO and govern the conduct of all vessels in close proximity and movements near Traffic Separation Schemes (TSSs). TSSs are international routing measures established by the IMO put in place to enhance safety and regulate traffic at busy confined waterways, or around capes.

Sector objective

To safeguard established shipping routes and support sustainable growth in the shipping and ports sector.



Ports and shipping sector policy and implementation guidance

802. Port sector policy applies to the inshore region of the plan area only. Shipping sector policy applies to both the inshore and offshore regions of the plan area.
803. The MPS recognises that ports and shipping are an essential part of the UK economy, providing a major conduit for the country's imports and exports and key transport infrastructure between land and sea. This plan identifies the ports and shipping sector as an area of priority for future growth for Wales. The Welsh Government and UK Government wishes to see port development as an engine for economic growth; supporting sustainable transport with more efficient links and supporting sustainable development. The National Policy Statement for Ports⁶⁶ currently provides an overarching framework for decisions on proposals for new port development (above set thresholds) in England and Wales. This will no longer apply when the ports related provisions under the Wales Act 2017 come into force, scheduled for April 2018. The Welsh Government is currently developing a National Development Framework for Wales which will set out where

⁶⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf

nationally important growth and infrastructure is needed and how the planning system - nationally, regionally and locally - can deliver it. The Welsh Government will work with the ports sector to ensure that it is appropriately integrated within the framework.

804. Welsh ports have an important role to play as key economic hubs for maritime industries (including for distribution and supply chain) and related transport and energy sectors.
805. Welsh Government seeks to develop and maintain functional and attractive port, harbour and marina facilities that can accommodate current and future demands for freight, bulk commodities, passenger and leisure in and out of the UK (including navigation access) in order to maximising the contribution of the sector to Wales' well-being goals. Support and investment in these facilities can unlock potential to boost the economy both directly through the greater use of the facilities and indirectly through the opportunities that improved maritime transport infrastructure provide for other sectors (both nationally and internationally). This can make Wales an attractive location for businesses, visitors and freight transportation, and can support local economic growth and jobs.
806. Most ports have significant landholdings and the terrestrial planning system is key to the future development of ports. Co-ordination between marine and terrestrial planning will be important to sustain and facilitate growth of port business and associated enterprises. Planning Policy Wales complements the policies in this plan, requiring planning authorities to plan positively to promote the use of ports through the protection or provision of access to them and by the retention or provision of appropriate facilities.
807. **The [Sector policy generic implementation guidance] applies.**
808. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes. As such there should be no presumption that an application within the respective sector SRA will be successful. Similarly, sector activity is not precluded outside identified SRAs.

Supporting policies

P&S_01: Ports and shipping (supporting)

Proposals for ports, harbours and shipping activities in Strategic Resource Areas (SRAs) are encouraged.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of port and shipping Strategic Resource Areas in order to support the sustainable growth of the ports and shipping sector through marine planning

P&S_02: Ports and shipping (supporting)

Proposals that provide for the maintenance, repair, development and diversification of port and harbour facilities are encouraged.

Supporting policy implementation guidance

809. These policies aim to support the sustainable development of port infrastructure, port operations and shipping, recognising the essential contribution to the economy of Wales provided by international and domestic trade, and the strategic role of ports in supporting a wide range of other marine sectors. They recognise the need to ensure well-maintained, safe and vibrant ports. Strategic Resource Areas (SRA) for ports and shipping have been identified that reflect existing activities. They include established ports and navigation channels to them; Traffic separations zones and connecting navigation routes and also areas of importance to the industry such as pilot boarding areas and ship anchorages.
810. In determining an application for ports development, the decision-maker should accept that a case has been made for ports' capacity to grow to meet future demand and therefore take decisions that will align with Government's objectives and policy for transport, including the NPS (in the case of ports that are Nationally Significant Infrastructure Projects), Planning Policy Wales, relevant local plans and this plan's policies, and should as appropriate:
- cater for long-term forecast growth in volumes of imports and exports by sea for all commodities;
 - support the development of offshore sources of renewable energy;
 - offer a sufficiently wide range of facilities at a variety of locations to match existing and expected trade, ship call and inland distribution patterns and to facilitate and encourage coastal shipping;
 - ensure effective competition among ports and provide resilience in the national infrastructure;
 - take full account of both the potential contribution port developments might make to regional and local economies.

- promote growth through improving networks and links for passengers and freight, as well as ensuring an efficient and competitive transport sector nationally and internationally;
- create a cleaner and greener transport system through improving the environmental performance of ports and associated developments, including transport, as well as to support infrastructure needed for green technologies;
- strengthen the safety and security of transport;
- deliver an increase in trade through Welsh ports, improve the strength of the freight network and encourage tourism at ports and marinas (including cruise liner calls and disembarkation ports).
- increase 'short sea shipping'⁶⁷ activities through Welsh ports to help improve the sustainability of the freight network;
- support the use of ports in Wales as cruise liner call ports, and encouraging the tourism aspect of its ports and marinas in line with 'Partnership for Growth: The Welsh Government Strategy for Tourism 2013-2020'⁶⁸
- facilitate 'coastal' shipping as part of encouraging a modal shift from use of road to waterborne freight, to reduce carbon emissions and free up road and rail capacity.
- encourage sustainable port development to cater for long-term forecast growth in volumes of imports and exports by sea with a competitive and efficient port industry capable of meeting the needs of importers and exporters cost effectively and in a timely manner, thus contributing to long-term economic growth and prosperity
- allow judgments about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or port developers operating within a free market environment; and
- ensure all proposed developments satisfy the relevant legal, environmental and social constraints and objectives, including those in the relevant legislation.

811. Public authorities should start with a presumption in favour of granting consent to applications for nationally significant ports development, in accordance with the NPS for Ports⁵³. That presumption applies **unless** any relevant legislative requirements or policies set out in another NPS or other policies in this plan indicate that consent should be refused.

812. Port development must be responsive to changing commercial demand. This requires flexibility to ensure that port capacity is located where it is required in order to ensure effective competition and resilience in port operations.

⁶⁷ EU definition: *coastal transportation linking European ports with adjacent countries*

⁶⁸ <http://wales.gov.uk/topics/tourism/development11/partnershipforgrowth/?lang=en>

⁵³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf

813. Where a Statutory Harbour Authority has worked with stakeholders to produce a Ports Development Plan (PDP), public authorities should take PDP and their descriptions of future development this into account a relevant consideration as an indication of support and need for the project at a local level.
814. Functionality is a critical component of a ports' viability so providing for the repair and expansion of facilities and infrastructure is vital. As the proportions of large vessels increase, access to ports, which are largely dependent on suitable tidal conditions (or substantial capital dredging campaigns), has become increasingly constrained. This puts at risk Welsh ports' ability to accommodate these vessels and to take advantage of potential opportunities for expansion into relevant markets. Dredging and disposal policies encourage the provision of adequate capacity to meet demand [see **Dredging & Disposal**].
815. Navigation needs must reflect any future changes to routing requirements and weather routing in severe conditions. The opportunity to refine SRAs in **P&S_01** through marine planning recognises that established navigation routes for commercial and passenger shipping might change over time.
816. Proposals should comply with International Maritime Organization (IMO) regulations on low carbon shipping and air pollution controls to address the emission of air pollutants from ships and mandatory energy-efficiency measures to reduce emissions of greenhouse gases from international shipping. Whilst the shipping sector is a producer of airborne emissions, it has a legally-binding global agreement to reduce its CO₂ emissions, through technical and operational measures adopted by the IMO and proposals should demonstrate where actions will be taken to do so.
817. Proposals should seek to minimise adverse environmental impacts and to support ecosystem resilience where appropriate. Development proposals provide many opportunities for building in beneficial biodiversity features as part of good design to benefit ecosystem resilience. Proposals should maximise such opportunities in and around developments, to enhance existing habitats and, where practicable.
818. Statutory Harbour Authorities have a duty to promote sustainable development, including aquaculture⁶⁹, within port boundaries where this is compatible with other activities they manage. SHAs have been identified as key public authorities with an aquaculture regulatory, advisory or management role. They should consider supporting potential aquaculture use in the context of their remit [see **Aquaculture**].

⁶⁹ Some areas of aquaculture potential have been classified only as potential Resource Area (rather than Strategic Resource Area) as they lie within Statutory Harbour Authority areas and the actual areas of potential acceptable use e.g. outside of navigation channels might be quite small. Parts of the Milford Haven, Holyhead and possibly further parts of the Menai Strait are of particular interest for either sea bed or water column aquaculture.

819. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector including within SRAs.
820. **In preparing ports and shipping related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policy

821. All proposals (including new ports and shipping sector proposals) with the potential to impact upon existing, planned or future potential ports and shipping activities in SRAs should apply the following ports and shipping safeguarding policies.

P&S_03: Ports and shipping (safeguarding)

Proposals potentially affecting Strategic Resource Areas for:

- established commercial navigation routes;
- pilot boarding areas and commercial anchorages; or
- existing port, harbour and marina activities and their potential for future expansion;

including where a consent or authorisation has been granted or formally applied for, should not be authorised except where compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

Safeguarding policy implementation guidance

822. Existing activity and traffic management measures have been incorporated into an SRA for this sector.
823. Under policy **P&S_03** proposals that overlap with port and shipping SRA areas will need to demonstrate that they can safely coexist unless, unusually, they would be making the case to proceed under **exceptional circumstances**. Exceptional circumstances may include circumstances where the economic or social benefit to be derived from the proposed activity significantly outweighs that which will be lost. Proposals seeking to be permitted on the basis of exceptional

circumstances should present a clear, evidenced and convincing justification for proceeding. Specifically, in relation to the port and shipping policies under this plan, the presented case will need to consider:

- Whether the proposed development is contained within UK Governments overarching National Policy Statements or Nationally Significant Infrastructure projects (NSIPs) or development is of national significance under the Planning Act 2015/16 but may also include smaller proposals depending on the nature of the existing use.
- Whether the supported sector is a priority area of this plan and that decision makers will be taking into account the extent to which the sector and plan strategic objectives are being met or may be adversely impacted if the application be accepted.

824. This safeguarding policy helps manage the potential adverse impacts of other sector activities on existing, planned and future potential activities of the ports and shipping sector. The policy seeks to minimise negative impacts on shipping activity, ensure freedom of navigation and navigational safety which are provided under international law, and protect the efficiency and resilience of continuing port operations, including their economic interests. It does this by ensuring that the development or other activities that may restrict ports and shipping in terms of continuing current operations and responding to future growth opportunities and potential changes to shipping routes are considered and addressed in decision making. The policy recognises existing and future designations for navigation whilst acknowledging the potential for shipping to co-locate with many sea-bed related and non-permanent activities. It also recognises the significant potential for coexistence of compatible activities with ports and shipping.

825. Existing activities should be taken as a reasonable guide as to the location of future activities, although not necessarily of their future intensity.

826. Where the policy refers to “a consent or authorisation has been granted or formally applied for...” this means any application for a marine licence or to a local authority for planning permission, usually by a harbour authority in connection with an activity that it is directly responsible for (or indirectly responsible for e.g. in the case of navigation dredging).

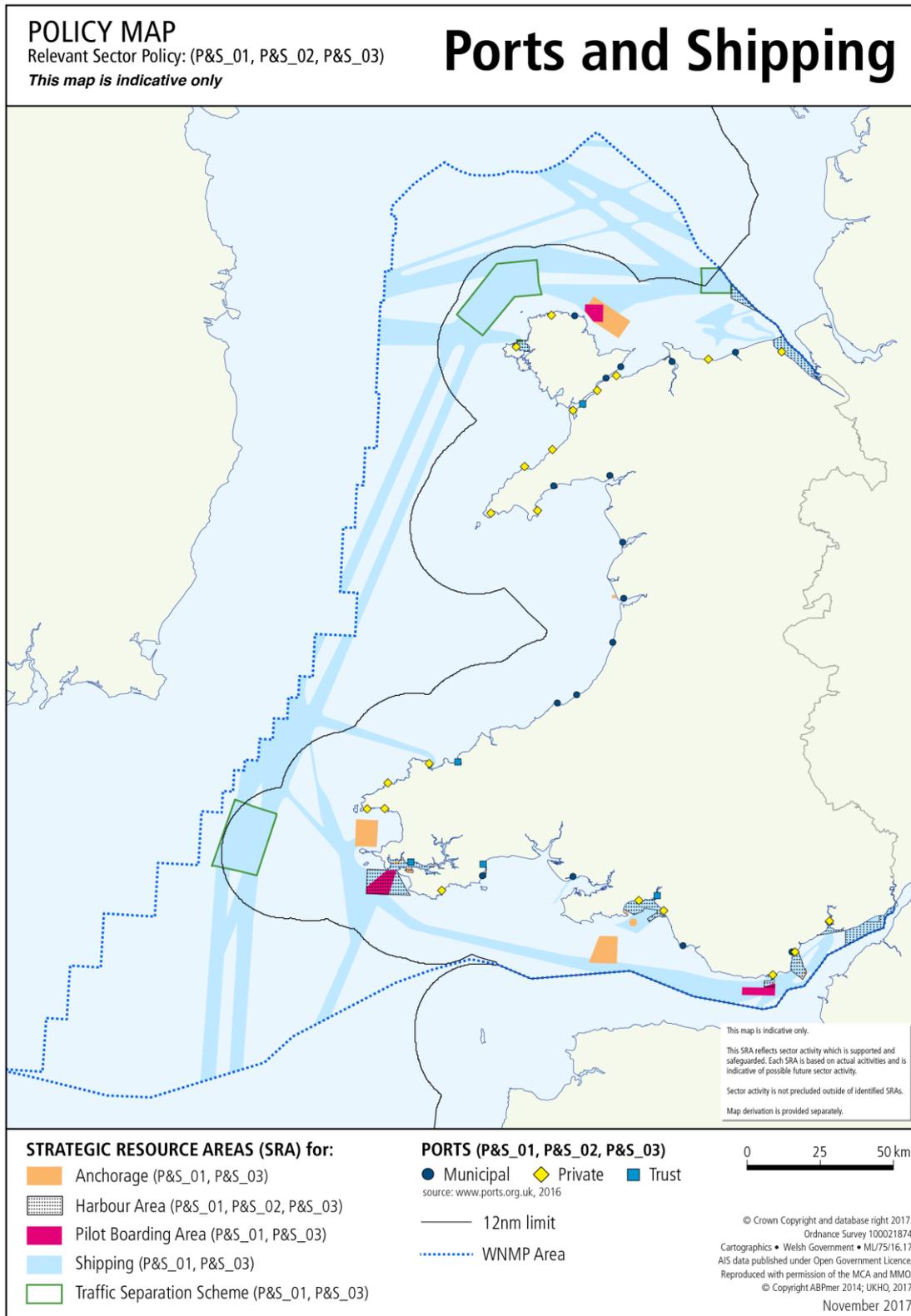
827. Proposals for marine activities and development should consider their potential impacts on vessel, port, harbour and marina infrastructure and operations. This includes the extent to which the proposed activity may interfere with existing or planned shipping routes, development of or access to ports and harbours and navigational safety, whether interference is likely and if alternatives can be identified and where there are no reasonable alternatives and the effectiveness of any minimisation or mitigation measures.

