



Llywodraeth Cymru
Welsh Government



Sustainability Appraisal

Welsh National Marine Plan

November 2019



Welsh National Marine Plan

Sustainability Appraisal Report

October 2017

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.





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Document revisions

No.	Details	Date
1	Initial Draft SA Report	30/01/17
2	Initial Draft SA Report v2	06/02/17
3	Initial Draft SA Report Issued	16/02/17
4	Final Draft SA Report Issued	11/05/17
5	Final Draft SA Report Issued v2	02/10/17
6	Final SA Report	16/10/17



Non-Technical Summary

Introduction

This Non-Technical Summary (NTS) provides an overview of the Sustainability Appraisal (SA) of the Draft Welsh National Marine Plan (WNMP). The WNMP is currently being prepared by the Welsh Government in accordance with the Marine and Coastal Access Act 2009 (MCAA)¹. The purpose of marine planning under the MCAA is to help achieve sustainable development in the marine area. Welsh Ministers are the marine planning authority responsible for creating marine plans for both the inshore region (0-12 nautical miles) and offshore region (beyond 12 nautical miles) of Wales.

SA is being carried out to assess the proposed plan policies against a range of socio-economic and environmental criteria and to help ensure that sustainable development is integrated into the emerging plan. This NTS provides a summary of the SA Report that is being published for consultation alongside the Draft WNMP. The following sections of this NTS:

- ▶ provide an overview of the Draft WNMP;
- ▶ describe the approach to undertaking the SA of the Draft WNMP;
- ▶ summarise the findings of the SA of the Draft WNMP; and
- ▶ set out the next steps in the SA of the Draft WNMP.

The Draft Welsh National Marine Plan

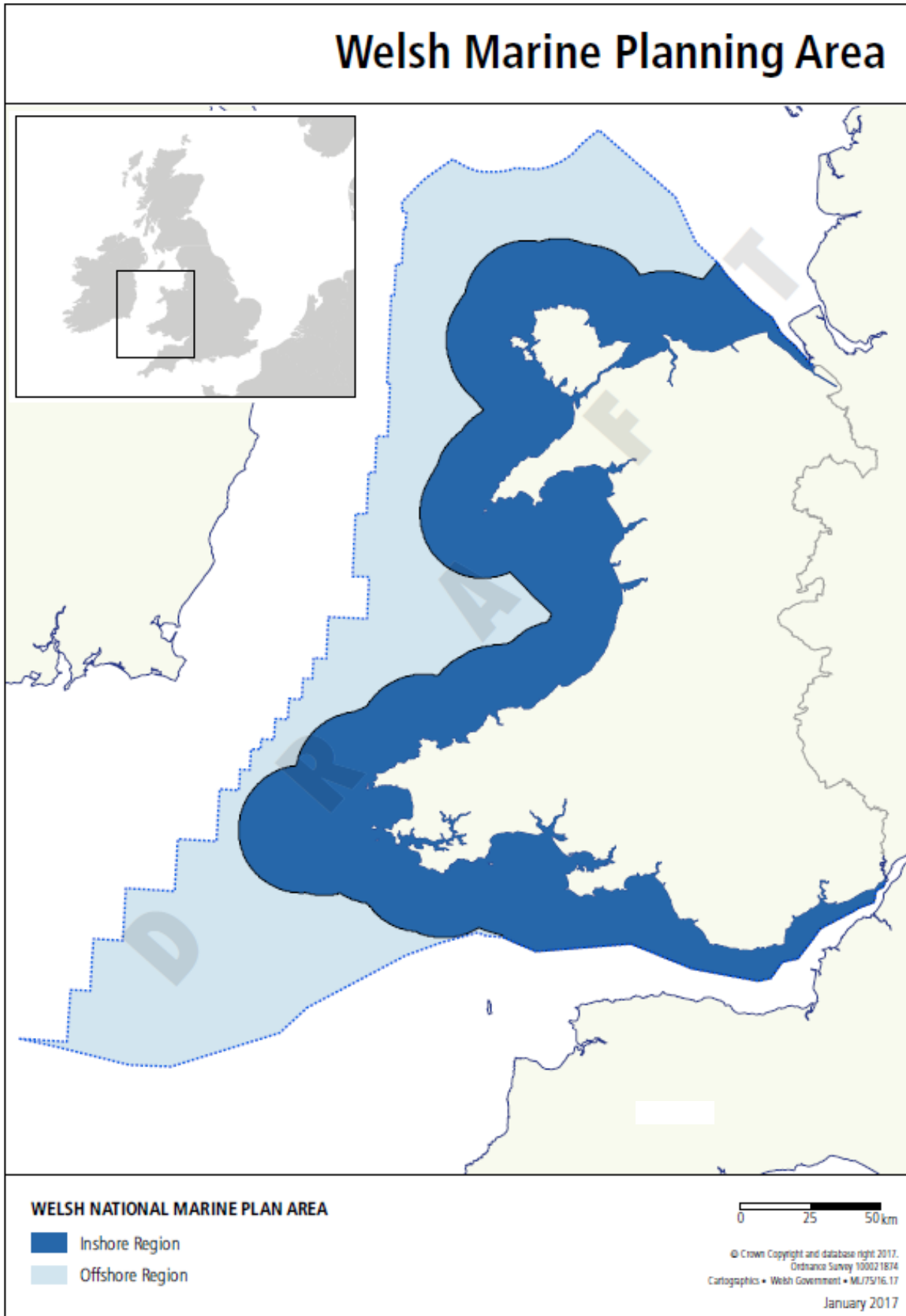
The WNMP is the first marine plan for Wales and represents the start of a process of shaping a future for Wales' seas through marine planning to support economic, social and environmental objectives. Building on the UK Marine Policy Statement², the WNMP will enable the Welsh Government to plan for, and guide, the management of Welsh seas; integrating economic, social and environmental considerations and engaging with communities to help shape the future of the plan area and thereby contribute to the well-being of current and future generations.

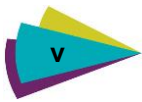
The WNMP will cover both the Welsh inshore region (from high water and the landward extent out to 12 nautical miles from shore) and offshore region (beyond 12 nautical miles), each of which are a plan area under the MCAA, in a single document (see **Figure NTS.1**).

¹ HM Government (2009) *Marine and Coastal Access Act 2009*. Available from http://www.legislation.gov.uk/ukpga/2009/23/pdfs/ukpga_20090023_en.pdf [Accessed 08/09/15].

² HM Government (2011) *UK Marine Policy Statement*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf [Accessed December 2016].

Figure NTS.1 The WNMP Area





The marine plan preparation process involves a number of steps (see **Figure NTS.2**) covering evidence gathering, policy development, plan implementation and review, supported by ongoing stakeholder engagement and an iterative process of impact assessment. As part of the development of the WNMP, the Welsh Government prepared the Welsh National Marine Plan: Initial Draft³ that was made available for comment between November 2015 and January 2016. This pre-consultation exercise has helped to inform the preparation of the Draft WNMP that is subject to formal consultation (as per Schedule 6 of the MCAA) prior to independent investigation⁴ (if required) and adoption.

Figure NTS.2 The Marine Plan Preparation Process



The Draft WNMP contains the following components:

- ▶ **vision:** the overarching statement about what will characterise the Welsh marine area at a given point in the future;

³ Welsh Government (2015) *Welsh National Marine Plan Initial Pre-Consultation Draft*. Available from <http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/welsh-national-marine-plan/?lang=en> [Accessed January 2017].

⁴ Section 13 of Schedule 6 'Marine Plans; Preparation and Adoption' of the Marine and Coastal Access Act 2009.



- ▶ **plan objectives:** a statement of desired outcomes or observable behavioural changes that the WNMP is seeking to achieve in order to realise the vision;
- ▶ **sector objectives:** objectives that operate alongside the plan objectives and are sector-specific statements of desired outcomes;
- ▶ **general cross-cutting policies:** these are cross-cutting plan policies of a general nature that apply to all sectors and activities (though the degree to which they need to be considered depends on the scale and likely impact of the proposal) and support the delivery of the plan objectives;
- ▶ **sector policies:** operate alongside the general cross-cutting policies as sector specific policies that apply to decisions related to a particular activity. They may include supporting policies (to support development of a given sector) and/or safeguarding policies (to protect a given sector’s current or potential future activities from negative impacts from other activities). The information for some sectors is supported by one or more maps to spatially define sector policies or for illustrative purposes. In order to describe the distribution of resources, the Draft WNMP identifies Resource Areas (RAs) for certain sectors. In order to allocate space and focus future use, the Draft WNMP also identifies Strategic Resource Areas (SRAs) for certain sectors. These are areas of good opportunity for future use by a particular sector over the plan period and beyond.

In total, the Draft WNMP includes 55 policies across the topics/sectors set out in **Table NTS.1**.

Table NTS.1 Draft Welsh National Marine Plan Policies

General Cross-Cutting Policies	Sector Policies
<ul style="list-style-type: none"> - Overarching Planning Policy: 2 policies - Achieving a Sustainable Marine Economy: 2 policies; - Ensuring a Strong, Healthy and Just Society: 12 policies; - Living Within Environmental Limits: 6 policies; - Promoting Good Governance: 2 policies; and - Using Sound Science Responsibly: 1 policy. 	<ul style="list-style-type: none"> -Aggregates: 4 policies; -Aquaculture: 3 policies; -Defence: 1 policy; -Dredging and Disposal: 3 policies; -Energy – Low Carbon: 4 policies; -Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage): 4 policies; -Fisheries: 3 policies; -Ports and Shipping: 3 policies; -Subsea Cabling: 2 policies; -Surface Water and Wastewater Treatment and Disposal: 1 policy; and -Tourism and Recreation: 2 policies.