828. Potential risks to navigation and navigational safety include interference with the use of International Maritime Organisation (IMO) routes, the functioning of maintained channels or areas of intensive shipping activity (including maintaining sufficient under-keel clearance); and the operation of aids to navigation. Proposals should consider their impacts on defined approach channels and commercial anchorages which are integral to logistical port operations and safe

refuge of ships, as well as areas used by shipping more generally. Developments should not be authorised where use of International Maritime Organisation (IMO) routes might be compromised. The National Policy Statement (S 2.6.161) for Renewable Energy Infrastructure requires that a Nationally Significant Infrastructure Project should not be ‘... grant[ed] development consent in relation to the construction or extension of an offshore wind farm... [if] interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the development’.

829. Proposals should consider the intensity of shipping activity in the area of interest; the type(s) of vessel, their ability to manoeuvre and the risks associated with cargo types; the disruption to shipping activity; and whether impacts are permanent or temporary. Increased journey length increases fuel costs and emissions, and might also affect frequency of journey required. This in turn might be detrimental to the economic success of some freight types or significantly influence the ports used. Displacement of shipping should be avoided where possible.
830. Consideration should be given to static under-sea or sea surface infrastructure that may significantly interfere with or reduce under-keel clearance in identified navigation routes. When a proposal has the potential to impact on navigational safety the proposer should submit a Navigation Risk Assessment in line with best practice demonstrating that potential safety impacts have been considered and measures included to avoid, minimise or mitigate them. In assessing proposals that have the potential to impact on navigational safety public authorities should consult with the relevant authorities, such as the MCA, Trinity House and Statutory Harbour Authorities.
831. In general, proposals should not be consented if they pose an unacceptable risk to navigation after all possible avoiding, minimising and mitigating measures have been considered.
832. Public authorities should only issue consent if they are satisfied that the proposal will not adversely impact on navigational safety or have an unacceptable impact on shipping activities and freedom of navigation and are in compliance with national and international maritime law.
833. If it is not possible to avoid, minimise or mitigate the adverse impacts the proposer should clearly demonstrate that the public benefit of the proposal clearly outweighs the adverse impacts in the context of contributing across Wales’ well-being goals. Given the significant contribution that shipping and Welsh ports make to the economy, exceptional circumstances cases will be unusual and will need to be carefully considered.

Figure 21(b): Policy map – Ports and shipping (SRA)



Subsea cabling

Introduction

834. This sector includes the deployment, maintenance and decommissioning of subsea telecommunication and electricity (power) transmission cables. Telecommunications is the transmission of telephone, internet and data traffic to, from and *via* Wales. Cabling for electrical transmission in Welsh waters creates an offshore power grid which connects energy installations (e.g. offshore wind farms) to land and links to the power grids of other countries through interconnectors.
835. The MPS (3.7.1) states that ‘submarine cables are part of the backbone of the world's power, information and international telecommunications infrastructure, and are socially and economically crucial to the UK. Submarine telecommunication cables carry over 95% of the world's international traffic including telephone, internet and data, as well as many services for the UK's local communities, major utilities and industries. The transatlantic cables landing in the UK carry more than 70% of Europe’s transatlantic internet traffic.’ Electricity transmission is essential to modern life and power cables will support 18 Gigawatts of offshore wind farms in the UK by 2020 making a significant contribution to the well-being of current and future generations.
836. Submarine power and telecommunications cables are therefore of strategic national and international economic importance and are essential activities to support the activities of other sectors covered by this plan including Blue Growth aspirations.
837. Wales has a sub-sea inter-connection (Trans-European Network-Energy (TEN-E) and Sub-Sea HVDC Cables) to Scotland and America respectively, and a connection to the Republic of Ireland (EirGrid East West Interconnector). There is potential for further offshore grid projects in the future to strengthen the transmission network and support transfer of energy across borders.

Economic contribution of subsea cabling

The available information⁷⁰ makes a calculation of the economic value of the subsea cables sector to Wales difficult. 97% of international internet travels through subsea cables. At least £65 billion of economic activity in the UK each year relies on the subsea cables industry:

- £62.8 billion per annum in the UK’s digital economy.
- £2.8 billion in the UK electricity industry.

⁷⁰ <https://www.hud.ac.uk/news/2016/september/65bnofukeconomicactivityreliesonsubseacableindustry.php>

Current and potential future interactions with other sectors

838. Interconnector and electricity power cables are integral to the successful delivery of marine energy. More widely, subsea telecommunications and power cabling is critical to support our economy and way of life, so indirectly supports all sectors covered by this plan.
839. Cables are either laid on the seabed; rock encased or are buried in order both to protect the cables and to reduce the risk of interaction with other sectors' activities. Sea bed surface cable laying and maintenance operations may have a short-term impact on navigation activities (i.e. displacement/increased collision risk). If burial or protection measures are applied, the works may take longer so the potential for interaction may be higher.
840. Interactions can damage both the cable and / or contact mechanism causing economic loss to the operators of both activities, and may risk human safety. Damage to cables is expensive to repair and can cause significant disruption to power and telecommunication distribution. The MPS notes that increased activity in the UK marine area means that the number of incidents may increase and states that 'marine planning has a role to play in coordinating marine activities to ensure both the safety of these installations and safe access to them for maintenance purposes'.
841. Cables are fixed installations, and once laid on or buried under the seabed may interact with other activities that make contact with the seabed, e.g. fishing using dredges or bottom towed gears, aggregate dredging, vessel anchoring and potentially other cables and pipeline laying activities (oil, gas or waste).
- Fishing Activity: The main effects of cable laying on commercial fishing activity are related to restrictions on access to fishing grounds or the snagging of fishing gear, which can lead to reduced returns and/or increased costs for the fishing industry. The risk is small in Wales where the majority of the fishing fleet are small vessels which do not use dredge or towed fishing gears. . However, larger vessels using towed gears operate beyond 6nm in areas where cables are known to be present (especially in north and south west Wales).
 - Aggregate dredging: Current activity is not coincident with cable corridors, although this may change in future if aggregate areas further offshore in the Bristol Channel are accessed as proposed in this plan.
 - Offshore oil and gas activity has to date focused on areas off Mid Wales and North Wales coasts, where cabling is known to exist. Future oil and gas licensing decisions will need to take account of cable locations and their buffer zones.
842. Other potential interactions and impacts could include disturbance from cable operations to known or undiscovered archaeological sites. This is typically a very localised effect and a properly executed cable route survey, appropriate stakeholder engagement and adequate route engineering can avoid, minimise or mitigate these risks.

843. In the telecommunications sector there are benefits to businesses and households from better quality and speed of digital communication, as well as improved reliability of internet connectivity⁷¹. These benefits translate into improved business efficiency, improved ability to manage people and processes, as well as improved opportunities for the international communication of product and process innovations. In the electricity sector, the use of subsea cables is vital for the import and export of electricity, as well as to connect offshore electricity production to the mainland electricity grid system. Hence, subsea cables ensure improved reliability and security of electricity supplies as well as access to international markets thereby supporting the well-being of current and future generations.
844. Cable installation and maintenance activities, and associated vessel activity have the potential to increase the risk of collision with existing navigational users. It is considered that this risk is of temporary nature, and can be mitigated through careful planning and notification to Marine Coastguard authorities or any other relevant stakeholders. Subsea cable projects will often have a Navigation Risk Assessment in place establishing good practice and risk controls and protocols.

Ecosystem interactions

845. Potential effects upon subtidal and intertidal ecosystems may occur during installation, operation and decommissioning of cables. The installation, repair and/or removal of subsea cables can cause physical disturbance of the seabed and affect ecosystem resilience through damage, displacement and removal of biological communities at a localised scale.
846. Impacts on benthic communities will depend on the species and habitat. Disturbance may result in localised reduction of species diversity, abundance and biomass within the effect footprint. This could lead to wider ecosystem effects on intertidal habitats, offshore benthic habitats and fish and shellfish ecology, and an indirect effect on birds through the loss of prey availability. However, in most cases the effects are temporary and restricted to a narrow strip of seabed, normally limited to an area 2-3 m either side of the cable, or in the order of 10m width if the cable has been ploughed into the seabed. Less stable habitats (coarse, clean sands) are likely to recover quicker than more stable habitats (mixed sediments, muddy sands and mud); although in both instances the overall footprint on the seabed is likely to be small, with the seabed usually returning to its original state.
847. Installation and recovery operations result in some re-suspension of seabed sediment, increasing turbidity and creating sediment plumes. The nature of effect will depend on the type of sediment and the level of disturbance but effects are typically smaller than those associated with other marine activities such as aggregate extraction and D&D.

⁷¹ Huddersfield University on Economic and Social evaluation of the UK subsea cables industry (Dec 2016).

848. The flow of electrical current in subsea cables generates electromagnetic (EM) radiation. It is considered that EM fields may have the potential to affect sensitive marine species, such as sharks and rays and may affect spatial orientation of some marine mammals, resulting in alterations to movements and migration patterns.
849. Cables themselves, if not buried, will also provide a solid substrate for a variety of opportunistic colonising species. Whilst this may increase habitat diversity and contribute to ecosystem resilience, it could lead to an alteration of the natural benthic community, although in most cases effects will be localised.
850. The potential risks to sensitive receptor species can normally be addressed by planning the timing of operations and specific route of a cable. Careful route planning can assist in minimising the impact of cabling upon ecosystem resilience by avoiding sensitive habitats such as biogenic reefs, seagrass beds and salt marshes. If suitably routed and managed, cable installations and the presence and operation of cables can typically avoid significant impacts on natural resources. The contribution of subsea cable effects to cumulative or in-combination effects caused by installation, maintenance or decommissioning activities is generally considered to be limited.

Future

851. Subsea cables are an integral component of the world's power, information and international telecommunications infrastructure and will continue to be socially and economically vital to well-being. The growth of the sector is expected to mirror that of the UK economy as a whole.
852. The expansion of offshore renewable energy technologies will increase the number of subsea power cables. Whilst at present there are relatively few telecommunication subsea cables in the plan area, the number is expected to increase to accommodate the needs for growth in data communication. Recent substantial investment has delivered a fibre optic corridor linking Dublin to Holyhead and onward to UK and Europe. Given that the lifetime of these assets is 15 to 25 years further telecommunication development is unlikely to be necessary in this area in the immediate future. However, if forecast capacity demand for internet and data bandwidth continues to increase, additional cables may be required.
853. The Welsh Government is working with international connectivity providers to diversify electricity supply sources and smooth peaks in supply and demand especially those from fluctuating renewable energy supplies. The number of interconnectors and total interconnector capacity in the UK is also likely to increase (e.g. between Wales and Ireland).

Climate change

854. The effects of climate change upon the sector are minimal but may include risks of damage to cable landfall sites as a result of sea level rise, flooding and increased storminess, and risks to both cables and their landfall sites as a result of

increased erosion and sedimentation. Prudent cable system planning and engineering can address these risks.

Key evidence needs

855. Key evidence needs in relation to marine planning include:
- understanding the sensitivity of species to electrical power transmission cables; and
 - research into technological improvements for fibre-optic telecommunications cables to allow capacity increases thereby allowing the industry to keep pace with demand without increasing numbers of cables.

Governance

856. Regulation of the subsea cabling sector is a devolved matter in the inshore plan region.
857. Key decision making and advisory authorities include: the NRW Permitting Service, Welsh Government, TCE, Local Authority (planning permission on land), private landowners and BEIS, MMO (>12nm).
858. Subsea cable types are subject to differing legislative control depending on their purpose and where they are located:
- The installation of all cables within UK territorial waters requires a marine licence from the relevant licensing authority (the NRW Permitting Service <12nm). If the cable is an international cable, the relevant licensing authority is obliged to grant the marine licence, but can include reasonable conditions.
 - Laying international cables outside UK territorial waters does not require a marine licence as it will be considered under the UN Convention on the Law of the Sea (UNCLOS).
 - Cables associated with marine energy generation technologies within EEZ waters require a marine licence for their entire route.
 - Cables that pass through more than one national jurisdiction will require cross-border dialogue on routing and permitting.
859. The Crown Estate (TCE), in its role as landowner, grants permission for telecom cables and leases for power cables for the right to install cables on Crown Estate property. Consent must be obtained from TCE for the installation and use of any telecommunications apparatus on TCE's seabed and foreshore. In doing so, both TCE and NRW permitting service exercise some level of control and consider cross-border implications where cables may cross country boundaries and where they make landfall. NRW cannot grant a marine licence for works within non-Crown owned tidal seabed unless it is satisfied that adequate arrangements have been made to compensate owners of interests in the tidal water or lands affected for any loss or damage.
860. TCE rights to licence renewable energy generation on the UK continental shelf means TCE permission is needed for the full length of electricity cables (export cables) connecting offshore wind farms to shore and these rights are granted to either the associated wind farm developer or Asset Owner.

861. The sector operates to a range of good practices including: liaison with fisheries and UKHO; cable awareness; cable installation; cable protection; safe working distances; fouling incidents and decommissioning⁷². For example, guidelines have been produced that address installation and maintenance constraints to submarine cables and constraints to marine aggregate extraction operations where both interests will occupy proximate areas of seabed.

Sector objective

To support the optimal distribution of electricity and better global communications through the growth of digital communication networks.



Subsea cabling sector policy and implementation guidance

862. Subsea cabling sector policy applies to both the inshore and offshore regions of the plan area.
863. The MPS recognises that subsea cables are the backbone of the world's power, information and international telecommunications infrastructure. Welsh Government recognises that widespread access to affordable, secure telecommunications infrastructure is important to citizens and businesses across Wales and that international telecommunications connectivity relies almost entirely on the subsea networks within UK waters which therefore represent essential, strategically important infrastructure. The achievement of energy targets requires sufficient infrastructure to transport electricity from offshore facilities and share energy between countries in-order-to facilitate improved supply/demand timelines.
864. This plan supports the development of an advanced broadband telecommunications infrastructure throughout Wales and promotes an integrated approach to the provision and renewal of energy and telecommunications infrastructure. Relevant public authorities should enable the growth in telecommunication and electricity transport cables necessary to deliver policy objectives.
865. Submarine cable owners have rights to repair damaged infrastructure (cables or protection); proposed works should be discussed with the relevant licensing authority but depending on the nature of the repair some works may be exempt from the licensing process. Repair of cables in the case of an emergency or breakage needs to be undertaken as swiftly as possible and historically has not required a licence; the cable owner should notify the regulator of the intention to repair the cable.

⁷² (<http://www.subseacablesuk.org.uk/> and <http://www.kis-orca.eu/>)

866. There is a general presumption that all disused infrastructure should be removed and subsequently taken to land for reuse, recycling, incineration with energy recovery or disposal at a licensed site. The decommissioning of submarine cables follows BEIS / IMO guidelines for offshore installations and has also been adopted for subsea cabling by TCE in the absence of any statutory guidance. Exceptions from this general requirement will only be considered where there are very good reasons. This approach recognises that removal of infrastructure allows the marine environment to be used again for other purposes. It recognises that, if some infrastructure is not removed, it may pose a risk to navigation in the area. Where cables remain buried at a safe depth below the sea-bed, there might be a case for leaving them in place; environmental impacts and financial costs of removal will be key considerations.
867. Concerns might arise if the cables were to become exposed by natural sediment dynamics, as exposed cables might pose a risk to other maritime users, with the possibility that fishing gear or an anchor might foul a cable. The option for cables being left in place may be appropriate where they are buried at a safe depth below the sea-bed such that they do not pose a risk to other maritime users. The appropriate depth will depend upon the prevailing sea-bed conditions and currents. Where it is proposed to leave cables in place, cable burial depth should be monitored over and beyond the life of the installation, to assess the risk of cables becoming exposed. Contingency plans should be included in the decommissioning programme, to describe the action proposed if the cables do become exposed. Relevant guidance should be followed when considering any cable development and activity.
868. **The [Sector policy generic implementation guidance] applies.**
869. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.

Supporting policy

CAB_01: Subsea cabling (supporting)

Proposals that facilitate the growth of digital communications networks and/or the optimal distribution of electricity are encouraged.

Supporting policy implementation guidance

870. An increasing number of businesses depend on accessing international connectivity to operate and with the continued upward trend of e-commerce it is important that relevant authorities allow for the timely expansion and support of the telecommunications sector (including subsea cables). Interconnector and electricity power cables are integral to the successful delivery of offshore and marine renewable energy. A plan-led approach to the development of grid will provide the most efficient connections taking account of environmental and economic factors and other users.
871. Cable and network owners should engage with the relevant authorities and other interested parties at the early planning stage to notify them of any intention to lay or replace cables before routes are proposed.
872. Public authorities may require an EIA to determine the potential environmental effects of cable laying and maintenance. Plans associated with the integration of cross-country / individual countries offshore grids should include trans-boundary considerations.
873. Proposals for subsea cabling should seek to minimise their adverse impacts on the marine historic and natural environment, assets, infrastructure and other sea users where operationally possible and in accordance with relevant good practice. Cables should be suitably routed to avoid sensitive habitats and other features including historic assets.
874. Proposals should also seek to avoid areas that are important to other sectors, e.g. navigation lanes and deep-water channels (in order to allow for maintenance dredging), important bottom fishing areas and the aggregates industry. Early consideration should be given to the safeguarding policies for the other sectors covered by this plan.
875. Appropriate and proportionate environmental consideration and risk assessment should be provided which may include cable protection measures and mitigation plans. Relevant public authorities should consider making authorisation to lay or protect subsea cables subject to proportionate conditions to reinstate the seabed, undertake monitoring and to carry out remedial action.

876. It is often considered that placing any new cables in close proximity to existing cables will reduce impacts and risk (by minimising the area of excluded activities as well as reducing the risk of damage to cables). However, this could potentially increase risks to the cables if forced too close together where a single incident (e.g. damage from a vessel's anchor) could damage all the cable infrastructure. The sector practice of diversifying cable routes so as to reduce the risk of failure should be supported.
877. The subsea cable sector can reduce the potential for conflict, and increase co-location and coexistence opportunities, by undertaking burial of the cable. Preference should be given to this method of cable installation where there is possibility of significant impact by other activities and where seabed conditions are suitable, i.e. where there may be shallow gradients and softer sediments down to water depths of 1500m or more. Burial reduces the risk of discontinuity of service and improves safety. Where burial is not achievable or desirable, alternative protection measures may be appropriate (in line with regulatory requirements and industry good practice). These include placement of split pipe, grout bags, rock placement, mattressing or armouring. Appropriate protection measures may be affected by various project factors, for example; cable purpose, type, length, and operational installation or maintenance costs.
878. Landfall sites and access to them are a key issue for the subsea cables sector. When selecting locations for landfall of power and telecommunications cables, developers and relevant authorities should ensure that any proposals are aligned with land planning policies (and the policies of this plan) to determine compatibility with natural resources and existing or planned uses, e.g. with measures to combat flooding and protect coastal areas.
879. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector.
880. **In preparing subsea cabling related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policy

881. All proposals (including new subsea cabling sector proposals) with the potential to impact upon existing or planned subsea cabling activities should apply the following subsea cabling safeguarding policies.

CAB_02: Subsea cabling (safeguarding)

Proposals potentially affecting existing and planned subsea cables and their landfall sites where a consent or authorisation or lease has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed subsea cable activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

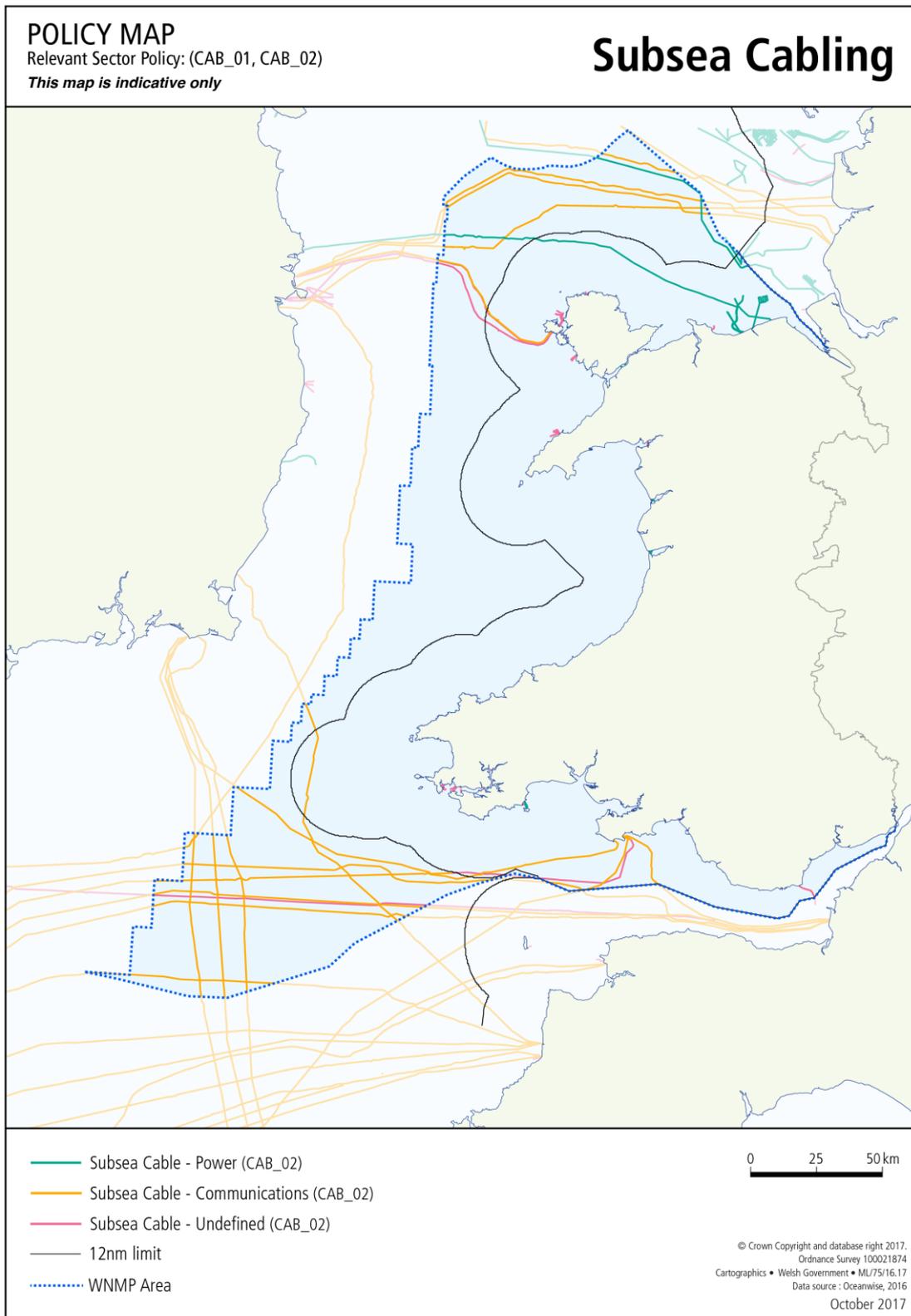
Safeguarding policy implementation guidance

882. This safeguarding policy helps manage the potential adverse impacts of other sector activities on existing and planned activities of the subsea cabling sector. The policy recognises the importance of protecting subsea cables, their land-fall sites, and the associated land-based infrastructure which will be the subject of local authority planning permission.
883. This plan recognises that the growth in other sectors (for example competition for space with oil and gas pipelines, aggregates, fishing and shipping), as well as within the cabling industry, increases the risk of potential damage to subsea cables of all types. A collaborative and planned approach promotes coexistence and reduces risk. Flexibility in cable route can often adequately address potential adverse interactions.
884. Coexistence of cables with other activities can be managed, however in certain circumstances co-location with other activities can be unacceptable, e.g. once a cable is installed (whether on the surface or buried) it is protected by law and activities such as fishing or anchoring over it must be prevented. Fishing over cables is noted as a practice to avoid in the Mariners handbook published by the UKHO.

885. The provision of accurate and up-to-date information is a key requirement for the subsea cable sector in order both to plan activities and to reduce the risk of accidental impacts. Sector users, particularly the fishing sector, can gain access to accurate and comprehensive information held by Kingfisher under the KIS-ORCA154 (Kingfisher Information Service – Offshore Renewable & Cable Awareness) project on the majority of submarine cables within UK waters. The KIS-ORCA project provides free cable awareness charts, electronic route position lists and digital information for chart plotters to fishing vessels and relevant marine stakeholders. Key fishing organisations and stakeholders are working with the sector to promote this project and assist with the local distribution of the data. Cable routes are also identified on UKHO charts, by TCE and on the WG marine portal, all of which serves to reduce the risk that cables will be accidentally damaged by other sector activity.
886. Through the marine planning process and the provision of accurate information as to the location of subsea cables, relevant public authorities should help facilitate the co-ordination of marine activities, improve understanding among relevant industries and the communication of guidelines to ensure both the safety of these installations and safe access to them for maintenance purposes.

DRAFT

Figure 22: Policy map – Subsea cabling



Surface water and wastewater treatment and disposal (SWW)

Introduction

887. The management of surface water run-off and wastewater includes its collection, transport, treatment and disposal. It covers sewers, sewage treatment works, industrial effluent and combined sewer overflows.
888. Surface water run-off comprises two elements:
- rainwater that soaks into the ground then seeps into waterways that discharge to the sea, and
 - the rainwater that runs from roofs, highways and paved areas into the public sewerage systems that eventually also finds its way to the sea.
889. Only the latter activity, managed through coastal and at-sea infrastructure, is a consideration of this plan. Wastewater is defined as the water-borne wastes of a community, encompassing domestic, commercial, industrial, and agricultural components entering the sewerage system.
890. In rural areas a high proportion of river flow comes from rain soak and natural processes. However, in urban areas where the extent of green, open space can be low, the area available to absorb rainfall is greatly reduced. Here, run-off is channelled where possible through drainage networks to watercourses or finds its way into the sewerage system for treatment and disposal.
891. For various reasons, including more frequent severe storms and the increase in impermeable surfaces in built-up areas, the sewer network has to deal with increasing flows of surface water. Under conditions of high surface water discharge the sewer network can become overloaded, with a consequent flooding risk to homes and businesses. To help prevent this, Combined Sewer Overflows (CSOs) act as relief valves in the sewerage system to release waste storm water into a waterway when the capacity of the sewer is reached. At this point the wastewater is typically very dilute (generally less than 0.1% is solid material). Such discharges are unavoidable, well regulated, and subject to monitoring and mitigation of their impacts.
892. Infrastructure is needed for the collection, treatment and disposal of waste water from housing and industry. The provision (through both terrestrial and marine planning) of this infrastructure and its effective management and maintenance are key activities to support the well-being of current and future generations including safeguarding ecosystem resilience and the protection of natural resources.
893. The function of the sector is closely aligned with, and is critical to, other sectors (e.g. tourism and recreation, fisheries, aquaculture) that rely upon healthy, clean coastal and freshwaters to support their own activities. In particular, the management of surface water run-off and wastewater, and the frequency of overflows leading to the release of untreated wastewater, play an important role in

water quality and maintaining our natural resources in a healthy state [see **Water quality**].

Economic contribution of surface water and wastewater treatment and disposal

It is not possible from current information to easily determine the economic value of marine assets and operations to Wales. The sewerage sector supports direct employment in the construction of new infrastructure, in maintaining existing infrastructure and the management of treatment services throughout Wales. Dŵr Cymru has about 3,000 employees. It also provides key infrastructure that many businesses in Wales rely on.

Dŵr Cymru is undertaking a five year capital spend programme of around £1.5bn. As part of this programme, Dŵr Cymru spent an estimated £329m on capital projects during 2012-13. In addition to this, a further £290m was spent on operating costs. Dŵr Cymru directly and indirectly (i.e. through supply chain and household effects) supports nearly £1.1bn of economic activity and around £360m of gross value added in the Welsh economy (every £1 of Dŵr Cymru's spend generates more than 56p in the rest of the Welsh economy).

Among Dŵr Cymru's direct employees are over 100 engineers and more than 40 scientists. There are also around 30 employees on graduate placements and 25 employees on apprenticeships. The relatively high average incomes supported directly by Dŵr Cymru contribute to the generation of significant offsite household spending effects in Wales.

Current and potential future interactions with other sectors

894. The impacts of the sewerage and wastewater management sector on local water quality, as described above, can have significant implications for other sectors. The natural environment, fisheries and aquaculture enterprises rely on waters being of consistently high quality. The impacts of this sector on local water quality (see LWEL section), can have implications for other sectors such as tourism, recreation, fisheries, and aquaculture. If discharges are inadequately treated or accidental:
- toxic substances and water-borne pathogens to waters used for contact based recreational activities, such as swimming and canoeing, may bring health risks to marine users;
 - sewage solids are aesthetically displeasing and can make resorts unattractive to visitors, as can algae associated with nutrient enrichment; and /or
 - shellfish contamination (by algae, viruses or bacteria) makes them unsafe to eat.
895. Infrastructure associated with this sector (e.g. pipelines) has the potential to impinge on flood & coastal defence, recreation and amenity.

Ecosystem interactions

896. Wastewater assimilation is one of the most important services that the marine environment provides. However, our seas have only a limited capacity to disperse and dissipate waste and if this assimilative capacity is exceeded, the resilience of the ecosystem will be affected. This capacity will vary with the characteristics of each site and with the type and number of discharges or activities or affected resources and uses and is influenced by physical processes such as dilution, dispersion and sedimentation. Dilution is one of the main processes for reducing the concentration of substances away from the discharge point. The capacity of the receiving waters to dilute effluent is influenced by physical factors and will be reduced in areas where little mixing occurs or there is a longer residence time.
897. As a result of human activity, wastewater can be contaminated with a wide range of harmful components from a variety of sources that can impact upon ecosystem resilience. Untreated or inadequately treated sewage or other effluent can impact upon ecosystem functioning due to poisoning, oxygen depletion or eutrophication (enrichment through nutrient supply) of receiving waters. Effluent may also contain sewage litter and other sewage solids that can impact the environment, for example, through physical smothering, nutrient enrichment or contamination (adding pathogens including bacteria and viruses). Pollutants can have (bio-cumulative, persistent and synergistic characteristics affecting ecosystem health and function, food production and human health and well-being.
898. Waste water discharges are tightly regulated. Excessive discharges in concentrations greater than regulated levels may have far reaching implications for marine ecosystems and the ecosystem services on which our well-being and economic productivity depend. The continued provision of these services requires management of water throughout the catchment as part of sustainable natural resource management. The policies in this plan support this approach and help ensure that wastewater management continues to provide the essential services that support our well-being whilst maintaining marine ecosystem resilience.