Further information relating to the scope and development of the WNMP including the content of the Draft WNMP is provided in Section 2 of the SA Report.

What is Sustainability Appraisal?

Sustainability Appraisal (SA) is a form of assessment that considers the social, economic and environmental effects of a plan or programme in the context of sustainable development. Schedule 6 (Part 10) of the MCAA states that:

“(1) A marine plan authority preparing a marine plan must carry out an appraisal of the sustainability of its proposals for inclusion in the plan.

(2) The authority may proceed with those proposals only if it considers that the results of the appraisal indicate that it is appropriate to do so.

(3) The marine plan authority must publish a report of the results of the appraisal.

(4) The report is to be published when the marine plan authority publishes the consultation.”

In meeting its requirement to undertake an SA of the WNMP, the Welsh Government must also address the requirements of the European Union Directive 2001/42/EC on the Assessment of Certain Plans and Programmes on the Environment⁵, more commonly known as the Strategic Environmental Assessment (SEA) Directive. This has been transposed into UK regulations as the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004 No. 1633), hereafter referred to as the SEA Regulations. This is a law that sets out to integrate environmental considerations into the development of plans and programmes such as the WNMP.

SA is a means of ensuring that sustainability considerations are taken into account in the WNMP through an iterative approach. This iterative approach has sought to predict and evaluate the likely significant effects of plan proposals and alternatives, proposing measures to avoid, minimise or mitigate any adverse effects and maximise positive effects thereby enhancing the sustainability performance of the plan.

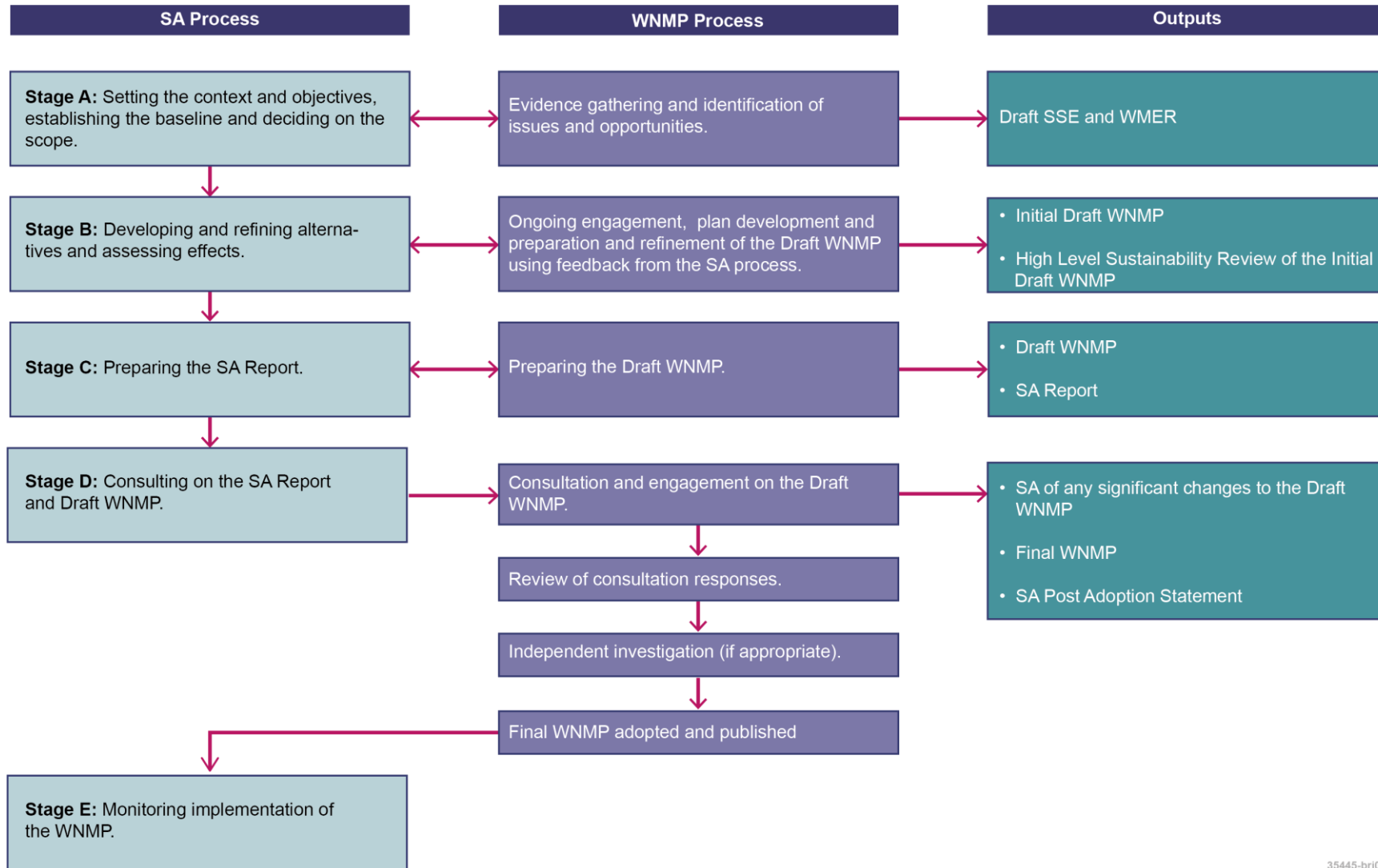
Informed by the appraisal of the general cross-cutting policies and sector policies, a judgement has also been made regarding whether, and the extent to which, the Draft WNMP would support or detract from the achievement of each of the seven well-being goals for Wales established in the Well-being of Future Generations (Wales) Act 2015 and the objective for the sustainable management of natural resources (SMNR) set out in the Environment (Wales) Act 2016.

What Has Happened So Far?

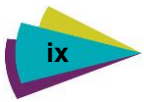
There are five key stages in the SA process and these are highlighted in **Figure NTS.3**.

⁵ Available from <http://ec.europa.eu/environment/eia/sea-legalcontext.htm> [Accessed 08/09/15].

Figure NTS.3 The Sustainability Appraisal Process and Linkages with Marine Plan Preparation



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The first stage (**Stage A**) of the SA process involved consultation on the scope of the SA as part of the draft Strategic Scoping Exercise (SSE)⁶ consultation that took place in August 2014.

Ongoing, informal feedback on the developing WNMP vision, objectives and plan policies has subsequently been provided to the Welsh Government alongside a high level sustainability review of emerging policies⁷ (**Stage B**). The high level review was undertaken to provide provisional views on the sustainability implications of the indicative policies of the WNMP as an early contribution to their further development. The review was published alongside the Initial Draft WNMP in November 2015.

Taking into account the findings of the high level sustainability review, the Draft WNMP policies have been subject to detailed appraisal in accordance with the approach set out in the SSE (as amended to reflect consultation responses). The findings of the appraisal were set out in an Initial Draft SA Report⁸ (**Stage C**) that was issued to the WNMP Stakeholder Reference Group and other bodies for comment between 16th February and 10th March 2017. Comments on the Initial Draft SA Report were received from (inter alia) Natural Resources Wales, the Marine Management Organisation, Wales Environment Link, Joint Nature Conservation Committee and the Department for Business, Energy & Industrial Strategy. Alongside revisions to the Draft WNMP made to reflect the initial SA and further engagement, the comments received have been taken into account in preparing the SA Report that will be consulted on alongside the Draft WNMP (**Stage D**).

Following independent examination (if required), the Welsh Government will issue a Post Adoption Statement as soon as reasonably practicable after the adoption of the WNMP. The Post Adoption Statement will summarise how the SA and consultation responses have been taken into account and how socio-economic and environmental considerations have been integrated into the final decisions regarding the WNMP. In accordance with the SEA Directive, during the period of the WNMP, the Welsh Government will monitor its implementation and any significant social, economic and environmental effects (**Stage E**). Ongoing monitoring is also a requirement of the MCAA.

Section 1.4 of the SA Report describes in further detail the requirement for SA of the WNMP and the SA process including its relationship with the preparation of the plan.

How Has the Draft WNMP Been Appraised?

What is Being Appraised?

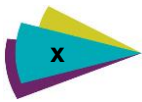
The SA has been undertaken by appraising the likely sustainability effects of implementing the following key components of the Draft WNMP:

- ▶ vision;
- ▶ plan objectives;
- ▶ sector objectives;

⁶ Welsh Government (2014) *Developing the Welsh National Marine Plan: Draft Strategic Scoping Exercise*.

⁷ Amec Foster Wheeler (2015) *High Level Sustainability Review of the Emerging Policies of the Initial Pre-Consultation Draft Welsh National Marine Plan*. Available from <http://gov.wales/docs/drah/publications/151127-welsh-national-marine-plan-sustainability-review-en.pdf> [Accessed January 2017].

⁸ Amec Foster Wheeler (2017) *Welsh National Marine Plan: Sustainability Appraisal Report (Initial Draft)*.



- ▶ general cross-cutting policies; and
- ▶ sector policies (including SRAs).

In addition, the reasonable alternative to the Draft WNMP (as proposed) has also been appraised.

How Has the Appraisal Been Undertaken?

To support the appraisal of the Draft WNMP, a SA Framework has been developed. This contains a series of sustainability criteria and guide questions that reflect topics identified in the SEA Directive and have been informed by:

- ▶ the scope of the Draft WNMP;
- ▶ a review of relevant plans and programmes and the associated key policy objectives and messages;
- ▶ the baseline information contained in Wales' Marine Evidence Report (2015)⁹ and key sustainability issues; and
- ▶ responses received to consultation on the proposed SA criteria and guide questions set out in the draft SSE.