Future

899. The demand and challenges of wastewater management may increase in the future as a result of:
- population growth creating pressure on the sewage network and treatment for waste water disposal;
 - increased tourism and recreation putting more seasonal demand on the sewer network and waste water treatment and disposal;
 - urban creep increasing the proportion of the catchment that is impermeable thereby increasing peak-run off events;
 - risk of increased diffuse urban and rural pollution from wider catchment areas; and
 - climate change impacts.

900. Legislative drivers are expected to continue to develop (as they have over recent decades) with the aim of preventing further deterioration and improving the quality of the natural environment and reducing risk to human health (e.g. through improved quality of bathing or bivalve shellfish harvesting waters). Programmes of work are continually reviewed by the industry and regulator for the development and management of waste water assets (as Asset Management Plans) to achieve this.
901. The role of integrated multi-trophic aquaculture systems may be considered in the future as a means of managing nutrient levels in inshore waters. Here shared nutrient flows are used to culture multiple organisms at different trophic levels, thus maximising productivity from available nutrients.

Climate change

902. Key climate change impacts relate to risk of more extreme weather events; including the prevalence of both drought and storms. More frequent and / or intense storm events will give rise to higher volumes of run-off into sewerage systems over a shorter period of time. This increases the frequency of potential storm overflows [see **SOC_06**]. Other risks include:
- higher temperatures may affect pathogen mortality and could encourage algal growth and eutrophication;
 - sea level rise may result in adverse effects on coastal water infrastructure, e.g. tidal locking, saline intrusion and additional pumping need. Coastal flooding can threaten waste water treatment works in low lying coastal areas;
 - coastal erosion, in response to climate change could undermine or bury outfalls and place other coastal assets at risk from shoreline erosion. Sea defences may therefore be required to safeguard existing infrastructure in coastal areas.
903. Engineering works and other management schemes (e.g. sustainable urban drainage schemes, SUDS) are intended to better accommodate storm water events or spread peak flows.

Key evidence needs

904. Continuation of sampling specific faecal indicator organisms and modelling of relevant zones around the coastline to provide robust data monitoring the impacts of wastewater discharges and diffuse sources of pollution on coastal water quality will be important. Also:
- NRW routine monitoring of bathing waters and other coastal areas;
 - Dŵr Cymru investigative programme involving sampling of specific faecal indicator organisms and modelling of relevant zones around the coastline to provide robust data showing what, if any, impact DCWW discharges and diffuse sources of pollution are making to coastal water quality;
 - understanding the impact of litter (including micro-plastics) from all sources and how to reduce inputs; and
 - research into other contaminants management, including new chemical compounds and their behaviour in the marine environment.

Governance

905. Management and regulation of surface water and wastewater treatment and disposal is a devolved matter in the inshore plan area.
906. Key decision making and advisory authorities include: NRW, Welsh Government, Dŵr Cymru Welsh Water (DCWW), LA (planning), Food Standards Agency Wales and OFWAT.
907. The majority of the wastewater network in Wales is owned and managed by Dŵr Cymru Welsh Water (DCWW). Its sewerage supply area includes the entire Welsh coastline. NRW is the environmental regulator of the water industry in Wales and enforces environmental regulations and determines where improvement is required to meet specific water quality drivers and long term water quality goals. . The Water Services Regulation Authority (Ofwat) is responsible for economic regulation and the Drinking Water Inspectorate (DWI) is responsible for regulating drinking water quality.
908. Domestic sewage and trade waste is treated either in public or private works and is the subject of a permitting regime under the Environmental Permitting (England and Wales) Regulations 2010 administered by NRW before discharge to the sewerage system.
909. Relevant strategy documents include:
- The Water Strategy for Wales provides an overarching guideline for water issues
 - Welsh Water- *Surface Water Management Strategy* to address the problems associated with increased flows of surface water
 - Welsh Water guidance documents for developers, see⁷³
910. Planning Policy Wales⁷⁴ requires that new development does not adversely affect water supplies, water quality or sewerage and therefore takes account of potential impacts across coastal boundaries. Development proposals in sewered areas must connect to the main sewer, and it will be necessary for developers to demonstrate to local planning authorities that their proposal site can connect to the nearest main sewer. Development proposing the use of non-mains drainage schemes will only be considered acceptable where connection to the main sewer is not feasible.
911. Discharges to the inshore marine environment may have a widespread distribution depending upon their volume, composition, behaviour and degradation rate. Similarly abstraction licences can have an impact some distance away from the initial extraction point. In issuing respective licences, decision makers will have regard to the nature of the water course and the receiving environment

⁷³ <http://www.dwrcymru.com/en/Developer-Services.aspx>.

⁷⁴ <http://gov.wales/topics/planning/policy/ppw/?lang=en>

irrespective of administrative boundaries and will liaise with other public authorities to ensure that there are no adverse cross-border implications.

Sector objective

To safeguard the capacity to safely and effectively treat and discharge surface water runoff and wastewater.



Surface water and wastewater treatment and disposal sector policy and implementation guidance

912. Surface water and wastewater treatment and disposal sector policy applies to the inshore region of the plan area only.
913. The MPS asserts that the UK seeks to contribute to sustainable development, including the health and well-being of the community and the protection of the environment, by maintaining and developing a policy and regulatory system which provides modern, high quality management and treatment of surface and waste water.
914. Water treatment systems are largely developed in response to regulatory needs (e.g. changing water quality standards, public health considerations), changes in numbers or distribution of people, or increased flows in the network (e.g. from greater surface runoff, or composition of discharges, or new chemical compounds). Much of the infrastructure has been in place since Victorian times, particularly in urban areas.
915. These drivers occur almost exclusively in response to land-based pressures and the majority of the SWW sector infrastructure is also land based. Decisions concerning the SWW sector will normally be addressed by terrestrial planning; however management of the sector has clear implications for the marine environment and users, and marine processes and activities have the potential to impact on wastewater outfalls. Terrestrial and marine planners must therefore work closely to ensure the sustainable management of the SWW sector. National and / or European legislation to protect the natural environment or human health are the principal drivers of the development of wastewater treatment infrastructure. The location and design of this infrastructure reflects environmental dispersal or dilution capacity, the availability of suitable land and land planning outcomes. To that extent, options in marine planning are limited, to the extent that they need to recognise the characteristics of the SWW sector and safeguard its effective operation through consideration by other sectors. In the circumstances, it is difficult to predict areas of future development and sector planning must be in large part reactive.

916. **The [Sector policy generic implementation guidance] applies.**
917. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.
918. **In preparing surface water runoff and wastewater treatment and disposal related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policy

919. All proposals (including new surface water runoff and wastewater treatment and disposal sector proposals) with the potential to impact upon existing or planned surface water runoff and wastewater treatment and disposal activities should apply the following surface water runoff and wastewater treatment and disposal safeguarding policies.

SWW_01: Surface water run-off and waste water treatment and disposal (safeguarding)

Proposals potentially affecting existing and planned wastewater management and treatment infrastructure where a consent or authorisation or lease has been granted or formally applied for should not be authorised unless compatibility with the existing, authorised or proposed activity can be satisfactorily demonstrated or there are exceptional circumstances. Compatibility should be achieved, in order of preference, through:

- a) avoiding adverse impacts on those activities; and/or
- b) minimising impacts where they cannot be avoided; and/or
- c) mitigating impacts where they cannot be minimised.

If adequate compatibility cannot be achieved, proposals should present a clear and convincing justification for proceeding.

Safeguarding policy implementation guidance

920. This safeguarding policy helps manage the potential adverse impacts of other sector activities on existing and planned activities of the surface water runoff and wastewater treatment and disposal sector.
921. Effective surface water runoff and wastewater management has environmental, economic and social benefits that should be safeguarded by protecting the sector from adverse impacts by other users of the marine environment. Policy **SWW_01** aims to safeguard existing and planned surface water runoff and wastewater management systems. Planned activities may be identified within LA planning applications, DCWW plans or AMPs agreed with NRW, Government and OFWAT.
922. The capacity of existing and future infrastructure for water supply and waste facilities are a component of Local Development Plans. DCWW's investment in water and sewerage infrastructure is guided by LDPs and managed in rolling 5 year Asset Management Plans (AMPs) which seek to ensure appropriate large scale water and sewage infrastructure works are undertaken to provide capacity for growth.
923. The policy recognises the importance of having waste water infrastructure and the work and investment required to develop appropriate sites. There may be limited options for location and a long lead in process from initial identification of options and application for land consents to allow construction, licensing and operation to proceed. Applications for a marine licence will need to proceed in tandem with land permissions.
924. New proposals should consider their potential impact on existing and planned wastewater management and treatment infrastructure. Adverse impacts of new proposals may include changes to the risk of overflows during storm events; access to maintain infrastructure and/or the flood risk of coastal plants. Such changes may reduce the cost effectiveness of the treatment system and may result in price increases or fluctuations in water charges to customers.
925. Other examples of potential impacts include:
- development based on the coastline, e.g. marinas and power stations, can lead to additional network flow or treatment required at existing treatment works;
 - removal of surface water from the site discharge and other local compensatory schemes can significantly mitigate these effects by freeing up capacity in the network / treatment process;
 - waste from processing fish and shellfish can impact the marine environment, or affect water treatment where waste is introduced to sewers. This could be minimised by treatment at the processing plant, recycling and minimising waste and use of best practise;
 - some marine activities, e.g. large discharges from other industry, tidal lagoons / impoundments, port and harbour development, construction of sea defences and dredging work can block, damage or affect the operation of outfalls or change marine circulation and dispersion thereby reducing water quality.

These effects can be partly minimised through good design but will typically require additional treatment or outfall repositioning to maintain existing marine water quality; and / or,

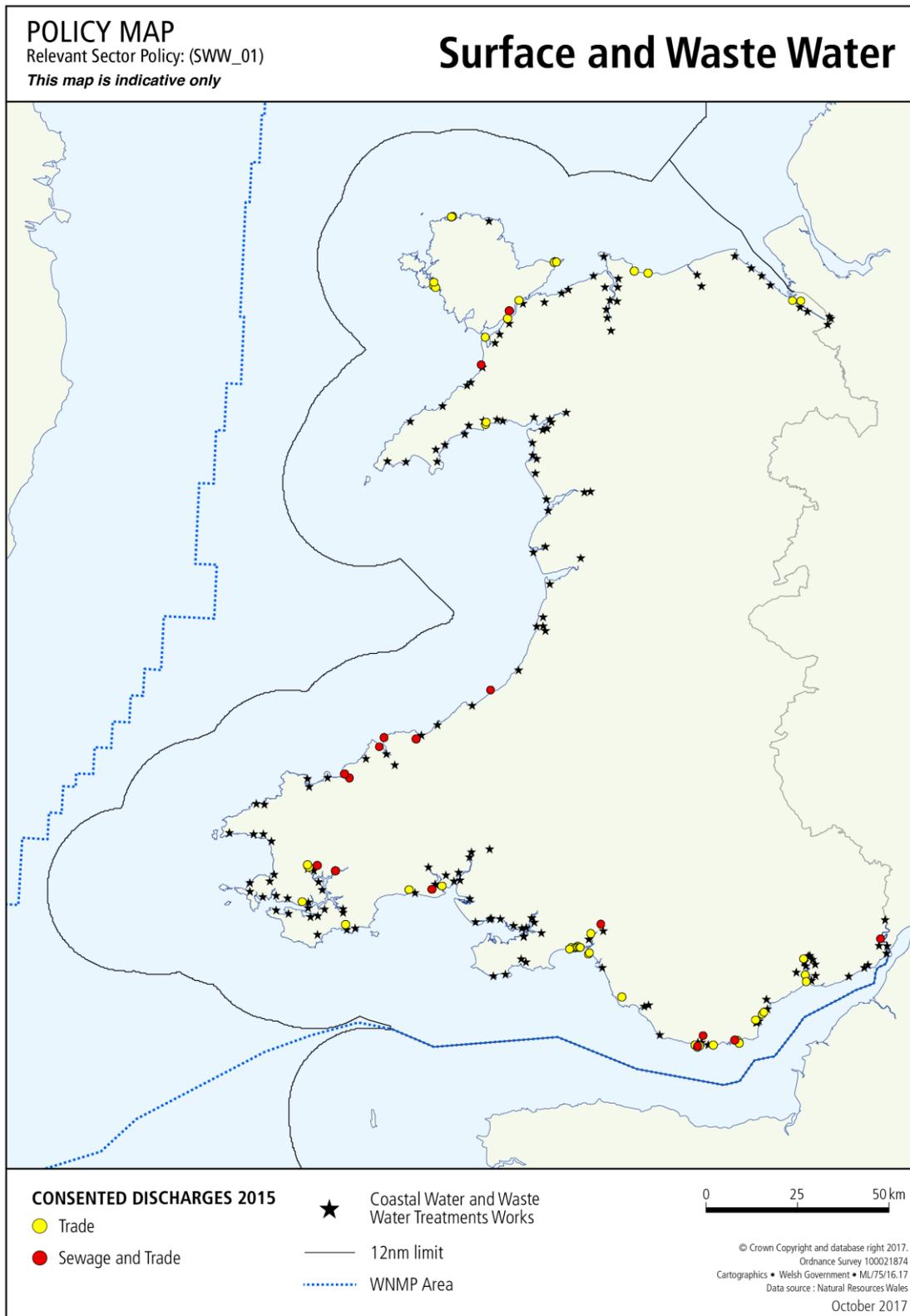
- other marine activities may also cause demand for improvements of treatment to meet locally higher water quality requirements e.g. designation of areas for bathing or commercial shellfish gathering or other protected areas (e.g. Special Areas of Conservation or Special Protected Areas).

926. Minimising effects could include meeting and maintaining lost capacity of the sewerage system affected by the proposal. Mitigating effects might include meeting additional costs incurred by the water company and water customers for the duration of the effects. A case for exceptional circumstances may include circumstances where the economic or social benefit to be derived from the proposed activity significantly outweighs that which will be lost. Proposals seeking to be permitted on the basis of exceptional circumstances should present a clear, evidenced and convincing justification for proceeding, including a plan as to how future operations associated with that infrastructure may be continued in the future, or alternative arrangements if it is to be discontinued.
927. As Welsh Water is typically not funded to accommodate these other activities an appropriate funding stream would be required for any additional treatment or infrastructure required.
928. Any case made to proceed at that location may also include considerations that:
- there are no foreseeable plans to undertake SWW activity, for example, that previous licence applications have been refused and development there is unlikely;
 - a successful application for SWW activity would not in any event be likely;
 - the development would not pose a serious hindrance; and/or,
 - in making the case that the development outweighs the safeguarding of the development of SWW activity.
929. In weighing any potential adverse impacts against the benefits of such a proposal, decision makers should take into account:
- the strategic importance of the proposal e.g. that it relates to the objectives of any relevant National Policy Statement, the MPS or that it supports related development of a sector considered to be of particular importance within this Plan;
 - the extent the proposal, if accepted, would help that sector meet this plans sector objectives;
 - the extent to which the SWW sector activity would be adversely impacted; and
 - the net effect upon the environment or other users.
930. Applications under exceptional circumstances are likely to be limited reflecting the nature of SWW infrastructure development as described. More usually any large scale developer would come to an agreement with DCWW / NRW as to the future operation and location on any alternatives. Cases for exceptional circumstances would be made to the NRW Permitting Service to consider before it issues any development consent.

931. In issuing a marine licence for a development which may have an effect on SWW infrastructure, the decision maker shall consider the extent to which the effects are effectively minimised or mitigated. Proposals that do not have significant adverse impacts upon SWW infrastructure may go ahead.

DRAFT

Figure 23: Policy map – Surface and waste water



Tourism and recreation

Introduction

932. The Welsh coast is vital to Wales' tourism and recreation sector and presents some of the finest opportunities for tourism and recreation in the world, for people enjoying their local environment as well as visiting on day trips or for longer stays. Tourism and recreation activity benefits from the high quality, diverse natural environment and cultural distinctiveness that is typical of the Welsh coastline. 70% of the coastline is designated for its environmental quality and in recent years certain activities such as wildlife watching and visiting beaches have increased significantly⁷⁵, emphasising the significance of a healthy and resilient marine environment to supporting the further growth of this sector.
933. Key attractions include Wales' beaches, wildlife, coastal landscape and seascape, distinctive towns and villages and unique culture and heritage^{76, 77}. They include National Parks, Areas of Outstanding Natural Beauty and the 870-mile long Wales Coast Path, the only one of its kind anywhere in the world to span the entire nation's coastline. Much of the tourism and recreation activity occurring in the plan area takes place on or near-shore, typically within 3 nm of the coast.
934. In this plan, recreation means free-time leisure activities largely undertaken in the local environment. Tourism means activities, services and infrastructure associated with visitors and holidaymakers. Tourism activities can also be recreational in nature. Tourism is a complex industry made up of many different businesses including hospitality (food, drink, accommodation); transport (rail, road, water and air networks); travel services; cultural services (eg museums, attractions); sports and recreational activities; and retail services.
935. Recreational activities range from formal to informal activities. Informal activities are easily accessible and require little or no previous experience like walking and picnicking. Formal recreation, such as scuba diving or sailing, requires specialist equipment and/or dedicated purpose-built facilities⁷⁸, sometimes available through local clubs. Falling between these categories are activities like recreational sea angling, surfing, and small vessel sailing which are collectively important and rely upon the high quality of the natural marine environment.
936. Tourism and recreation are distinct sectors and there are some distinct differences in the way that these sectors are understood, managed and supported. However there is considerable overlap between them and clear advantages in linking their agendas, including ensuring that local people are able to benefit from facilities which visitors come to enjoy. This plan therefore considers the sectors together.

⁷⁵ Wales Outdoor Recreation Survey, NRW, 2015

⁷⁶ Visit Wales – Wales Visitor Survey, 2013

⁷⁷ WORS, 2011

⁷⁸ (for further information see RPA et al., 2013)

937. Tourism is important to Wales' economy; tourists spend around £14 million a day whilst in Wales, amounting to around £5.1 billion a year. In 2015 direct employment in tourism in Wales rose to 132,400, 10% of the Welsh workforce, while the latest figures show that tourism's contribution is 6% of all Gross Value Added in the overall Welsh economy. Tourism is fundamental to the economy of many of our coastal areas; in 2013 coastal tourism was estimated to be worth £602 million, generating 3.6 million trips⁷⁹.
938. Just under half of all full-time jobs associated with the marine and coastal environment are in tourism related activities⁸⁰. The North Wales marine and coastal economy is predominantly, though not exclusively, tourism based. In West Wales, tourism accounts for over a third of direct coast and marine employment and in south east Wales it accounts for over half of coastal and marine sector direct jobs.
939. The establishment of the Wales Coastal Path, as well as rural cycle and riding routes, has helped to underpin and develop existing tourism activity. There were an estimated 43.447 million visits to the Welsh coast for walking in 2014⁸¹. Expenditure related to these trips was approximately £31m generating 12,230 person-years of employment
940. The Blue Flag and Resort Seaside Award schemes set standards for beaches used by the public including criteria relating to water quality, safety and facilities, as well as management of land and water recreation to avoid conflict between incompatible activities. A high proportion of resort beaches have attained these awards. Furthermore, there are 3 coastal Gold Anchor marinas in Wales that meet the highest industry standards, based on quality of facilities and customer service criteria. Similar schemes are in place for marinas⁸².
941. Increased partnership working has led to significant public/private sector funding investment in coastal tourism infrastructure to enhance and improve Wales's tourism offer.

⁷⁹ Great Britain Visitor Survey <http://www.visitbritain.org/statistics-insights>

⁸⁰ Valuing our Environment Partnership, 2006

⁸¹ <http://www.walescoastpath.gov.uk/media/1545/wcp-visitor-survey-2014-2015-final-report-for-publication.pdf>

⁸² <http://www.which-marina.com/GoldAnchors.asp>; http://www.which-marina.com/UK.asp?UK_ID=23&SAS=UK&SLS=2&ga1=One&ga2=Two&ga3=Three&ga4=Four&ga5=Five&MappingOption

Economic contribution of tourism and recreation

Tourism has been an important driver of growth in the Welsh economy in recent years. In 2015, the Welsh tourism industry generated a record £5.1 billion of direct visitor expenditure. There has also been strong growth in visits from both UK and international visitors. There are an estimated 132,400 employed in the tourism sector, approximately 10% of Welsh employment. Since 2006, the number employed in tourism has grown by 34%, the second largest absolute growth in employment out of all of the priority sectors. Tourism is the largest source of employment for 16-24 year olds and it has a strong geographical spread with regards to employment, demonstrating its importance to all areas of Wales. In recent years growth in tourism employment in Wales has been greater at management and professional levels than in middle and lower level jobs.

Current and potential future interactions with other sectors

942. A range of development types in the marine area have the potential to support further tourism and recreation related growth or enhance already established activities and profitability by improving, broadening and diversifying the tourism 'offer'. For example, positive links can be made between tourism and Welsh seafood provision, or between recreational sea angling and the health of fish stocks⁸³. There are potential opportunities to base further sustainable coastal tourism activities around the internationally significant marine resource, wildlife and seascapes in Welsh waters including, where managed carefully, potential for the co-location of MPAs and certain recreational activities.
943. The impact of marine activities on tourism and recreation can be both direct (e.g. construction of a port could lead to a greater number of tourists visiting an area) or indirect (e.g. through effects on the marine and coastal environment). Broad potential adverse impacts of activities on tourism and recreation may occur through:
- reduced availability or safety of a site for use;
 - reduced aesthetic appeal of the landscape;
 - loss of biodiversity (including fish);
 - reduced water quality;
944. A regional study, Wales Activity Mapping, found that where there were areas of conflict they were often temporal and spatial in occurrence and that education and best practice schemes were often useful in conflict management.
945. Tensions can occur between tourism and local communities where there is a large influx of tourists that challenges local infrastructure or culture. Good planning, engagement and management can often address such issues.

⁸³ <https://www.cefas.co.uk/cefas-data-hub/does/sea-angling-2012-economic-value-and-social-benefits-of-angling/>

946. Tourism and recreation is dependent on safe access to the marine and coastal environment and is therefore closely associated with sectors that support (or constrain) this. Static objects, both on and under the water as well as on the seabed, can pose a risk to vessels and restrict navigational routes for recreational boating. Public authorities, in line with their statutory duties may need to bring forward proposals to maintain safe navigation.

Ecosystem interactions

947. Tourism and recreation also depends upon a high-quality environment made up of healthy and resilient ecosystems. The environmental quality of the Welsh coastline is reflected in the wide range and large number of designations and protected sites that cover the coastline of Wales. It is important to ensure these qualities are maintained and enhanced when considering the impact of developments and activities.
948. Whilst many recreation and tourism activities are relatively benign and an inherently more sustainable use of natural resources than extractive activities, the continued growth in scale (intensity of use) and distribution of this sector will put further pressure on natural resources and affect ecosystem resilience upon which the sector is dependent.
949. Impacts on the environment from tourism and recreation can occur and will vary in nature and extent. Examples of good practice exist for coexistence and managing impacts from moorings and anchoring and should be applied where appropriate to help manage activities. Wales has led the way in engaging with the tourism and recreation sectors in managing and mitigating potential impacts. Relevant examples include projects such as the Pembrokeshire Marine Code and Outdoor Charter which have been in existence for over 10 years, Snowdonia Active, South Wales Activity Providers and Wales Activity Tourism Association.
950. Decision making authorities should, where appropriate, support proposals that comply with recognised good practice in respect of minimising disturbance to marine wildlife and habitats, invasive non-native species and sustainable tourism and recreation management.

Future

951. The tourism and recreation sector is identified in this plan as having significant potential for sustainable growth over this plan's lifetime. Diversification of tourism is identified as an important growth area. However, unpredictability of future weather patterns in response to climate change will have implications for the sector, but are generally considered to be beyond the lifetime of this plan.
952. A number of Welsh beaches continue to be affected by diffuse pollution. The continued growth in coastal tourism will increase the pressure on the coastal environment and facilities. Understanding the capacity of coastal communities and marine and coastal natural resources to support further growth in tourism and recreation will be important to ensure that growth is achieved in a sustainable manner. It will also be important to manage the potential impacts on the tourism and recreation sectors through the growth of other sectors.

Climate change

953. Climate change may result in both positive and negative impacts upon T&R, although it is not clear whether, or the extent to which, these will manifest within the lifetime of this plan.
954. Adverse effects include:
- Loss of/impacts on infrastructure as a result of changes in sea level, storms, erosion⁸⁴ and flooding;
 - Impacts on/damage to supporting marine infrastructure e.g. marinas and water safety;
 - Reduced bathing water quality as a result of increased land run-off, increased discharge from combined sewer overflows and potentially increased vulnerability to harmful bacteria (MCCIP, 2013);
 - Reduction in quality of coastal landscapes through coastal squeeze;
 - Potential reduction in the quality/availability of wildlife supporting specific recreational uses (e.g. wildlife watching; recreational angling).
955. Positive effects include:
- A possible extension of the tourist season as a result of longer, warmer summers (although an alternative scenario is a less attractive climate (wetter or more unsettled) for visitors. Such changes are likely beyond the lifetime of this plan.
 - Associated increased opportunities for employment and for investment in infrastructure under the positive scenario above.

Key evidence needs

956. Visit Wales carry out a programme of tourism-related research through the year, however, there is a lack of specific marine recreation data. However the Wales Activity Mapping project⁸⁵ has regional coverage in South West Wales and has mapped and valued a number of marine recreational activities. Land Use Consultants⁸⁶ carried out an audit of existing data and recommended a need to update, verify and add further data in order to obtain an accurate picture of marine and coastal recreation throughout Wales. RYA have invested in gathering good quality data on recreational boating activities in Welsh waters which can help inform development proposals and decisions.

⁸⁴ (eg EUROSION 2004)

⁸⁵ <http://www.walesactivitymapping.org.uk/>

⁸⁶ www.landuse.co.uk/project/marine-and-coastal-recreation-audit-wales#.VcNWHvIVhBc

957. Key evidence needs in relation to marine planning include:
- good spatial data for tourism and recreation activities;
 - current and likely future distribution and intensity of coastal recreation and tourism activity to support identification of key areas of use and potential future use and understanding;
 - guidance for other sectors on how to address potential impacts on tourism and recreation activities, which addresses the range of issues underpinning tourism and recreation, from access to infrastructure to the quality of the natural environment (landscape/seascape; wildlife; water quality);
 - better evidence of the economic value and social benefits provided by tourism and recreation activity.

Governance

958. Regulation of the sector: tourism and recreation is devolved to Welsh Government.
959. Relevant decision making and advisory authorities include: Welsh Government (Visit Wales), Wales Tourism Alliance, Local authorities / National Park authorities, Private sector, Relevant Authorities Groups for European Marine Sites, Royal National Lifeboat Institution (RNLI), Royal Yachting Association (RYA), the National Trust, British Marine Federation and local clubs.
960. Recreational and tourist activities take place largely within inshore or coastal regions throughout Wales, and offshore activities are low. Associated developments are usually small scale, are managed locally often by coastal planning authorities and have little implication for cross-border considerations between different country jurisdictions. However, potential exists in the Dee and Severn Estuaries for some near-scale effects which will need to be collectively considered by the relevant public authorities on an estuary- wide basis, independent of administrative boundaries.

Sector objective

To contribute to sustainable growth, supporting the “Wales Tourism Strategy” target to grow tourism earnings in Wales by 10% or more by 2020, by protecting and promoting access to the coast and improving the quality of the visitor experience thereby increasing Wales’ reputation as a world class sustainable marine tourism and recreation destination.



Tourism and recreation sector policy and implementation guidance

961. Tourism and recreation sector policy applies to both the inshore and offshore regions of the plan area.
962. The MPS recognises the significant role tourism and recreation play in the national economy. Planning Policy Wales states that tourism is vital to economic prosperity and job creation in many parts of Wales. It is a significant and growing source of employment and investment, based on the country's cultural and environmental diversity.⁸⁷
963. This plan identifies the tourism and recreation sector as an area of significant growth potential and is therefore considered a strategic priority for marine planning. It is recognised, however, that this plan can only have a limited effect upon supporting growth in tourism and recreation and that terrestrial planning and other measures are key to supporting growth of coastal tourism and recreation activity that benefits from resilient marine ecosystems.
964. The Welsh Government is committed to a sustainable growth of the tourism and recreation sector that maximises the potential of the coast and seas as identified in the Partnership for Growth Strategy⁸⁸. The target is to grow tourism earnings by at least 10% by 2020 in a sustainable way, making an increasing contribution to the economic, social and environmental well-being of Wales. The Welsh Government's Tourism Strategy reiterates this focus and seeks to support actions that assist in promoting the safe access and health and benefits that our seas and coasts provide to local communities and tourists alike.
965. Alongside economic benefits, recreational enjoyment is essential to human health, development and quality of life; it builds communities and reduces the cost of health care⁸⁹. We are committed to increasing the number of people who undertake regular exercise, play sports and enjoy the outdoors; the marine area has a key role to play in supporting well-being. Recognising that sport transforms people's lives, our communities and their well-being, Sport Wales has a target to get 75% of young people hooked on sport, close the inequality gap in participation and develop a sporting pathway to become a nation of champions by 2026. It is important to consider these wider impacts upon society that exist beyond the obvious economic drivers for tourism and recreation growth when taking decisions.
966. Welsh Government has supported the development of local Tourism Destination Management Plans⁹⁰ which outline the development priorities for tourism destinations across Wales.