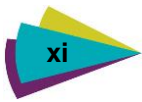
Broadly, the criteria present the preferred social, economic and environmental outcome which usually involves minimising potential adverse effects and enhancing positive effects. By appraising the policies of the Draft WNMP against the criteria, it is apparent where they will contribute to sustainability, where they might have an adverse effect, and where any positive effects could be enhanced. Associated guide questions have been developed for each SA criterion to provide a detailed SA Framework against which the Draft WNMP has been appraised.

Table NTS.2 presents the SA Framework including the SA criteria and guide questions. For each SA criteria, the relevant well-being goals of the Well-being of Future Generations (Wales) Act 2015 are identified to facilitate an appraisal of the Draft WNMP's performance in terms of its contribution to the delivery of the goals. Additionally, those criteria that are directly related to the objective for SMNR established in the Environment (Wales) Act 2016 are highlighted (although in this instance, all of the SA criteria are considered to be relevant to the objective).

Table NTS.2 SA Framework

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
1. To protect and enhance biodiversity (habitats, species and ecosystems).	<p><i>Protect and enhance designated nature conservation sites (e.g. SACs, SPAs, Ramsar and SSSIs), habitats and species?</i></p> <p><i>Protect and enhance the structure and function of marine and coastal ecosystems?</i></p> <p><i>Avoid adverse impacts on marine ecology from underwater noise?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A globally 	Yes

⁹ Welsh Government *et al* (2015) *Wales' Marine Evidence Report*. Available from <http://gov.wales/docs/drah/publications/151008-wales-marine-evidence-report-master-october-2015-en.pdf> [Accessed January 2017].



Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
	<p><i>Provide opportunities for people to come in to contact with and appreciate wildlife and wild places?</i></p> <p><i>Maintain and restore key ecological processes, and in particular coastal and marine processes?</i></p>	responsible Wales	
2. To protect and enhance the quality of surface, ground, estuarine and coastal water.	<p><i>Affect demand for water resources and the availability of water to meet the demand?</i></p> <p><i>Affect groundwater or freshwater, estuarine or marine water quality?</i></p> <p><i>Promote high quality surface water management and waste water treatment and disposal?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales 	Yes
3. To protect and enhance the physical features of the marine environment.	<p><i>Affect marine and coastal processes and/or erosion rates?</i></p> <p><i>Protect and enhance designated coastal features or sites e.g. geological SSSIs?</i></p> <p><i>Ensure the protection of the seabed in designated or sensitive areas?</i></p> <p><i>Support the policies and actions of Shoreline Management Plans?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales 	Yes
4. To protect and enhance air quality.	<p><i>Help to reduce emissions of air pollutants associated with marine or coastal activities and developments?</i></p>	<ul style="list-style-type: none"> • A healthier Wales • A resilient Wales • A globally responsible Wales 	Yes
5. To protect and enhance landscape and seascape character and other protected features.	<p><i>Recognise and respect non-designated landscape and seascape character?</i></p> <p><i>Help to protect designated coastal landscapes and/or townscapes, such as National Parks, AONBs, Heritage Coast or conservation areas?</i></p>	<ul style="list-style-type: none"> • A resilient Wales • A healthier Wales • A Wales of cohesive communities 	Yes
6. To limit the causes and effects of climate change and promote adaptation.	<p><i>Contribute to a reduction, directly or indirectly, in greenhouse gas emissions?</i></p> <p><i>Contribute positively to resilience and/or adaptation to climate change, helping to ensure that forecast changes are considered over the lifetime of any proposed development or activity?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A globally responsible Wales 	Yes
7. To protect and enhance cultural, historic and industrial heritage resources.	<p><i>Help to protect the site and setting of marine and coastal historic sites and assets including scheduled monuments and protected wrecks, landscapes and seascapes?</i></p> <p><i>Help to avoid or minimise damage to onshore and offshore archaeologically important sites?</i></p> <p><i>Help to protect and enhance culturally important sites?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
8. To support and enhance the Welsh language and culture.	<p><i>Protect Welsh language and culture?</i></p> <p><i>Promote and enhance opportunities for the promotion and development of Welsh language and culture?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes
9. To support appropriate tourism in Wales and protect and enhance opportunities for recreation.	<p><i>Help to protect and promote the attractiveness of the coastal and marine environment for visitors?</i></p> <p><i>Help to protect and promote the distinctiveness of landscapes and seascapes?</i></p> <p><i>Help to protect and promote sustainable opportunities for recreation in the coastal and marine environment for residents and visitors?</i></p> <p><i>Help to promote the health and well-being of local communities through supporting appropriate opportunities for recreation?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes
10. To promote the sustainable use of natural resources.	<p><i>Promote the protection and accessibility of the seabed for the winning of marine aggregates?</i></p> <p><i>Promote the sustainable use of natural resources including oil and gas?</i></p> <p><i>Help to support the development of low carbon energy and thereby contribute towards meeting renewable energy targets?</i></p> <p><i>Promote the sustainable management of waste?"</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A globally responsible Wales 	Yes
11. To support sustainable development of marine and coastal economy.	<p><i>Contribute to the growth of any marine activity without detriment to another?</i></p> <p><i>Help to ensure that capacity is provided for shipping needs, including sea space, water depth and port facilities?</i></p> <p><i>Support the protection and conservation of marine fish stocks and ensure the continuation a sustainable fishing industry in Wales?</i></p> <p><i>Help to promote the sustainable growth of aquaculture in Wales?</i></p> <p><i>Help ensure appropriate defence activities can be undertaken in sustainable manner?</i></p> <p><i>Facilitate telecommunications including cable laying in appropriate areas?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A globally responsible Wales 	Yes
12. To maintain and enhance the well-being of local communities.*	<p><i>Help to promote employment creation and thereby support the local and Welsh economy?</i></p> <p><i>Help to address social needs such as the retention of</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A healthier 	Yes

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
	<p><i>high skill levels and achieving a balance of full and part-time work, where appropriate?</i></p> <p><i>Help to promote attractive, viable, safe and well-connected communities?</i></p> <p><i>Help to promote equality?</i></p>	<p>Wales</p> <ul style="list-style-type: none"> • A more equal Wales • A Wales of cohesive communities • A globally responsible Wales 	
13. To protect and enhance human health with special regard to vulnerable groups in society.	<p><i>Promote the maintenance and enhancement of human health, and minimise the adverse effects on any vulnerable groups in particular?</i></p>	<ul style="list-style-type: none"> • A more equal Wales • A healthier Wales • A Wales of cohesive communities 	Yes
14. To promote good governance.	<p><i>Support integrated decision making and collaboration across marine and terrestrial interfaces and boundaries?</i></p> <p><i>Promote engagement in marine planning?</i></p> <p><i>Support continued research and policy development in marine planning?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language • A globally responsible Wales 	Yes

* Please note that well-being in the context of SA Criteria 12 is separate and distinct from the seven well-being goals for Wales established in the Well-being of Future Generations (Wales) Act 2015. Identification of this criteria predated the Act. Commentary on the contribution of the Draft WNMP to the well-being goals of the Act is contained in **Section 4.8** of the SA Report.

The vision, plan objectives and sector objectives have been assessed for their compatibility with the SA criteria above. Each Draft WNMP policy has been appraised against each of the criteria that comprise the SA Framework with the findings presented in a matrix to identify the likely significant effects on the criteria.

Assessment of Reasonable Alternatives to the Draft WNMP

An important part of the SA process is the assessment of reasonable alternatives. One reasonable alternative to the Draft WNMP (as proposed) has been identified, namely a 'High level strategic Draft WNMP'. A high level strategic marine plan would provide a lower level of spatial specificity relative to the Draft WNMP as proposed. For the purposes of this SA, it is assumed that the high level strategic Draft WNMP alternative would still provide sector-specific policy but would not identify SRAs.



What are the Likely Significant Sustainability Effects of the Draft WNMP?

Table NTS.3 presents the findings of the appraisal of the Draft WNMP by summarising the cumulative effects of the general cross-cutting policies (by theme) and sector policies (by sector) on the SA criteria and by providing an overall judgement on how the plan, when taken as a whole, performs against the SA criteria.

Table NTS.3 Cumulative Effects Arising from the Draft WNMP

SA Criteria	General Cross-cutting Policies						Sector Policies											Cumulative Effects of the Draft WNMP Policies (i.e. the combined effects of all the Draft WNMP policies)
	Overarching Planning Policy	Achieving a Sustainable Marine Economy	Ensuring a Strong, Healthy and Just Society Living Within Environmental Limits	Promoting Good Governance	Using Sound Science Responsibly	Aggregates	Aquaculture	Defence	Dredging and Disposal	Energy – Low Carbon	Energy – Oil and Gas (incl Gas Unloading/ Fisheries)	Ports and Shipping	Subsea Cabling	Surface Water and Wastewater Treatment and Tourism and Recreation				
1. Biodiversity	+	+/?	+/-	++	+	+	-/?	+/-/?	+	-/?	+/-/?	-/?	+/-	-/?	-/?	+	+/-/?	++/-/?
2. Water	+	+/?	+	++	+	+	-/?	+/?	+	-/?	-/?	-/?	?	-/?	0	++	+/-/?	++/-/?
3. Physical Environment	+	+/?	++	++	+	+	-/?	-/?	0	-/?	-/?	-/?	?	-/?	-/?	0	+/-/?	++/-/?
4. Air Quality	+	?	+	+	+	+	+/-	+/-/?	0	-	+/-/?	-/?	?	+/-/?	0	0	-/?	+/-/?
5. Landscape and Seascape	+	+/?	++/-	+	+	+	0	-/?	0	0	-/?	-/?	+/?	-/?	0	0	+/-/?	++/-/?
6. Climate Change	+	+/?	++	+	+	+	+/-	+/-/?	0	+/-/?	++/?	++/-/?	?	+/-/?	++/-	+	-/?	++/-/?
7. Heritage	+	+/?	++/-	+	+	+	-/?	-/?	0	-/?	-/?	-/?	+/?	-/?	-/?	0	+/-/?	++/-/?
8. Welsh Language	+	+/?	+	0	+	+	?	0	0	0	?	?	+	?	0	0	+/?	+

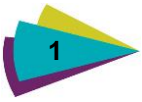
SA Criteria	General Cross-cutting Policies						Sector Policies											Cumulative Effects of the Draft WNMP Policies (i.e. the combined effects of all the Draft WNMP policies)
	Overarching Planning Policy	Achieving a Sustainable Marine Economy	Ensuring a Strong, Healthy and Just Society Living Within Environmental Limits	Promoting Good Governance	Using Sound Science Responsibly	Aggregates	Aquaculture	Defence	Dredging and Disposal	Energy – Low Carbon	Energy – Oil and Gas (incl Gas Unloading/ Fisheries)	Ports and Shipping	Subsea Cabling	Surface Water and Wastewater Treatment and Tourism and Recreation				
9. Tourism and Recreation	+	++/?	++	+	+	+	0	+/-/?	0	+	+/-/?	0	+	+/?	0	+	++	++
10. Resources (incl Waste)	+	+/?	+/-	+	+	+	++/-	0	0	-	++	++/--/?	?	-/?	++/-	++	-/?	++/--/?
11. Economy	+	++	+	+/-/?	+	+	++	++/?	+/?	++	++/?	++/?	+	++/?	++	+	++/?	++
12. Well-being	+	++	++	+	+	+	+/?	+/?	+/?	+	+/?	+/?	+	++/?	++	+	++/?	++
13. Health	+	+/?	+	+	+	+	0	+/?	+	-	+/-/?	-/?	+/?	+/-/?	0	+	++/?	++/--/?
14. Governance	++	++	+	+	++	++	+	+	+	+	++	+	+	+	0	+	++	



Key

Symbol	Effect
++	The Draft WNMP is likely to have a significant positive effect on the SA criteria.
+	The Draft WNMP is likely to have a positive effect on the SA criteria.
0	The Draft WNMP is likely to have a neutral effect on the SA criteria.
-	The Draft WNMP is likely to have a negative effect on the SA criteria.
--	The Draft WNMP is likely to have a significant negative effect on the SA criteria.
?	The effects of the Draft WNMP on the SA criteria are uncertain at this stage.

*Note: where more than one symbol is presented in a box it indicates that the appraisal has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.



Significant Positive Effects

Overall, the appraisal has found that the implementation of the Draft WNMP policies will have positive effects on the majority of the SA criteria. Reflecting the breadth of the Draft WNMP policies, significant positive effects are expected in respect of all the SA criteria with the exception of air quality (SA Criteria 4) and Welsh language (SA Criteria 8), for which effects have been assessed as positive. This broadly reflects the likely socio-economic benefits that supporting economic activity in the marine area is likely to deliver and the strong framework provided by the plan policies that will help to conserve and enhance Wales' marine environment and support the sustainable management of natural resources.

The Draft WNMP policies are, in particular, likely to deliver significant benefits in respect of: climate change (SA Criteria 6); tourism and recreation (SA Criteria 9); resources (SA Criteria 10); the economy (SA Criteria 11); well-being (SA Criteria 12); and governance (SA Criteria 14).

Wales is ideally suited for the establishment of a successful and competitive marine energy industry. In this regard, the Welsh Government's Marine Renewable Energy Strategic Framework has identified a scenario to secure 6.4GW through marine tidal stream and wave energy development and there is also significant potential for tidal range. The generation of renewable energy is strongly supported by the general cross-cutting policies and, through their support for growth in the low carbon sector, carbon capture and storage and electricity distribution, by the sector policies. This is reflected in the significant positive effects identified for climate change (SA Criteria 6) and resources (SA Criteria 10).

The Welsh coastline and seas support a wide range of economic activities across a number of sectors. The Draft WNMP promotes blue growth (including tourism) and identifies significant scope for future growth in certain sectors over the plan period. Reflecting the intent of the sector policies to safeguard existing economic activity in the marine area whilst encouraging sector productivity and growth, the Draft WNMP is therefore expected to help maintain and enhance Wales' marine economy (including the visitor economy) and its contribution to national Gross Value Added (GVA). Whilst it is not possible to quantify the effect of the Draft WNMP upon sector growth, the scale of potential future growth of some sectors is significant, in particular the low carbon sector. This is reflected in the significant positive effects identified for tourism and recreation (SA Criteria 9) and the economy (SA Criteria 11).

Linked to the strong policy support for blue growth, the Draft WNMP policies are expected to encourage proposals for economic development that generate local employment opportunities and wealth, tackle deprivation and increase skills, delivering potentially substantial benefits to Wales' coastal communities. In this regard, the plan may contribute towards addressing the issues highlighted in the 2014 Welsh Index of Multiple Deprivation regarding deprivation in some coastal areas and in particular in some northern coastal towns. This is reflected in the significant positive effects identified for well-being (SA Criteria 12).

The strong performance of the Draft WNMP in terms of governance (SA Criteria 14) reflects in particular the emphasis of the general cross-cutting policies on the consideration of cumulative effects, adaptive management and the application of an evidence-based analysis in decision making. It also reflects the expectation that the implementation of the sector policies will promote research and engagement on marine planning issues and help

further understanding of future development opportunities and constraints to growth. This is particularly pertinent given that the WNMP is the first marine plan for Wales and represents the start of a systematic process of shaping Wales' seas through marine planning to support economic, social and environmental objectives.

Significant Negative Effects

Wales' marine environment is biologically diverse with marine habitats and species providing a range of ecosystem services and benefits of significant value to Welsh and the wider UK society. It is also sensitive to pressures resulting from new developments and activities, including from impacts associated with the development and use of the marine area that may be supported through the implementation of the Draft WNMP and in particular the sector policies. Negative effects have therefore been identified across several of the SA criteria. However, the general cross-cutting policies of the Draft WNMP provide a strong framework to manage such impacts and it is against the provisions of these policies that proposals will be determined (as appropriate) under statutory regulatory processes. Further, activities in the marine environment are heavily regulated and the environmental impacts of proposals would be assessed and appropriately addressed at the individual project stage.

Despite the provisions of the general cross-cutting policies, in-combination, Policies AGG_01 and O&G_01 have been assessed as having a cumulative significant negative effect in respect of resources (SA Criteria 10). The winning of marine aggregates (Policy AGG_01) and oil and gas production (Policy O&G_01) will together unavoidably result in the depletion of non-renewable resources. However, marine aggregates form an important component of the national and local supply of aggregates and the provisions of Policy AGG_01 and the SRAs identified reflect proximity to markets and the presence of infrastructure as well as the availability of reserves to meet known demand over the plan period and beyond. This is consistent with the requirements of the UK MPS which sets out that marine planning authorities "*should as a minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates ... contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses.*" Further, marine aggregate production is likely to result in fewer adverse impacts relative to land-won supplies. Reflecting the importance of marine dredged sand and gravel to Wales, and taking into account the potential for the identified SRAs to meet demand for aggregates over the plan period, Policy AGG_01 has also been assessed as having a significant positive effect on SA Criteria 10.

Whilst Policy O&G_01 has been assessed as having a potential significant negative effect in respect of resources due to the sector's reliance on a non-renewable resource (in this case, oil and gas), this significant negative effect needs to be considered in the context of the Welsh Government's commitment to moving to a low carbon energy system which acknowledges that this will be a gradual transition. During this transition, fossil fuel resources (including oil and gas) and 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 within the context of the transition, oil and gas exploration and production and the revenues that they generate can support achievement of sustainable development goals and contribute significantly to the well-being of current and future generations. Key considerations in the continued reliance on fossil fuels include climate change, energy security, cost of energy to businesses and consumers and environmental

impact. Gas, as a transition fuel, will also support progress towards the decarbonisation of Welsh energy. Given the potential for Policy O&G_01 to support the production of indigenous offshore oil and gas to contribute to energy security, the policy has also been assessed as having significant positive effect on SA Criteria 10.

Policy ELC_01 has been assessed as having a cumulative significant negative effect on biodiversity (SA Criteria 1), water (SA Criteria 2) and the physical environment (SA Criteria 3) at the plan level. This reflects the potential range and magnitude of environmental effects associated with the deployment and operation of tidal lagoon schemes which in particular are likely to be of greater significance relative to other types of development/marine activity supported by the Draft WNMP and could affect designated sites including European sites in and beyond the plan area. However, a large number of inherent uncertainties remain associated with the scale and location of tidal lagoon activities, the proposed technologies to be deployed, the baseline environmental characteristics of development locations and the efficacy of project-level mitigation.

Detailed policy appraisal matrices are contained in Appendix D (general cross-cutting policies) and Appendix E (sector policies) of the SA Report. The findings of these appraisals are summarised in Sections 4.4 and 4.5. An assessment of the cumulative effects of the Draft WNMP both alone and in-combination with other plans and programmes is contained in Section 4.6.

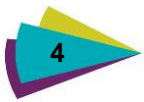
What Contribution will the Draft WNMP make to the Well-being Goals for Wales and Objective for SMNR?

In addition to considering the effects of the Draft WNMP on the SA criteria, an assessment has been undertaken of the contribution that the plan is likely to make to the achievement of the well-being goals established in the Well-being of Future Generations (Wales) Act 2015 and the objective for SMNR set out in the Environment (Wales) Act 2016.