⁸⁷ Planning Policy Wales, Chapter 11 2014

⁸⁸ Partnership for Growth: The Welsh Government Strategy for Tourism 2013-2020

⁸⁹ www.pembrokeshirecoast.org.uk/?PID=526

⁹⁰ <http://business.wales.gov.uk/dmwales/destination-management/wales-destination-management-plans>

967. Tourism is often a catalyst for wider economic and local regeneration activity. Spending by tourists can help support local services, shops and community amenities that would not otherwise be viable thereby enhancing quality of life and creating a greater range of opportunities for all sectors of the community. The tourism industry can provide entry-level jobs and offers employment opportunities for economically inactive people or other returners to work, with the right support and training. Community based initiatives that support tourism can also act as an entry point for people into the paid workforce.
968. Activity tourism already plays a significant role in attracting a large proportion of Wales' visitors. Growing public interest in water-based sports, such as recreational sea angling, boating, racing events, wind surfing and diving, creates potential and can help address seasonality issues.
969. Increasingly, food is an important influence on people's decision to visit Wales. The Partnership for Growth Strategy for Tourism defines a product-led approach to marketing, with food seen as integral to the visitor experience. The Food Tourism Action Plan 2014 targets key actions to raise awareness and make information readily available to visitors and to assist food producers and tourism businesses to work together.
970. Most tourism and recreation activity takes place on the shoreline or within 3 nautical miles of the coast. Appropriate integration between marine and terrestrial planning is therefore key to support onshore facilities that are essential for marine recreation, such as toilets, car parks, access points, transport links, club facilities and other services. This plan seeks to safeguard important tourism and recreation activity from significant adverse effects from other sectors and encourages proposals that make a positive contribution to the growth of the sector.
971. **The [Sector policy generic implementation guidance] applies.**
972. The sector policies of this plan should be considered alongside the general, cross-cutting policies of this plan, Wales' well-being goals and the principles of SMNR. The application process for an authorisation should apply the full range of relevant policies and considerations, including the safeguarding policies associated with other sectors (including other sector SRAs where they exist). Evidence addressing relevant policies should be provided to support decision making. The policies in this plan guide proposals and decision making (alongside other relevant considerations); they do not negate the need for authorisation under relevant regulatory regimes.

Supporting policy

T&R_01: Tourism and recreation (supporting)

Proposals are encouraged that demonstrate a positive contribution to tourism and recreation opportunities and policy objectives (for the sector) around the Welsh coast.

Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:

- a) develop a strategic evidence base to improve understanding of current and potential tourism and recreation activities, including eco-tourism and other low impact activities; and
- b) support the development and refinement of Strategic Resource Areas;

in order to support the sustainable growth of the tourism and recreation sector through marine planning.

Supporting policy implementation guidance

973. This policy contributes to Wales' well-being goals by maximising the potential for the sustainable development of the sector. Actions that assist in promoting the safe access and health and benefits that our seas and coasts provide to local communities and tourists alike should be strongly supported
974. There is scope and capacity around Wales to develop and grow a wide range of coastal and marine tourism and recreation opportunities. In particular, there is a need to focus on developing higher value, year-round recreational opportunities and tourism at the coast. The tourism industry is well-placed to provide important employment opportunities throughout Wales, even in the most sparsely populated and peripheral regions. Initiatives that increase profitability and productivity and support higher earnings and job quality are encouraged.
975. Tourism and recreation activities on our coast and at sea should help boost coastal economies and contribute to a better quality of life for local communities. Proposals should seek to maintain and enhance a quality environment and cultural distinctiveness. Tourism and recreation can be a driving force for the preservation and promotion of these qualities.
976. Proposals are encouraged that improve the quality of the visitor experience by increasing the range, diversity and quality of experience (attractions, accessibility, wildlife and the natural environment, facilities and infrastructure; beauty, friendliness and value for money. This may include:
 - promoting access (footpaths, slipways, marinas, sign-posting, public transport, free /low-cost entry charges);
 - providing facilities (car parks, slipways, berthing, public toilets, facilities for people with disabilities, boat yards, chandleries, club infrastructure);

- promoting awareness of an area or attraction's existence, value, vulnerability, protection and development (signage, tourist offices, electronic and paper information);
 - promoting stewardship (encouraging the public to take a proactive role in protection / conservation, e.g. reporting problems / disrepair, volunteering, removing litter, development of and compliance with codes of conduct etc.)
 - considering opportunities for coexistence and diversification to increase the range of activities available in a given area.
977. Areas that have not traditionally attracted much tourism and recreation activity can be developed to boost local economies and such opportunities are encouraged where it is within the keeping of the character of an area or is positively welcomed by local communities. For example the development of such coastal resources as the Burry Port Harbour Development, Pembrey, the Millennium Coastal Parks and the Welsh National Sailing Academy provide opportunities for attracting a wider day visitor market as well as staying tourists.
978. The cruise market is identified as a future growth area both as an embarkation and disembarkation points. Increasing both the volume and value of cruise visits to Wales is a priority. The volume and value of cruise visits to Wales may be increased by promoting Wales as a cruise destination, enhancing its distinctive branding, promoting its ports and encouraging investment in port infrastructure and facilities, including allowing the handling of larger ships, and the development of shore-based excursions.
979. Relevant public authorities should support sustainable improvements to port infrastructure to allow the handling of larger cruise ships with higher passenger numbers. There are six ports in Wales that are actively marketed by Visit Wales: Newport, Cardiff, Swansea, Milford Haven, Fishguard and Holyhead. Holyhead and Fishguard have been identified as sites for port development. Relevant port infrastructure and facilities are encouraged in this context. Holyhead, Swansea, Pembroke and Fishguard provide points of entry for visitors using the ferry services from Ireland, as well as catering for UK visitors to Ireland. Apart from regular ferry services, there is potential to develop cruise ship facilities particularly at Holyhead and Swansea to meet the growing market for this form of tourism. Milford Haven also has potential in relation to the cruise market.
980. Recreational angling has been identified as an important activity and which depends upon the availability and size of fish likely to be encountered and the quality of the environment (see Fisheries). Recreational boating is another important activity with growth potential that should be supported wherever possible. A number of smaller marina developments (including Saundersfoot Harbour, Aberystwyth and Porthcawl Harbour) with potential to develop sailing infrastructure and opportunities have been identified as priorities for the next round of European funding and these opportunities should be supported where possible. These include:
981. Relevant authorities should coordinate work and collaborate on projects in order to maximise the economic, social and environmental benefit of marine-related tourism and recreation.

982. New initiatives to identify opportunities for the sustainable growth of tourism and recreation activities and to build the evidence base are encouraged. This may include identifying potential locations for tourism and recreation activities; understanding markets and constraints; and/or understanding where the sector has strategic importance. Relevant decision making and advisory authorities may include Government and their Assembly Legislative Bodies, regulators, governing bodies, membership organisations / representative federations, working groups, academic groups and consultants.
983. Developers and relevant public authorities, along with other relevant organisations such as research institutes and industry bodies, are encouraged to develop and participate in opportunities to address key evidence gaps and better understand opportunities for the sustainable growth of the sector.
984. **In preparing tourism and recreation related proposals, developers should apply the relevant safeguarding policies of other sectors in this plan.**

Safeguarding policy

985. All proposals (including new tourism and recreation sector proposals) with the potential to impact upon existing or planned tourism and recreation activities should apply the following tourism and recreation safeguarding policies.

T&R_02: Tourism and recreation (safeguarding)

Proposals should demonstrate that they have taken appropriate measures to avoid, minimise or mitigate adverse effects on existing and known planned tourism and recreation activities.

Proposals that would have a significant adverse effect on Welsh Government's recreation, sport and tourism objectives should not be authorised unless there are exceptional circumstances.

Safeguarding policy implementation guidance

986. This safeguarding policy helps manage the potential adverse impacts of other sector activities on existing and planned potential activities of the tourism and recreation sector. It does this by safeguarding areas recognised for their tourism or amenity value or potential future value.
987. Broad adverse impacts of a variety of activities on tourism and recreation may occur through a range of circumstances, such as:
- Loss of biodiversity that is important to tourism and recreation
 - Reduced air or water quality
 - Reduced aesthetic appeal of the landscape and seascape
 - Reduced access to or safety of a site for use
 - Increased collision risk of vessels with fixed structures

- Pressure on and competition for shared resources e.g. fishing
988. Tourism and recreation impact assessment is a tool to understand the positive and negative consequences (costs, benefits and risks) of licensable marine activities on tourism and recreation. It can be used to weigh up various options and to inform the development of a plan, policy, project or development.
989. Non-statutory guidance is available on the impacts of renewable installations on recreational surfing⁹¹ and boating⁹². Coastal community typology may give an indication of potential issues for tourism and recreation impact assessment purposes. Robust evidence on use and relative significance and value of existing or potential activities is required by other sectors to understand how to avoid impacts on tourism and recreation activities.
990. Assessment of the likely effects of a proposed marine activity on tourism and recreation should consider:
- the types of tourism and recreation activities undertaken in the area;
 - the number, seasonal and geographical distribution of participants in the area;
 - direct and indirect employment within the tourism and recreation sector (including any change in the number of seasonal jobs, which could potentially lead to economic instability) and any multiplier effects on the economy;
 - tourism and recreation expenditure and any multiplier effects on the economy;
 - the interaction of tourists and local communities; including the displacement of one by another and potential for conflict;
 - the impact on environmental quality and designations, including bathing water quality and blue flag status;
 - safety of navigation, regularly used navigational routes (particularly those used in constrained channels or approaches), general boating areas, areas regularly used for competition, access, anchoring and mooring areas;
 - the potential for coexistence with other sectors;
 - known planned activities (e.g. detailed in LDP or other relevant plans or programmes).
991. Robust assessment and valuation of tourism and recreation activities, benefits and opportunities will help tourism and recreation be better represented in future plans.

⁹¹ Surfers Against Sewage, 2009

⁹² RYA - <http://www.rya.org.uk/KNOWLEDGE-ADVICE/OFFSHORE-RENEWABLES/Pages/hub.aspx>

Figure 24 (a): Policy map – Coastal tourism and recreation sites

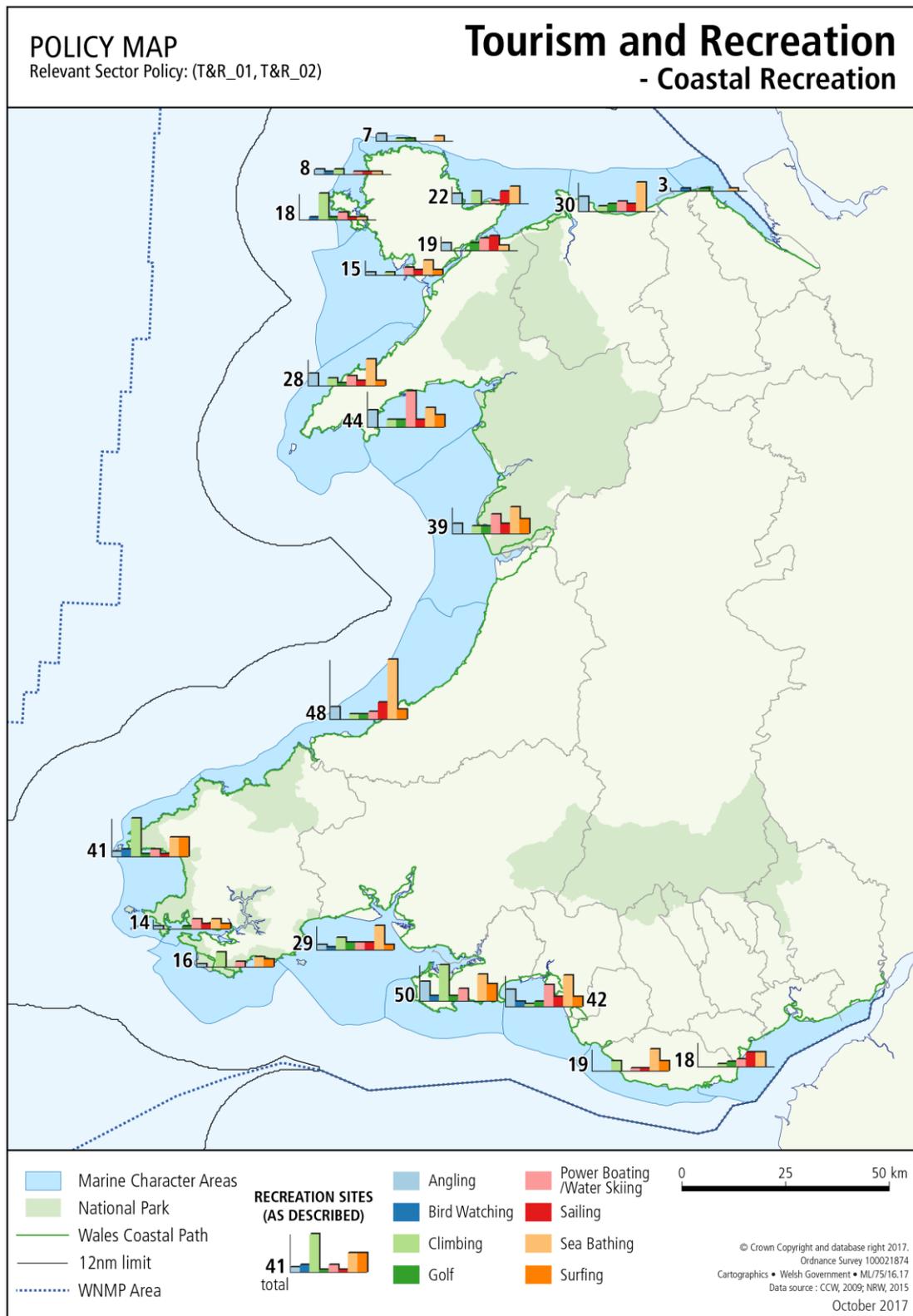
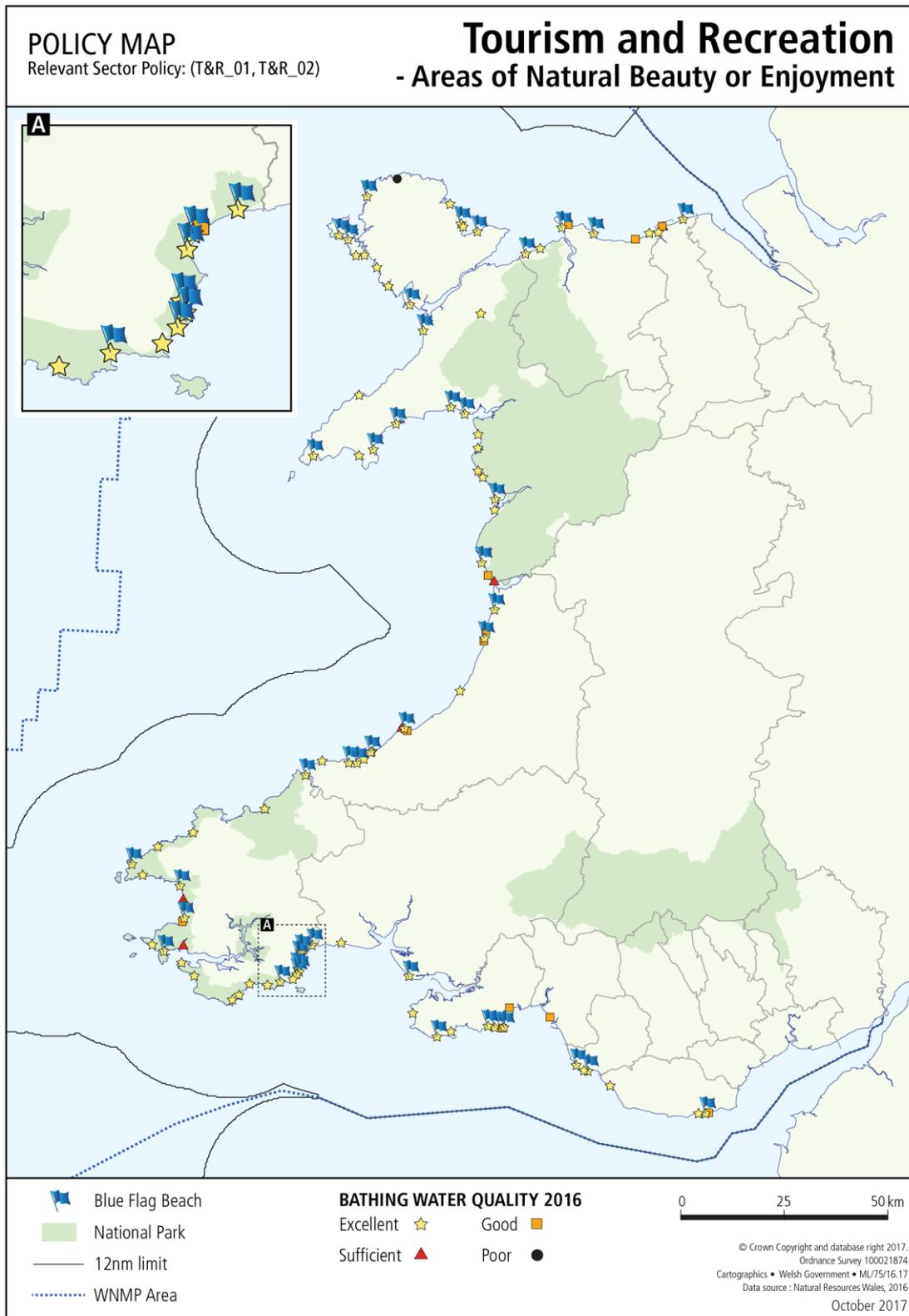


Figure 24 (b): Policy map – Areas of Natural Beauty or Enjoyment



Annex 1 - The approach to marine planning for Wales

The MCAA provides the context for marine plan development and the UK MPS the policy framework for marine plans. Aspects of the approach taken to developing the WNMP are summarised in this annex.