The overarching plan objective of the Draft WNMP is to “*support the sustainable development of the Welsh marine area by contributing across Wales’ well-being goals, ensuring the sustainable management of natural resources by taking account of the cumulative effects of all uses of the marine environment.*” Reflecting this objective, the assessment has demonstrated that the Draft WNMP policies are likely to make a significant positive contribution to the achievement of the well-being goals for Wales and the SMNR objective. Policy GOV_02 reinforces this expectation by setting out that 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.

The Draft WNMP seeks to deliver blue growth which is underpinned by the principles of sustainable development. Development and use of the marine area will unavoidably require the use of natural resources and could result in some adverse environmental effects that would need to be considered carefully in the context of the well-being goal ‘A resilient Wales’. However, the general cross-cutting policies of the Draft WNMP seek to avoid, minimise or mitigate significant adverse effects associated with new development or activity and will help to ensure the sustainable management of natural resources.

The detailed appraisal of the Draft WNMP’s contribution to the well-being goals and the objective for SMNR is contained in Section 4.8 of the SA Report.



What are the Likely Significant Effects of the Reasonable Alternative 'a High Level Strategic Draft WNMP'?

As highlighted above, one alternative to the Draft WNMP (as proposed) has been identified as reasonable and taken forward for appraisal as part of this SA, namely a 'high level strategic Draft WNMP'.

The appraisal of this alternative has demonstrated that, overall, the range and type of effects on the SA criteria associated with its implementation would be very similar to those identified in respect of the Draft WNMP as proposed. This reflects the expectation that a high level strategic Draft WNMP would contain the same general cross-cutting policies as the proposed plan and would still provide some indicative support for the safeguarding and expansion of specific sectors.

However, the appraisal has highlighted that the absence of sector-specific SRAs would, relative to the Draft WNMP as proposed, result in a higher level of uncertainty with regard to the magnitude of effects across the majority of the SA criteria. This is because there would be less policy guidance over the location of future development and activity in the plan area which could (inter alia):

- ▶ reduce investor confidence and commercial support for some sectors;
- ▶ result in a lack of spatial direction to ensure that proposals are delivered in those areas with the greatest potential resource to support the growth of a particular sector;
- ▶ increase the risk of conflicts between activities in the plan area and the sterilisation of resources;
- ▶ mean greater uncertainty with respect to the receptors that may be affected by proposals; and
- ▶ undermine the sustainable management of natural resources.

A detailed appraisal of the high level strategic Draft WNMP alternative is contained in Section 4.10 of the SA Report.

What are the Main Recommendations of the SA?

The SA has been undertaken iteratively alongside the development of the Draft WNMP in order to enhance its sustainability performance. Based on the appraisal of the Draft WNMP (as proposed), amendments to policy wording and/or supporting text have been suggested in order to further enhance the performance of the Draft WNMP against the SA criteria and, by extension, the seven well-being goals for Wales.

The mitigation and enhancement measures identified through the SA are contained within the detailed appraisal matrices at Appendix D and Appendix E and are summarised in Section 4.9 of the SA Report. They include, for example, requiring the use of Local Labour Agreements for certain types/scales of development in order to encourage local employment and training and development (Policy ECON_01) and requiring proposals for certain forms of development to be accompanied by a Welsh Language Impact Assessment or Welsh Language Statement (Policy SOC_04).

The mitigation and enhancement measures identified through the policy appraisal will be considered by the Welsh Government in preparing the final WNMP prior to its adoption.

The Draft WNMP is the first marine plan for Wales and represents the start of an ongoing process of shaping Wales' seas through marine planning to support economic, social and environmental objectives. Under the MCAA, the Welsh Government must keep the WNMP under review once it is adopted and in this regard, the Draft WNMP includes a commitment to review and report at least every three years on the effects of the plan policies and their effectiveness at securing the plan objectives. The marine planning process is therefore a continuous one and in accordance with the MCAA, future plans will be developed using the experience and understanding gained during the preparation of the first marine plan and its implementation.

Through the SA of the Draft WNMP, a number of recommendations have been identified which could be considered by the Welsh Government in working towards the preparation of the future marine plans. **These recommendations are detailed in Section 5.3 of the SA Report** and concern:

- ▶ resolving the uncertainties identified through the SA;
- ▶ refining existing and identifying new SRAs;
- ▶ identifying sector-specific targets;
- ▶ providing supplementary guidance on the SRAs, sectors and/or WNMP policy topics;
- ▶ reviewing policy effectiveness to inform future marine plans; and
- ▶ ensuring that marine spatial planning decisions are consistent with the SMNR principles.

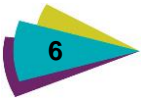
How will the Sustainability Effects of the Draft WNMP be Monitored?

Once the WNMP is adopted, its socio-economic and environmental effects will need to be monitored. Monitoring the WNMP for sustainability effects can help to answer questions such as:

- ▶ Were the SA's predictions of sustainability effects accurate?
- ▶ Is the WNMP contributing to the achievement of desired SA objectives?
- ▶ Are mitigation measures performing as well as expected?
- ▶ Are there any unforeseen adverse effects? Are these within acceptable limits, or is remedial action desirable?

Monitoring is particularly important given the uncertainties identified through the appraisal of the plan policies and the fact that the WNMP is the first marine plan for Wales.

Appendix G identifies a number of potential indicators that could be used for monitoring the sustainability effects of the WNMP's implementation. The Welsh Government will develop a monitoring plan for the WNMP which can be used to monitor the effects of the plan's implementation against the SA criteria. Additionally, the WMER



and the State of Natural Resources Report produced by Natural Resources Wales (and subsequent updates) will also provide invaluable evidence to support monitoring of the effect of marine planning going forward.

Monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Directive and MCAA will be presented in the Post Adoption Statement.

Next Steps

The SA Report and this NTS are being published alongside the Draft WNMP for formal consultation until **XXX**. Feedback received from consultees will be documented and considered in reviewing the proposals for the Draft WNMP. A Post Adoption Statement will summarise how the SA and the consultation responses have been taken into account and how socio-economic and environmental considerations have been integrated into the final decisions regarding the WNMP.

This Consultation: How to Give Us Your Views

We would welcome your views on any aspect of this NTS and SA Report, together with supporting evidence where appropriate. We are particularly interested to receive your response to the following questions:

1. Do you think that the SA Report has correctly identified the likely significant effects of the Draft WNMP? If not, what other significant effects do you think we have missed, and why?
2. Do you agree with the conclusions of the SA Report and the recommendations for avoiding, reducing or off-setting significant effects associated with the implementation of the WNMP? If not, what do you think should be the key recommendations and why?
3. Do you agree with the proposed arrangements for monitoring the significant effects of the implementation of the WNMP? If not, what measures do you propose?

Please provide your comments by **XXX**



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1. Introduction

1.1 Overview

The Welsh National Marine Plan (WNMP) is currently being prepared by the Welsh Government in accordance with the Marine and Coastal Access Act 2009 (MCAA)¹⁰. The purpose of marine planning under the MCAA is to help achieve sustainable development in the marine area. Welsh Ministers are the Marine Planning Authority under the MCAA, responsible for creating marine plans for both the inshore region (0-12 nautical miles) and offshore region (beyond 12 nautical miles) of Wales.

Building on the UK Marine Policy Statement¹¹ (UK MPS), the WNMP will enable the Welsh Government to plan for, and guide, the management of marine activities in a sustainable way; integrating economic, social and environmental considerations and engaging with communities to help shape the future of the plan area. As part of the preparation of the WNMP, formal consultation is being undertaken on a draft marine plan (the Draft WNMP).

In developing the Draft WNMP, the Welsh Government has taken account of relevant evidence on the state and current use of Welsh seas and potential opportunities for future use alongside the views of stakeholders through a process of continuous engagement as set out in the Statement of Public Participation. As part of the marine plan-making process, the Welsh Government is also required to undertake a Sustainability Appraisal (SA) to assess and address the likely effects of the proposed plan policies, in order to help optimise the contribution of the WNMP to sustainable development. This is a requirement of the MCAA.

1.2 Purpose of this SA Report

This report presents the findings of the SA of the Draft WNMP. The purposes of the SA of the Draft WNMP are:

- ▶ to support the Welsh Government, as the Marine Planning Authority for Wales, in meeting its requirements under:
 - ▶ the UK High Level Marine Objectives (HLMO) to contribute to the achievement of sustainable development;
 - ▶ Schedule 6 (10) of the MCAA to carry out an appraisal of sustainability of its proposals for inclusion in the WNMP and to publish a report of the results of the appraisal; and
 - ▶ Sections 3, 4 and 5 of the Well-being of Future Generations (Wales) Act 2015 to carry out sustainable development and contribute to the achievement of the well-being goals for Wales.

¹⁰ HM Government (2009) *Marine and Coastal Access Act 2009*. Available from http://www.legislation.gov.uk/ukpga/2009/23/pdfs/ukpga_20090023_en.pdf [Accessed December 2016].

¹¹ HM Government (2011) *UK Marine Policy Statement*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf [Accessed December 2016].

- ▶ to ensure that the likely significant environmental and socio-economic effects of the Draft WNMP and any reasonable alternatives are identified, characterised and appraised;
- ▶ to help identify appropriate measures to avoid, reduce or mitigate adverse effects and to enhance beneficial effects associated with the implementation of the Draft WNMP wherever possible;
- ▶ to provide a framework for monitoring the potential significant effects arising from the implementation of the Draft WNMP;
- ▶ to give the statutory consultees, stakeholders and the wider public the opportunity to review and comment upon the environmental and socio-economic effects that the Draft WNMP may have on them, their communities and their interests, and to encourage and support them to make responses and suggest improvements to the Draft WNMP;
- ▶ to inform the Welsh Government's decisions on the Draft WNMP; and
- ▶ to demonstrate that the Draft WNMP has been developed in a manner consistent with the requirements of the Strategic Environmental Assessment (SEA) Directive and relevant implementing regulations.