Welsh marine planning process

The cyclical marine planning process is set out in Figure 5.

Stakeholder engagement

A wide range of stakeholders play an important role in, or have an interest in, the management of our seas. The Welsh Government is committed to effective and meaningful engagement to support both the development and implementation of plans and policies. Close partnership working, through a collaborative and inclusive approach, is essential to delivering and implementing marine planning for Wales.

In accordance with the MCAA, we published a Statement of Public Participation (SPP) in 2014. This set out our intentions to engage widely in developing this plan. We have engaged with a broad range of stakeholders throughout the planning process; this engagement has proved crucial to the shaping of the plan.

Continued engagement and collaboration will be critical to plan implementation. Further information and opportunities to participate in the management of our seas is available on the Welsh Government website.

Gathering and sharing evidence (evidence-based planning)

The marine planning process involves bringing together, interpreting and sharing evidence and making sure that we use it to best support decisions on the sustainable development of our seas. In accordance with the MPS this plan is based on the best available evidence and is designed to support evidence-based decision-making.

A Strategic Scoping Exercise (SSE) collated relevant evidence relating to our marine natural resources and the use that we currently make of them in the context of marine planning. The SSE was informed by two main sources: Charting Progress 2 (2010), a comprehensive report of UK marine research and monitoring, and the UK Marine Strategy Part One which includes an

assessment of the status of UK seas, an economic and social analysis of their use and the predominant pressures and impacts associated with them.

This Welsh marine evidence base is set out in the Wales' Marine Evidence Report and spatial data is available on the Marine Planning portal (available on the Welsh Government website). In addition, under the Environment (Wales) Act, NRW has published the first State of Natural Resources Report (SoNaRR). SoNaRR draws on the WMER and sets out the current state of natural resources in Wales and the extent to which they are being sustainably managed.

This evidence, coupled with the relevant policy context, has been used to help identify key issues for marine planning in Wales and has shaped the policies set out in this plan.

Integrating sustainable development

A number of policy requirements and principles have been applied to the development of this plan to support the purpose of achieving the sustainable development of our seas. In addition to ensuring the plan is in accordance with the MPS, the planning process:

- Has applied the ways of working set out in the Wellbeing of Future Generation (Wales) Act;
- Contributes to the delivery of Wales' well-being goals
- Incorporates the Ecosystem Approach;
- Embeds the principles of the Sustainable Management of Natural Resources; and
- Reflects and supports the principles of Integrated Coastal Zone Management (ICZM).

Applying the Wellbeing of Future Generations ways of working to support sustainable development

The planning process has applied the SD principle ways of working set out in the wellbeing of future Generations (Wales) Act (2015) and seeks to contribute across Wales' Well-being Goals, for example:

SD principle

Look to the **long term** so we do not compromise the ability of future generations to meet their needs;

Take an **integrated approach** by considering all Wales well-being goals;

Involve a diversity of the population in the decisions that affect them;

Work with others in a **collaborative** way to find shared sustainable solutions; and

Understand the root causes of issues to **prevent** them from occurring and examining whether how we currently deploy our resources should change.

Marine planning context

The WNMP takes a 20 year view and will consider current and future potential trends including recognising the implications of climate change. By championing the sustainable use of the marine environment it will focus on managing activities over the long term.

Marine planning takes account of a wide range of marine policy and delivery areas. Planning supports an integrated approach by presenting a coherent suite of policy that relates to all decisions taken by public authorities that may have an effect upon the plan area. The plan contains an integrated set of policies covering all aspects of natural resource management and uses of the Welsh marine environment.

The planning process is inclusive and has involved extensive stakeholder engagement. The Statement of Public Participation sets out opportunities for engagement. An initial draft WNMP was shared online for early feedback and refinement.

Marine planning involves working collaboratively with a wide range of policy areas and stakeholders. This is being addressed through a comprehensive stakeholder engagement process with input from a wide range of policy areas as well as stakeholders. To help facilitate the production of the WNMP a Marine Planning Stakeholder Reference Group has been established.

Taking an evidence based approach to policy development and planning is critical to the success of the WNMP. It provides a means to better consider the complexity of the marine environment and apply appropriate interventions to improve its future management. Early engagement with stakeholders has identified a range of challenges and opportunities as well as emerging research and future evidence needs.

Well-being goal	How marine planning contributes	Key policies and aspects of marine planning
A prosperous Wales	Supporting blue growth, skill development, employment opportunities and wealth generation; Support for climate change adaptation and mitigation, including the transition to a low carbon economy	GEN_01; GOV_02; All Sector policies supporting sustainable growth ECON_01 & 02 SOC_08, 09, 10, 11 & 12 ELC_01, 02, 03 & 04
A resilient Wales	Supporting the conservation and recovery of marine biodiversity and marine ecosystems. Recognising that healthy ecosystems underpin social and economic resilience.	ENV_01, 02, 03, 05 & 06 ECON_01 & 02 SOC-09
A healthier Wales	Recognising that clean, healthy seas provide a strong basis for people's physical and mental well-being. Support for access and opportunities to enhance the marine area for multiple benefits Promoting opportunities for recreational activities	SOC_01, 02, 05, 07, 09 T&R_01, 01
A more equal Wales	Balancing the needs and interests of all our industries and communities Use open, transparent planning and data sharing	All General and Sector policies SCI_01 Wales' marine evidence report Marine planning portal
A Wales of cohesive communities	Recognising the importance of coastal communities and the contribution that the marine areas makes to society	SOC_02, 04, 05 & 07.
A Wales of vibrant culture and thriving Welsh language	Protecting and promoting our marine culture and heritage Supporting opportunities to contribute to Welsh culture and language	SOC_01, 02, 04, 05, 06, 07 ECON_01
A globally responsible Wales	Supporting compliance with relevant national and international legislation Integrate with other relevant terrestrial and marine planning regimes Supporting action to address climate change	General policies GOV_02 SOC_08, 09, 10, 11 & 12

Sustainable Management of Natural Resources

The Environment (Wales) Act 2016 put in place a legislative framework to promote the Sustainable Management of Natural Resources (SMNR). SMNR is defined as “using natural resources in a way and at a rate so as to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their needs”. It contributes to the achievement of the well-being goals of the WFGA. SMNR therefore provides a framework for building ecosystem resilience thereby contributing across Wales’ well-being goals.

The principles of SMNR have been applied through the planning process, for example:

- manage adaptively, by planning, monitoring, reviewing and, where appropriate, changing action;

Marine planning is an adaptive process; monitoring and reporting on the effect of the plan will support an adaptive approach

- consider the appropriate spatial scale for action;

Marine planning is a spatial (and temporal) policy, individual policies are tailored to the appropriate scale reflecting current and future potential use and distribution of natural resources.

- promote and engage in collaboration and co-operation;

Marine planning is based upon a collaborative approach. Plan policies encourage sector-sector engagement at early stages of project development, and ensures consideration of other relevant plans and policies in decision-making.

- make appropriate arrangements for public participation in decision making;

The Statement of Public Participation sets out how and when public can engage in the planning process.

- take account of all relevant evidence and gather evidence in respect of uncertainties;

All relevant evidence has been compiled and shared through the Wales Marine Evidence Report; key uncertainties and evidence gaps are identified as part of the planning process.

- take account of the benefits and intrinsic value of natural resources and ecosystems;

Plan policies recognise the intrinsic value of natural resources and ecosystems.

- take account of the short, medium and long term consequences of actions;

Marine planning considers consequences over the short, medium and long-term. The plan Sustainability Appraisal sets out consequences of plan policies. Plan effectiveness is measured through monitoring and evaluation.

- take action to prevent significant damage to ecosystems;

Marine planning reinforces the need to take action to prevent damage to ecosystems. The plan identifies key ecosystem interactions and issues related to each sector in addition to including specific policies designed to protect marine ecosystems.

- take account of the resilience of ecosystems, in particular the following aspects:
 - (i) diversity between and within ecosystems
 - (ii) the connections between and within ecosystems;
 - (iii) the scale of ecosystems;
 - (iv) the condition of ecosystem (including their structure and functioning);
 - (v) the adaptability of ecosystems.

The marine plan considers ecosystem resilience in relation to each sector.

Ecosystem approach

An ecosystem approach was taken in the development of this plan. The ecosystem approach aims to promote a healthy balance between economic and social activity and environmental resilience in order to support sustainable development for present and future generations. The key advantages of taking an ecosystem approach are:

- Integration of ecological, economic and social considerations within a single framework helping to identify potential conflicts, interactions and trade-offs from the outset;
- Recognition that humans, with their cultural diversity, are an integral component of ecosystems, and should be involved in application of an ecosystem approach; and
- Emphasis on flexible and integrated methods, and adaptive management.

The ecosystem approach is promoted by the Convention of Biological Diversity and is a requirement of the MPS in developing marine plans. It also relates to the Well-being of Future Generations (Wales) Act 2015 and the strategic approach to the sustainable management of natural resources. The Act's principles of sustainable development resonate strongly with ecosystem approach principles and those of the Environment (Wales) Act 2016 for the sustainable management of natural resources:

Through taking an ecosystem approach, this plan is consistent with commitments to take forward a more integrated approach to the sustainable management of Wales' natural resources.

Marine planning includes a wide range of formal processes that positively support the implementation of many of the ecosystem approach principles as set out in the Convention on Biological Diversity (CBD)⁹³. The following table sets out the slightly modified set of these principles (adapted to relate to the marine planning process⁹⁴) in order to demonstrate how the ecosystem approach has been taken into account in preparing this plan and how we aim to build upon the approach in the future.

⁹³ <http://www.cbd.int/ecosystem/principles.shtml>

⁹⁴ MMO (2014) *Practical framework for outlining the integration of the ecosystem approach into marine planning in England*. Report to the Marine Management Organisation. MMO Project No: 1048.

Ecosystem Approach Principle	How has marine planning applied the principle?	What more will planning do?
The objectives of management of land, water and living resources are a matter of societal choices	Engagement throughout the planning process; formal consultation on plan vision and objectives. Integration with Wales well-being goals.	Maintain and update the portal to show spatial plan policies. Ongoing engagement with stakeholders.
Management should be decentralized to the lowest appropriate level	Whilst the marine plan will set the over-arching framework, management of the marine environment already occurs at a variety of different scales across Welsh waters. The development of the marine plan is set at the level of the Welsh Seas but policies are applied at the appropriate spatial scale (e.g. Strategic Resource Areas).	Consideration of the need for sub-national planning. Integration with Area Statement(s) produced by NRW under the Environment (Wales) Act.
Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems	The MPS and High Level Objectives sets out a consistent framework for the management of marine ecosystems across UK waters. The Sustainability Appraisal consider potential positive and negative effects of plan policies on adjacent and other ecosystems. The planning process includes cross-border engagement. There is a requirement for all decision makers (including in the terrestrial context) to take decisions in line with marine plans and marine licensing decisions must also be taken in line with relevant terrestrial plans. This encourages consideration of impacts of marine and terrestrial plans on adjacent areas.	Ongoing engagement with neighbouring planning authorities.
Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context.	Optimising economic growth is a key objective of the MPS and also the WNMP. The planning process aims to optimise economic, environmental and social benefits. Plan sector policies focus on highlighting future opportunities taking account of ecosystem characteristics and status	Commitments in the plan to understanding the marine economy and the benefits that society receives from the marine area.

<p>Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach</p>	<p>The Sustainability Appraisal for the WNMP takes into account impacts on structure and function, and on ecosystem service delivery. Embedded in HLMOs, plan vision and objectives and General Policies. The plan has been developed in such a way that understanding the interactions between different uses of the marine resources and the wider impacts of this on structure and functioning are considered. The planning process seeks to identify evidence gaps as a way to inform future research priorities and this will inform better decision making in the future.</p>	<p>Work will be encouraged to understand local opportunities and constraints to development within SRAs. Consideration of ecosystem structure and function to be included in any consideration of within SRA sensitivities.</p>
<p>Ecosystems must be managed within the limits of their functioning</p>	<p>The Sustainability Appraisal considers potential positive and negative effects on ecosystem service delivery, including cumulative effects. This includes specific limits where possible but where there is a lack of defined limits or data, assessment will be qualitative. The development of marine planning, and the collation of spatial data to underpin planning, is an important opportunity to consider cumulative impacts more effectively to inform decisions on the levels of use that are compatible with sustainable use of natural resources.</p>	<p>Commitment to maintain and develop the evidence base including an understanding of limits related to ecosystem structure and function, particularly within SRAs. Maintain and develop portal to support consideration of potential cumulative effects.</p>
<p>The ecosystem approach should be undertaken at the appropriate spatial and temporal scales</p>	<p>The development of marine plans addresses the whole of Welsh Seas with a vision of what it will achieve within 20 years. This is appropriate in the context of the development and delivery of this type of national plan. The marine plan is focussed at delivering sustainable use of Welsh Seas and will be developed over a particular spatial and time scale. Individual plan policies are focussed at the appropriate spatial scale, depending on the issue they seek to address.</p>	<p>Consideration of the need for sub-national planning.</p>

<p>Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term</p>	<p>The timescale for delivery of the vision for the WNMP will be 20 years. The plan will be reviewed on a three year cycle and amended if necessary. The Marine Strategy Framework Directive sets Ecosystem Objectives in relation to the achievement of Good Environmental Status against a set of descriptors. Achievement of these objectives is a focus for the marine plan.</p>	<p>It may be possible to identify specific policies that will be fulfilled over a longer time period than the nominal time scale for the plan.</p>
<p>Management must recognize that change is inevitable</p>	<p>The need to monitor and report on the WNMP (and amend where necessary) is a legislative requirement.</p>	<p>Monitoring can consider all aspects of the plan, and lead to changes in policy where objectives are not being met.</p>
<p>The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.</p>	<p>The plan seeks to achieve the integrated management and sustainable use of marine natural resources, and thus achieve an appropriate balance between use of and conservation of biological diversity. The marine plan also seeks to optimise environmental outcomes in the Welsh marine area. In addition, the structure of the plan ensures that environmental interactions are considered in the development of policies in relation to every different use of the sea. The Sustainability Appraisal identifies potential positive and negative effects on biological diversity.</p>	<p>Ensure strong linkages between marine planning and delivery of the Environment (Wales) Act, in particular Area Statement(s) that relate to the marine planning area.</p>
<p>The ecosystem approach should consider all forms of relevant information including scientific and local knowledge, innovations and practices</p>	<p>The Strategic Scoping Exercise identified and collated a range of evidence relevant to the marine environment, published in the WMER & WNMP Portal.</p>	<p>The identification of relevant sources of data should be one focus of stakeholder engagement in the ongoing marine planning process including further development of the marine planning portal.</p>
<p>The ecosystem approach should involve all relevant sectors of society and scientific disciplines</p>	<p>A Statement on Public Participation has been produced as part of the marine planning process.</p>	<p>The ongoing marine planning process should enable meaningful dialogue with all sectors of society to inform the development of the marine plan.</p>

Integration with other planning regimes

Decisions relating to both terrestrial and marine areas can have an effect over a considerable distance, and most activities in the marine environment also have an onshore component or implication. Effective management of marine areas therefore requires the integration of marine plans with both adjacent marine plans and adjacent terrestrial plans, to minimise the risk of decisions in one area having adverse impacts in another.