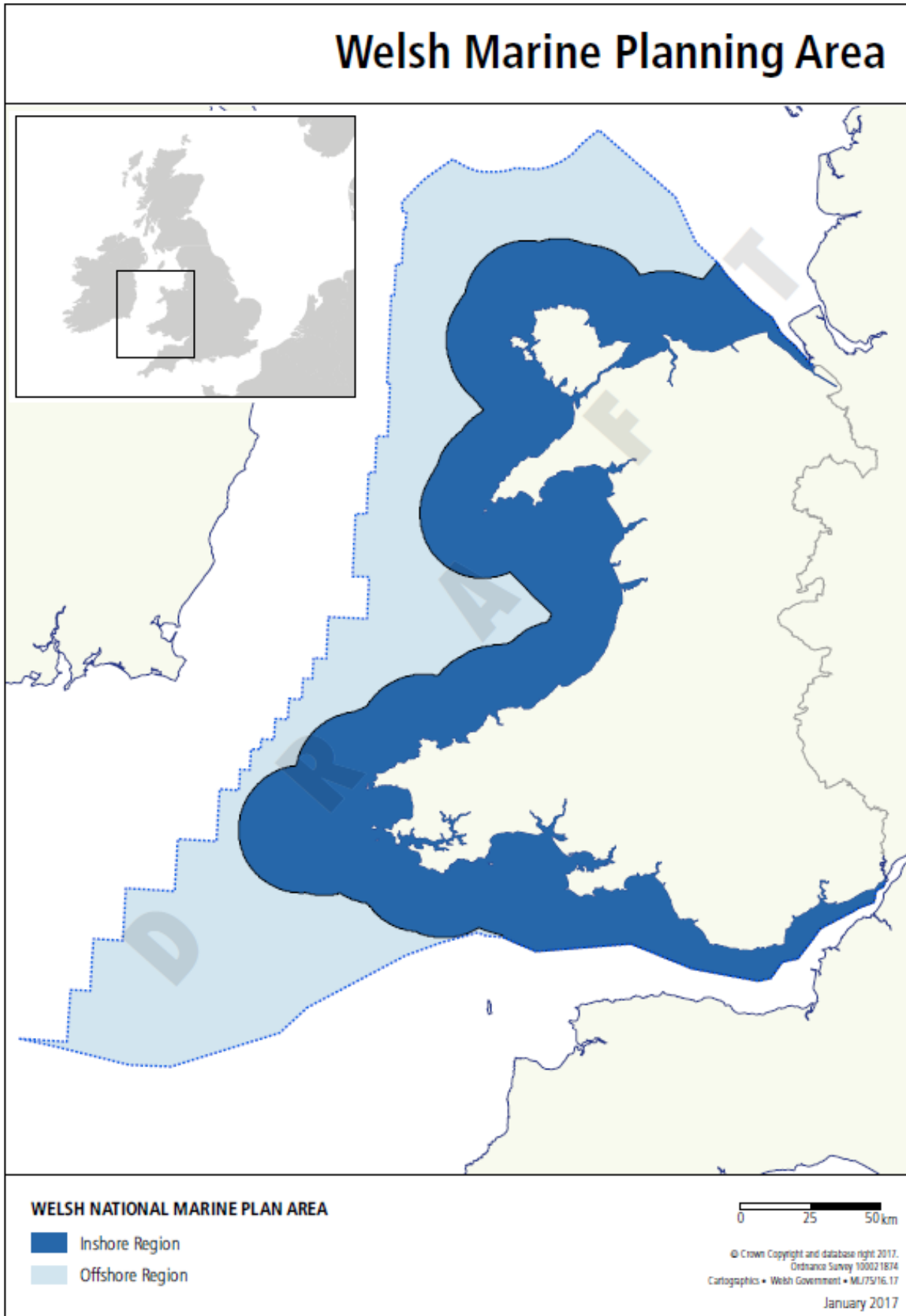
1.3 The Welsh National Marine Plan

Together, the UK MPS and marine plans form a new plan-led system for decision making in relation to marine activities. They are intended to provide for greater coherence in policy and a forward-looking, proactive and spatial planning approach to the management of the marine area, its resources, and the activities and interactions that take place within it.

The MCAA places a duty on marine planning authorities to prepare marine plans for their region where a UK MPS is in place; the Welsh Ministers are the relevant Marine Planning Authority for the Welsh inshore and offshore regions. The Welsh marine area consists of around 32,000 km² of sea, as well as 2,120 km of coastline. The WNMP will cover both the Welsh inshore region (from high water and the landward extent out to 12 nautical miles from shore) and offshore region (beyond 12 nautical miles), each of which are a plan area under the MCAA, in a single document (see **Figure 1.1**).

The WNMP is the first marine plan for Wales and represents the start of a process of shaping a future for Wales' seas through marine planning to support economic, social and environmental objectives. It will implement the UK MPS at the national level, guiding the sustainable development of Wales' seas by setting out how applicants should shape licence applications and how proposals will be considered by decision makers including, in particular, the consenting authorities as well as guiding other decisions with the potential to affect the plan area.

Figure 1.1 The WNMP Area



The marine plan preparation process involves a number of steps covering evidence gathering, policy development, plan implementation and review, supported by ongoing stakeholder engagement (in accordance with the Statement of Public Participation) and an iterative process of impact assessment. As part of the development of the WNMP, the Welsh Government prepared the Welsh National Marine Plan: Initial Draft¹² that was made available for comment between November 2015 and January 2016. This pre-consultation exercise has helped to inform the preparation of the Draft WNMP that is subject to formal consultation (as per Schedule 6 of the MCAA) prior to independent investigation¹³ (if required) and adoption.

The Draft WNMP sets out:

- ▶ the vision and plan objectives for Welsh seas;
- ▶ the context for marine planning and the Welsh Government's approach to producing the plan;
- ▶ how the plan should be used;
- ▶ general cross-cutting policies and policy implementation guidance; and
- ▶ sector-specific policies and policy implementation guidance.

Formal consultation on the Draft WNMP, as required under the MCAA, is taking place during late 2017 for a 12 week period. Following consideration of responses to the consultation, the completion of any further work and any subsequent revisions to the plan, the Welsh Government will then look to adopt the final WNMP in 2018.

Further information relating to the scope of the WNMP, its preparation and content of the Draft WNMP is provided in **Section 2** of this SA Report.

1.4 Sustainability Appraisal

The Requirement for a Sustainability Appraisal of the WNMP

SA is a form of assessment that considers the social, economic and environmental effects of a plan or programme in the context of sustainable development. The requirement to undertake SA of marine plans is set out in Schedule 6 (Part 10) of the MCAA which states that:

“(1) A marine plan authority preparing a marine plan must carry out an appraisal of the sustainability of its proposals for inclusion in the plan.

(2) The authority may proceed with those proposals only if it considers that the results of the appraisal indicate that it is appropriate to do so.

(3) The marine plan authority must publish a report of the results of the appraisal.

(4) The report is to be published when the marine plan authority publishes the consultation.”

¹² Welsh Government (2015) *Welsh National Marine Plan Initial Pre-Consultation Draft*. Available from <http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/welsh-national-marine-plan/?lang=en> [Accessed January 2017].

¹³ Section 13 of Schedule 6 'Marine Plans; Preparation and Adoption' of the Marine and Coastal Access Act 2009

In meeting its requirement to undertake an SA of the WNMP, the Welsh Government has determined that the SA, required under the MCAA, should incorporate an assessment in accordance with the requirements of the European Union Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment¹⁴, more commonly known as the SEA Directive. This has been transposed into UK regulations as the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004 No. 1633), hereafter referred to as the SEA Regulations¹⁵.

The SEA Directive aims for a high level of environmental protection and to promote sustainable development. It applies to certain plans that are likely to have significant effects on the environment. The WNMP is being treated as a plan for the purpose of the SEA Directive and the SA considers socio-economic and environmental effects in the same way as environmental effects are required to be assessed by the SEA Directive.

Stages in the Sustainability Appraisal Process

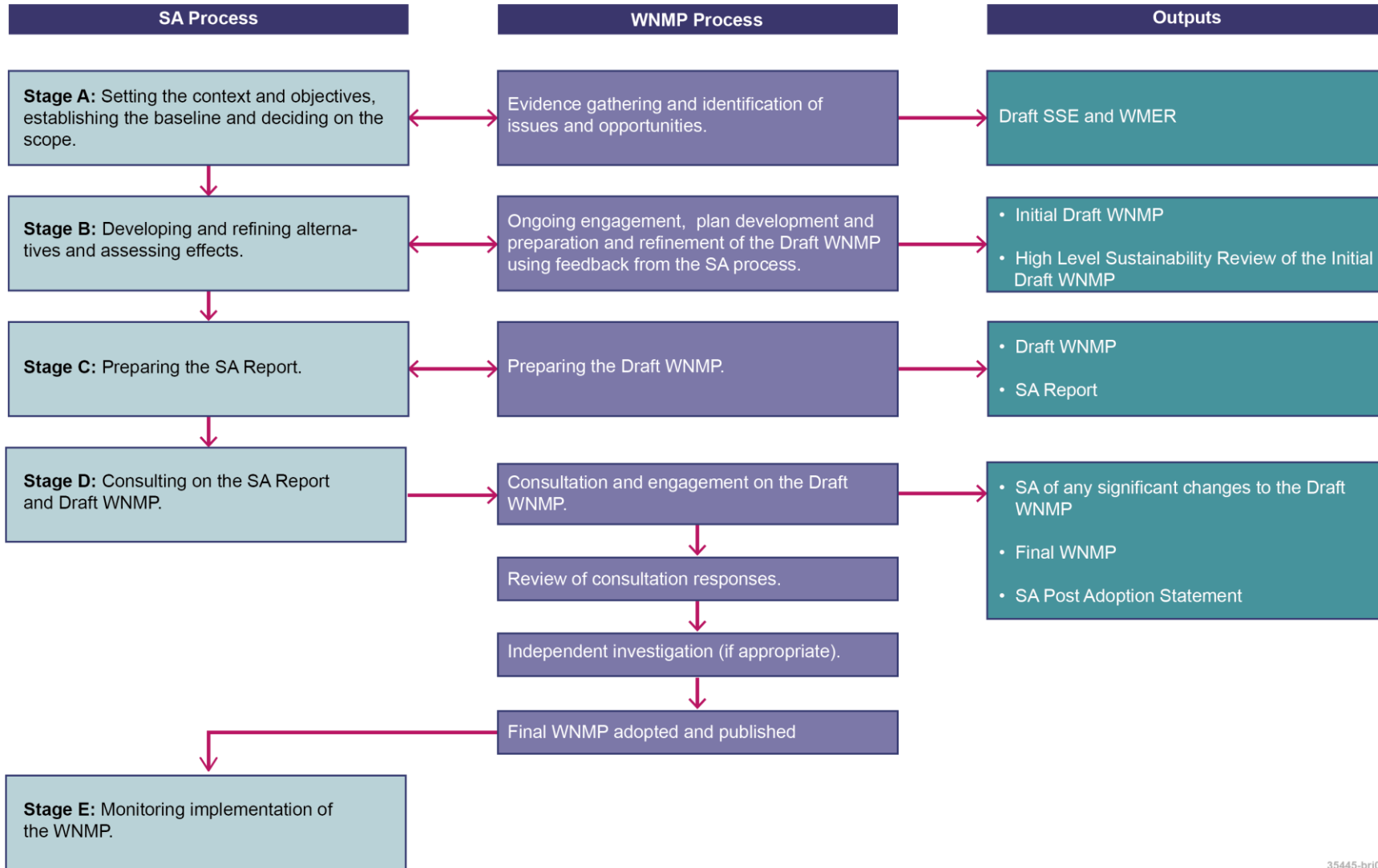
There are five key stages in the SA process and these are highlighted in **Figure 1.2** together with links to the development of the WNMP. They include:

- ▶ setting the context and objectives, establishing the baseline and deciding on the scope of the appraisal in consultation with consultees including the statutory SEA bodies (**Stage A**);
- ▶ developing and refining alternatives, assessing the likely direct, indirect and cumulative effects of proposed options and identifying mitigating and monitoring measures (**Stage B**);
- ▶ completing an SA Report to present the predicted environmental and socio-economic effects of the Draft WNMP, including reasonable alternatives, in a form suitable for public consultation and use by decision-makers (**Stage C**);
- ▶ consulting on the Draft WNMP and the SA Report (**Stage D**);
- ▶ assessing the environmental and socio-economic implications of any significant changes to the Draft WNMP made following consultation (**Stage D**);
- ▶ providing information in a Post Adoption Statement on how the SA Report and consultees' opinions were taken into account in deciding the final form of the WNMP (**Stage D**); and
- ▶ undertaking suitable monitoring of the WNMP's implementation (**Stage E**).

¹⁴ Available from <http://ec.europa.eu/environment/eia/sea-legalcontext.htm> [Accessed December 2016].

¹⁵ Please note that the SA of the WNMP is being undertaken in accordance with the UK as opposed to Welsh SEA Regulations given the potential for the plan to have effects in other parts of the UK.

Figure 1.2 The Sustainability Appraisal Process and Linkages with Marine Plan Preparation



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The first stage of the SA process (**Stage A**) led to the production of the draft Strategic Scoping Exercise (SSE)¹⁶. The draft SSE presented information on the state of the Welsh marine environment (including the current situation and future trends) and the relevant policy context. It was issued to identify key issues for the Welsh marine planning process. The draft SSE also provided an evidence base to support decisions relating to the scope of the SA and based on this information, the draft SSE set out the proposed framework for the SA of the WNMP (the SA Framework).

The draft SSE was subject to consultation that ran from 13th August to 10th November 2014. Responses related to all aspects of the draft SSE and informed the revised SSE that is presented in Wales' Marine Evidence Report (WMER)¹⁷. Responses to the consultation also resulted in amendments to the SA Framework.

Stage B is an iterative process involving the appraisal and refinement of the WNMP. In this context, informal feedback on the developing WNMP vision, objectives and plan policies has been provided to the Welsh Government alongside a high level sustainability review of emerging policies¹⁸. The high level review was undertaken to provide provisional views on the sustainability implications of the indicative policies of the WNMP as an early contribution to their further development. The review was published alongside the Initial Draft WNMP in November 2015 (see **Section 5.2** for further information).

Taking into account the findings of the high level sustainability review, the Draft WNMP has subsequently been subject to detailed appraisal in accordance with the approach set out in the draft SSE (as amended to reflect consultation responses). The findings of the appraisal were set out in an Initial Draft SA Report¹⁹ (**Stage C**) that was issued to the WNMP Stakeholder Reference Group and other bodies for comment between 16th February and 10th March 2017. Comments on the Initial Draft SA Report were received from (inter alia) Natural Resources Wales, the Marine Management Organisation, Wales Environment Link, Joint Nature Conservation Committee and the Department for Business, Energy & Industrial Strategy. Alongside revisions to the Draft WNMP made to reflect the initial SA and further engagement, the comments received have been taken into account in preparing the SA Report that is being published for consultation alongside the draft plan itself in accordance with Schedule 6 of the MCAA (**Stage D**).

Following public consultation and independent investigation²⁰ (if required), the Welsh Government will issue a SA Statement as soon as reasonably practicable after the adoption of the WNMP. This will set out the results of the consultation and SA process and the extent to which the findings of the SA have been accommodated in the adopted WNMP. During the period of the WNMP, the Welsh Government will monitor its implementation and any significant social, economic and environmental effects (**Stage E**).

¹⁶ Welsh Government (2014) *Developing the Welsh National Marine Plan: Draft Strategic Scoping Exercise*.

¹⁷ Welsh Government *et al* (2015) *Wales' Marine Evidence Report*. Available from <http://gov.wales/docs/drah/publications/151008-wales-marine-evidence-report-master-october-2015-en.pdf> [Accessed January 2017].

¹⁸ Amec Foster Wheeler (2015) *High Level Sustainability Review of the Emerging Policies of the Initial Pre-Consultation Draft Welsh National Marine Plan*. Available from <http://gov.wales/docs/drah/publications/151127-welsh-national-marine-plan-sustainability-review-en.pdf> [Accessed January 2017].

¹⁹ Amec Foster Wheeler (2017) *Welsh National Marine Plan: Sustainability Appraisal Report (Initial Draft)*.

²⁰ Section 13 of Schedule 6 'Marine Plans; Preparation and Adoption' of the Marine and Coastal Access Act 2009

1.5 The Well-being of Future Generations (Wales) Act 2015 and Environment (Wales) Act 2016

The Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act 2015²¹ places a duty on Welsh public bodies to carry out sustainable development. In this Act, sustainable development is defined as “*the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals*”. In this context, the sustainable development principle means that public bodies “*must 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*”. In order to act in this manner, the Act sets out that a public body must take into account:

- ▶ “*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;*
- ▶ *the need to take an integrated approach, by considering how—*
 - ▶ *(i) the body’s well-being objectives may impact upon each of the well-being goals;*
 - ▶ *(ii) the body’s well-being objectives impact upon each other or upon other public bodies’ objectives, in particular where steps taken by the body may contribute to meeting one objective but may be detrimental to meeting another;*
- ▶ *the importance of involving other persons with an interest in achieving the well-being goals and of ensuring those persons reflect the diversity of the population of—*
 - ▶ *(i) Wales (where the body exercises functions in relation to the whole of Wales), or*
 - ▶ *(ii) the part of Wales in relation to which the body exercises functions;*
- ▶ *how acting in collaboration with any other person (or how different parts of the body acting together) could assist the body to meet its well-being objectives, or assist another body to meet its objectives;*
- ▶ *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.”*

The seven well-being goals established in the Act are set out in **Table 1.1**.

Table 1.1 The Well-being Goals for Wales

Goal	Description of the Goal
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²¹ Available from <http://www.legislation.gov.uk/anaw/2015/2/contents/enacted> [Accessed January 2017].

Goal	Description of the Goal
A prosperous Wales	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.
A resilient Wales	A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).
A healthier Wales	A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.
A more equal Wales	A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic background and circumstances).
A Wales of cohesive communities	Attractive, viable, safe and well-connected communities.
A Wales of vibrant culture and thriving Welsh language	A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.
A globally responsible Wales	A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

Public bodies are therefore required to make sure that, when making their decisions, they take into account the impact they could have on people living their lives in Wales in the future. Plans such as the WNMP must be prepared in accordance with the sustainable development principle and well-being goals of the Act.

The Environment (Wales) Act 2016

The Environment (Wales) Act 2016²² introduced a new legislative approach for the sustainable management of natural resources (SMNR). It seeks to maintain and enhance the resilience of Wales' ecosystems and the services and benefits they provide and, in so doing, meet the needs of the present generation without compromising the ability of future generations to meet their needs. Section 3(1) of the Environment (Wales) Act defines SMNR as:

- ▶ using natural resources in a way and at a rate that promotes achievement of the SMNR objective;
- ▶ taking other action that promotes achievement of that objective; and
- ▶ not taking action that hinders achievement of that objective.