The MCAA requires that marine plan authorities must take all reasonable steps to secure that the marine plan is compatible with plans in the land-use planning system. There is also a requirement when preparing a marine plan to have regard to any other plan prepared by a public or local authority. This is in connection with the management or use of the sea or coast, or of marine or coastal resources in the area, whether adjoining or adjacent to the marine plan area.

Examples of statutory plans drawn up by public bodies that are of relevance to this plan include:

- River Basin Management Plans (RBMPs) under the Water Framework Directive;
- AONB Management Plans;
- National Park Management Plans;
- Management schemes for European Marine Sites; and
- Plans to contribute to well-being under the Well-being of Future Generations (Wales) Act 2015.

There are also non-statutory plans and strategies drawn up by public authorities which may have relevance, including:

- Shoreline Management Plans;
- Estuary Management Plans (e.g. Severn Estuary Management Plan);
- Coastal Habitat Management Plans;
- Heritage Coast Plans;
- Sector specific management plans (e.g. offshore energy plans and SEA, port authority plans); and
- Coastal regeneration strategies.

This plan extends up to the level of mean high water spring tides whilst land-use planning boundaries generally extend to mean low water spring tides; this plan therefore overlaps physically with terrestrial plans, helping to facilitate integration between land and sea.

We have evaluated key statutory and non-statutory plans produced by public and local authorities of relevance to this plan to identify which policies are of particular marine relevance. Certain plans may be material considerations to which decision-makers must have regard. Other non-statutory documents do not carry the same weight, but are nonetheless important. The documents assessed include:

- Terrestrial development plans (adopted and emerging) for Welsh coastal Local Planning Authorities (LPAs) and for LPAs in England adjoining the WNMP area;
- Shoreline management Plans (4 affecting Wales; plus North Devon & Somerset SMP2);
- River basin management plans (3); and
- National park (Snowdonia; Pembrokeshire) and AONB plans (Gower; Anglesey).

The policies within these documents were evaluated according to:

- their explicit or implicit relevance to the marine/coastal environment;
- whether or not these promote/restrict coastal /marine sectors; and
- the spatial extent of the policies, where possible to evaluate.

Relevant plans and policies were taken into consideration during the policy development for this plan.

It is important that this plan contributes to more consistent and co-ordinated decision making. Alignment between marine and terrestrial planning is therefore important and is being achieved through:

- consistency between marine and terrestrial policy documents and guidance, notably the evolving National Development Framework and Technical Advice Note (TAN)14;
- liaison between respective planning authorities;
- sharing the evidence base and data so as to support consistency in plan making and decisions.

As required by the MPS we are committed to managing coastal areas and the activities taking place within them, in an integrated and holistic way in line with Integrated Coastal Zone Management (ICZM) principles⁹⁵. The requirement to take an ecosystem approach in marine planning supports this, given that both approaches recognise the inherently dynamic nature of ecosystems. It promotes a long-term, holistic, adaptive and flexible approach to sustainable natural resource management.

⁹⁵ ICZM recommendation (2002)

The following table illustrates how this plan has been developed in accordance with, and gives effect to, the principles of ICZM. However, marine planning is not the only mechanism to deliver ICZM. Other plans and programmes in the coastal zone (e.g. RBMPs, SMPs, Area Statements etc.) contain policies and evidence that relate to ICZM. Nevertheless, marine planning can support integration by providing a mechanism through which to strengthen co-ordination and liaison through partnership working.

ICZM principles applied through the marine planning process.

Marine planning process	ICZM principles applied	Context
Plan area selection decision	2, 4	In planning for the Wales marine area as a whole, the WNMP adopts a broad, holistic perspective as well as implementing an ecosystem approach. Marine plan boundaries overlap with terrestrial planning boundaries.
SPP and stakeholder engagement	5, 6, 8	Gives explicit means of stakeholder involvement in the planning process and for engaging with key audiences. Stakeholder engagement is being implemented throughout the planning process. ICZM requires active participation by local communities; local workshops facilitate this engagement.
Identifying issues	1, 6, 8	This involves gathering evidence from a range of stakeholders to identify issues within marine planning. Evidence and data gathered through the requirements of the Strategic Scoping Exercise has informed planning and been made widely available. Local knowledge may be helpful in identifying additional evidence needs.
Gathering evidence	2, 5, 6, 8	Evidence gathering takes into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas and involves relevant parties. Evidence gathering reflect local characteristics.
Vision and objectives	1, 2, 4, 5, 6, 8	Marine planning supports our commitment to manage coastal and marine activities in a sustainable manner taking into account economic, social and environmental considerations. The plan is defined by clear objectives, which are based on long-term perspectives and ultimately stem from political priorities. The vision and objectives frame the plan policies which will guide decision making.
Options development	1, 2, 4, 5, 6, 8	Plan options have been developed in conjunction with stakeholders and with consideration for all available information using an integrated approach. The SA has helped to inform the development of plan policy options.
Plan policy development	1, 2, 3, 4, 5,	Policies are developed to support the delivery of marine plan objectives. In developing the

	6, 7, 8	policies, account is taken of existing legislation and obligations, as well as the need for policy integration and integrated planning and decision-making. Where competing activities or developments seek to use the same area, consideration will include how each proposal contributes to the plan vision and objectives and policies. There are different strength policies that address different sectors or issues where appropriate, but integration will also occur at the point of decision-making. This will require assessment of any accompanying information and any environmental, economic or social benefits and adverse effects. It is expected that over time greater detail will be incorporated within the policies as appropriate, as the evidence base grows.
Opportunity to comment on draft plans	5, 6	Public consultation on draft plans can be facilitated through the SPP in order to gather evidence and opinion from stakeholders. Draft plans will be accompanied by the SA Report. The SA will consider social and economic issues as well as the potential environmental impacts. This ensures coverage of a wide range of sustainability issues.
Review plan proposals	5, 6	Plan proposals will be reviewed with consideration for the responses gathered from the representation of the draft plans through the SPP. Earlier drafts were refined following stakeholder advice and input.
Independent investigation	5, 6	Appropriate stakeholder engagement throughout the development process through the SPP and public consultation can help avoid the need for an independent investigation.
Plan adopted and published	6	The plan may be amended in light of the results of an independent investigation. The MCAA requires the marine plan authority to publish a statement setting out any modifications or changes made to the marine plan as published for consultation, setting out the reasons for these changes. The modifications report summarises changes made and is accompanied by a record of all consultation comments received and their responses.
Implement, monitor and review	3, 6	Welsh Government as the marine planning authority has a responsibility to monitor the marine plans and their effectiveness and report on and review the plans every 3 years. Monitoring is vital for testing the effectiveness of plan policies and informing decisions on requirements for changes to plan policies (adaptive management). Planners and stakeholders must be involved in the monitoring and review process in order to improve future plans.

The ICZM principles applied and referred to in the table above are as follows:

Principle 1	A broad overall perspective (thematic and geographic) which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas
Principle 2	A long-term perspective which will take into account the precautionary principle and the needs of present and future generations
Principle 3	Adaptive management during a gradual process which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone
Principle 4	Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures
Principle 5	Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound
Principle 6	Involving all the parties concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility
Principle 7	Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of the various existing policies. Partnership with and between regional and local authorities should apply when appropriate
Principle 8	Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management

Plan monitoring, reporting and review

Monitoring and evaluation is a critical important step in the planning process to ensure that the plan and its policies are effectively contributing to achieving the plan's objectives and Wales' well-being goals.

Much marine monitoring and reporting already occurs across the UK, for example as required by the Marine Strategy Part Two: UK marine monitoring programmes.

The MCAA requires marine planning authorities to review and report at least every 3 years on the effects of policies in their plan and their effectiveness at securing the plan objectives

In accordance with the MCAA, we will publish at least every 6 years (until 1st Jan 2030), a report on the preparation, adoption and amendment of the Welsh National Marine Plan. At least every 3 years, a report will be produced on the effects of the policies in the marine plan and the effectiveness of those policies in securing the plan's objectives.

The planning process is iterative; in accordance with the MCAA, future plans will be developed using experience and understanding gained from previous planning processes,

The marine planning related evidence base will also be periodically reviewed and updated as part of the wider marine planning process.

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Annex 2 - Welsh National Marine Plan Acronyms and Abbreviations

AGG	Aggregates Policy
AMP	Asset Management Plans
AONB	Areas of Outstanding Natural Beauty
AQMA	Air Quality Management Area
AQU	Aquaculture Policy
BAP	Biodiversity Action Plan
BEIS	Department for Business, Energy and Industrial Strategy
BMAPA	British Marine Aggregate Producers Association
CAB	Subsea Cabling Policy
CCGT	Combined Cycle Gas Turbine
CCRA	Climate Change Risk Assessment
CCS	Carbon Capture and Storage
CEBR	Centre for Economics and Business Research
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CFP	Common Fisheries Policy
COLREGS	International Regulations for Preventing Collisions at Sea
CSO	Combined Sewer Overflows
D & D	Dredging and Disposal policy
DEF	Defence Policy
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DIO	Defence Infrastructure Organisation
DWI	Drinking Water Inspectorate
EA	Environment Agency
ECON	Economic Policy
EEA	European Environment Agency
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ELC	Low Carbon Energy
ENV	Environment Policy
EPS	European Protected Species

FET	Future Environmental Technologies
FHI	Fish Health Inspectorate
FIS	Fisheries Policy
FPSO	Floating Production Storage and Offloading
FSA	Food Standards Agency
GEN	General Cross Cutting Policy
GES	Good Environmental Status
GDP	Gross Domestic Product
GVA	Gross Value Added
GOV	Governance Policy
HEO	Harbour Empowerment Orders
HGV	Heavy Goods Vehicle
HLMO	High Level Marine Objective
HRA	Habitats Regulations Assessment
HRO	Harbour Revision Order
HSE	Health and Safety Executive
HVDC	High Voltage Direct Current
ICZM	Integrated Coastal Zone Management
IFCA	Inshore Fisheries Conservation Authority
iMADP	Interim Marine Aggregates Dredging Policy
INNS	Invasive Non-native Species
IMO	International Maritime Organisation
IPCC	Intergovernmental Panel on Climate Change
IROPI	Imperative Reasons of Overriding Public Interest
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
KIS-ORCA	Kingfisher Information Service – Offshore renewable & Cable Awareness
LA	Local Authority
LCRU	Low Carbon Research Unit
LDP	Local Development Plan
LNG	Liquefied Natural Gas
LRF	Local Resilience Forum
LWEL	Living within Environmental Limits

MAREA	Marine Aggregates Regional Environmental Assessment
MARPOL	International Convention for the Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MCAA	Marine and Coastal Act 2009
MCCIP	Marine Climate Change Impacts Partnership
MCRS	Minimum Conservation Reference Size
MCZ	Marine Conservation Zone
MER	Maximising Economic Recovery
MHPA	Milford Haven Port Authority
MHWS	Mean High Water Spring Tide
MLWS	Mean Low Water Spring Tide
MMMU	Marine Mammal Management Unit
MOD	Ministry of Defence
MPA	Marine Protected Area
MPS	Marine Policy Statement
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
NATURA	Network of Nature Protection Areas in the EU
NCP	National Contingency Plans
NDF	National Development Framework
NE	Natural England
NPS	National Policy Statement
NRP	Natural Resources Policy
NRW	Natural Resources Wales
NSIP	National Significant Infrastructure Project
O & G	Oil and Gas Policy
OECD	Organisation for Economic Co-operation and Development
OESEA	UK Offshore Energy Strategic Environmental Assessment
OFWAT	Office of Water Services
OGA	Oil and Gas Authority
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
ORJIP	Offshore Renewables Joint Industry Programme

OSPAR	Oslo Paris Convention for the Protection of the Marine Environment of the North East Atlantic
PEXA	UK Military Practice and Exercise Area
PID	Project Initiation Document
P & S	Ports and Shipping
PPW	Planning Policy Wales
RA	Resource Area
RAS	Recirculation Aquaculture Systems
RAMSAR	Framework for National Action and International co-operation for conservation and use of wetlands
RBMP	River Basin Management Plan
RCAHMW	Royal Commission on Ancient and Historical Monuments of Wales
RIGS	Regionally Important Geodiversity Site
RNLI	Royal National Lifeboat Institution
RO	Regulating Order
RPA	Rural Payments Agency
RSA	Royal Society of Arts
SBTL	Swansea Bay Tidal Lagoon
SCI	Science Policy
SD	Sustainable Development
SDP	Strategic Development Plan
SEA	Strategic Environmental Assessments
SEP	Severn Estuary Partnership
SHA	Statutory Harbour Authority
SIC	Standard Industrial Classification
SMNR	Sustainable Management of Natural Resources
SMP	Shoreline Management Plan
SO	Several Order
SOC	Social Policy
SOLAS	Safety of Life at Sea
SoNaRR	The State of Natural Resources Report
SRA	Strategic Resource Area
SSSI	Sites of Special Scientific Interest

SUDS	Sustainable Urban Drainage Scheme
SA	Sustainability Appraisal
SWW	Surface Water runoff and Wastewater treatment and disposal policy
T & R	Tourism & Recreation Policy
TAN	Technical Advice Note
TCE	The Crown Estate
TEN-E	Trans-European Network – Energy
TSS	Traffic Separation Scheme
UAS	Unmanned Air Systems
UKHO	United Kingdom Hydrographic Office
UKMMAS	UK Marine Monitoring and Assessment Strategy
UNCLOS	United Nations Convention on the Law of the Sea
USUV	Unmanned Surface and Underwater Vehicles
WeTAG	Welsh Transport Planning and Appraisal Guidance
WFD	Water Framework Directive
WFGA	Well-being of Future Generations (Wales) Act 2015
WG	Welsh Government
WMFAG	Wales Marine and Fisheries Advisory Group
WNMP	Welsh National Marine Plan
WORS	Wales Outdoor Recreation Survey