The objective for SMNR referred to above is “to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing—

- (a) meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and
- (b) contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015”.

²² Available from <http://www.legislation.gov.uk/anaw/2016/3/contents/enacted> [Accessed January 2017].

To achieve the objective of SMNR, the Act introduces a number of principles. These principles, which are to be applied equally and have guided the development of the Draft WNMP, are highlighted in **Figure 1.3**. In August 2017, the Welsh Government published its Natural Resources Policy (NRP). This sets out the overarching strategic policies, priorities, risks and opportunities for SMNR in Wales, forming a key part of the delivery framework for SNMR established by the Environment (Wales) Act. With specific regard to the marine area, the NRP states that “*Wales’ inshore waters are an important national resource and the Wales National Marine Plan will guide the way in which we will take forward the delivery of the NRP priorities in this area as a part of our approach to the management of Wales’ marine natural resources*”.

Figure 1.3 Sustainable Management of Natural Resources – Principles



Linkages with the WNMP and Sustainability Appraisal

The seven well-being goals for Wales and the objective for SMNR have together informed and guided the development of the Draft WNMP. By seeking to maximise the delivery of environmental, social, economic and cultural outcomes, SA has been a key tool with which to ensure and demonstrate this. In this context, this SA Report has explicitly assessed the likely contribution of the plan to the achievement of the well-being goals for Wales and the

objective for SMNR which has been facilitated by mapping the goals and objective to the criteria that comprise the SA Framework (see **Section 3.3** and **Section 4.8**).

1.6 Habitats Regulations Assessment

The WNMP could have effects on habitats or species in respect of which certain sites have been identified as of Community importance (hereafter referred to as European designated nature conservation sites). These sites include Special Areas of Conservation (SACs) designated under the Habitats Directive (92/43/EEC) and Special Protection Areas (SPAs) designated under the Birds Directive (2009/147/EC). UK policy accords the same level of protection to sites listed or proposed under The Convention on Wetlands of International Importance, called the Ramsar Convention, and to possible/proposed SPAs and candidate SACs. In accordance with Regulation 61(1) of The Conservation of Habitats and Species Regulations 2010 (SI 2010 No. 490) (as amended) ('the Habitats Regulations'), there is a need to consider whether the WNMP is likely to have a significant effect on any European designated nature conservation site, a process known as Habitats Regulations Assessment (HRA).

The HRA is undertaken and reported separately from the SA. However, the conclusions of the HRA have helped to inform this appraisal process, particularly in respect of the potential effects of the Draft WNMP on biodiversity.

1.7 Impact Assessments

In addition to SA and HRA, the Draft WNMP has been informed by, and subject to, a range of impact assessments related to: privacy; children's rights; Welsh language; equality, diversity, inclusion and human rights; rural proofing; health; and the economy. These impact assessments are separate from the SA but have, where appropriate, informed the appraisal.

1.8 Structure of this SA Report

This SA Report is structured as follows:

- ▶ **Non-Technical Summary** - Provides a summary of the SA Report, including information on both the Draft WNMP and the key findings of the appraisal;
- ▶ **Section 1: Introduction** - Includes an overview of the Draft WNMP, SA and the SA Report contents;
- ▶ **Section 2: The Draft Welsh National Marine Plan** - Describes the background to the Draft WNMP and its contents. This section also sets out the reasonable alternatives to the Draft WNMP that have been considered and appraised as part of the SA;
- ▶ **Section 3: Appraisal Methodology** - Outlines the approach to the appraisal of the Draft WNMP and reasonable alternatives including the SA Framework (which comprises SA criteria and guide questions) and the technical difficulties encountered in completing the appraisal including assumptions and uncertainties;

- ▶ **Section 4: Appraisal of the Draft Welsh National Marine Plan and Reasonable Alternatives** - Summarises the likely significant environmental and socio-economic effects of the Draft WNMP and reasonable alternatives, including cumulative effects. The detailed appraisals are contained in **Appendix D** and **Appendix E**. Commentary is also provided on the likely contribution of the Draft WNMP to the achievement of the well-being goals established in the Well-being of Future Generations (Wales) Act 2015;
- ▶ **Section 5: Conclusions, Monitoring and Next Steps** - Summarises the main effects of the Draft WNMP and reasonable alternatives and presents views on implementation and monitoring. The reasons for selecting the Draft WNMP as proposed and for the rejection of alternatives is explained.

A Quality Assurance Checklist at **Appendix A** details how the requirements of the SEA Directive and its transposing regulations have been addressed in this SA Report.

1.9 How to Comment on this SA Report

This SA Report is being published alongside the Draft WNMP for formal consultation until **XXX**. Details of how to respond to are provided below.

This Consultation: How to Give Us Your Views

We would welcome your views on any aspect of this SA Report, together with supporting evidence where appropriate. We are particularly interested to receive your response to the following questions:

1. Do you think that the SA Report has correctly identified the likely significant effects of the Draft WNMP? If not, what other significant effects do you think we have missed, and why?
2. Do you agree with the conclusions of the SA Report and the recommendations for avoiding, reducing or off-setting significant effects associated with the implementation of the WNMP? If not, what do you think should be the key recommendations and why?
3. Do you agree with the proposed arrangements for monitoring the significant effects of the implementation of the WNMP? If not, what measures do you propose?

Please provide your comments by **XXX**.

2. The Draft Welsh National Marine Plan

2.1 Introduction

This section describes the context and background to the WNMP (**Section 2.2**), provides an overview of the marine plan preparation process (**Section 2.3**) and summarises the contents of the Draft WNMP (**Section 2.4**). This section also sets out the reasonable alternatives to the Draft WNMP that have been considered and appraised as part of the SA (**Section 2.5**).

2.2 The Welsh National Marine Plan

Marine Planning and the UK Marine Policy Statement

Marine plans form part of a new plan-led regulatory system for marine activities introduced in Europe by the Maritime Spatial Planning Directive (EU Directive 89/2014)²³ and in the UK by the MCAA in 2009. The purpose of marine planning under the Maritime Spatial Planning Directive and MCAA is to help achieve sustainable development in the marine area.

The UK MPS is the overarching framework for preparing marine plans and taking decisions affecting the marine environment. It was adopted by all four UK administrations in March 2011. The UK MPS provides the high level policy context within which national and sub-national marine plans are to be developed, implemented, monitored and amended and ensures appropriate consistency in marine planning across the UK marine area. The UK MPS also sets the direction and context for marine licensing and other relevant authorisation systems.

The UK MPS sets out that the process of marine planning will:

- ▶ achieve integration between different objectives;
- ▶ recognise that the demand for use of our seas and the resulting pressures on them will continue to increase;
- ▶ manage competing demands on the marine area, taking an ecosystem-based approach;
- ▶ enable the co-existence of compatible activities wherever possible; and
- ▶ integrate with terrestrial planning.

The shared UK vision for the marine environment, as set out in Section 2.1 of the UK MPS, is for “*clean, healthy, safe, productive and biologically diverse oceans and seas*”. The UK High Level Marine Objectives (HLMO), meanwhile, published in April 2009 set the broad outcomes for the marine area, and reflect the principles of sustainable development. The HLMOs are integrated into the UK MPS. The main HLMO themes are:

- ▶ achieving a sustainable marine economy;

²³ Available from <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0089&from=EN> [Accessed January 2017].

- ▶ ensuring a strong, healthy and just society;
- ▶ living within environmental limits;
- ▶ promoting good governance; and
- ▶ using sound science responsibly.

The aim of marine planning is therefore to ensure a sustainable future for the UK's coastal and offshore waters through managing and balancing the many activities, resources and assets in the marine environment. In this context, marine plans will inform and guide regulation, management, use and protection of the marine plan areas. Section 58 of the MCAA requires that all public authorities taking authorisation or enforcement decisions which may affect the UK marine area (e.g. on an approval, confirmation, consent, licence, permission) to do so in accordance with marine policy documents (marine plans and the UK MPS) unless relevant considerations indicate otherwise²⁴. Any other decisions that may affect the area should also have regard to the UK MPS and marine plans.

The Requirement to Prepare a Welsh National Marine Plan

The UK MPS and marine plans form a new plan-led system for marine activities. Section 1.3 of the UK MPS sets out the expectation that, together, the MPS and marine plans will “*provide for greater coherence in policy and a forward-looking, proactive and spatial planning approach to the management of the marine area, its resources, and the activities and interactions that take place within it.*”

On adoption of the UK MPS, the MCAA placed a duty on the Welsh Government to ensure that marine plans are prepared for the Welsh marine planning areas. The Welsh Ministers are therefore the relevant Marine Planning Authority for the Welsh inshore and offshore regions and responsible for preparing marine plans for these regions. The Welsh marine area is shown in **Figure 1.1**.

The Welsh Government consulted on the approach to marine planning for Wales in February 2011 through the consultation ‘Sustainable Development for Welsh seas: Our Approach to Marine Planning in Wales’²⁵. Having considered the responses to this consultation, the Welsh Government confirmed its intention, consistent with the MCAA duty, to put in place a national system of marine planning and to develop a WNMP. The Welsh Government will review and report at least every three years on the effects of policies in the WNMP 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.

The Scope of the Welsh National Marine Plan

Purpose

The UK MPS (section 2.2) states that marine plans should “*set out how marine resources can best be managed in order to achieve the plan outcomes, policies and objectives. Marine Plans will provide a clear, spatial and locally-relevant expression of policy,*

²⁴ An exception is decisions on applications for development consent for nationally significant infrastructure projects (NSIPs) under the Planning Act 2008.

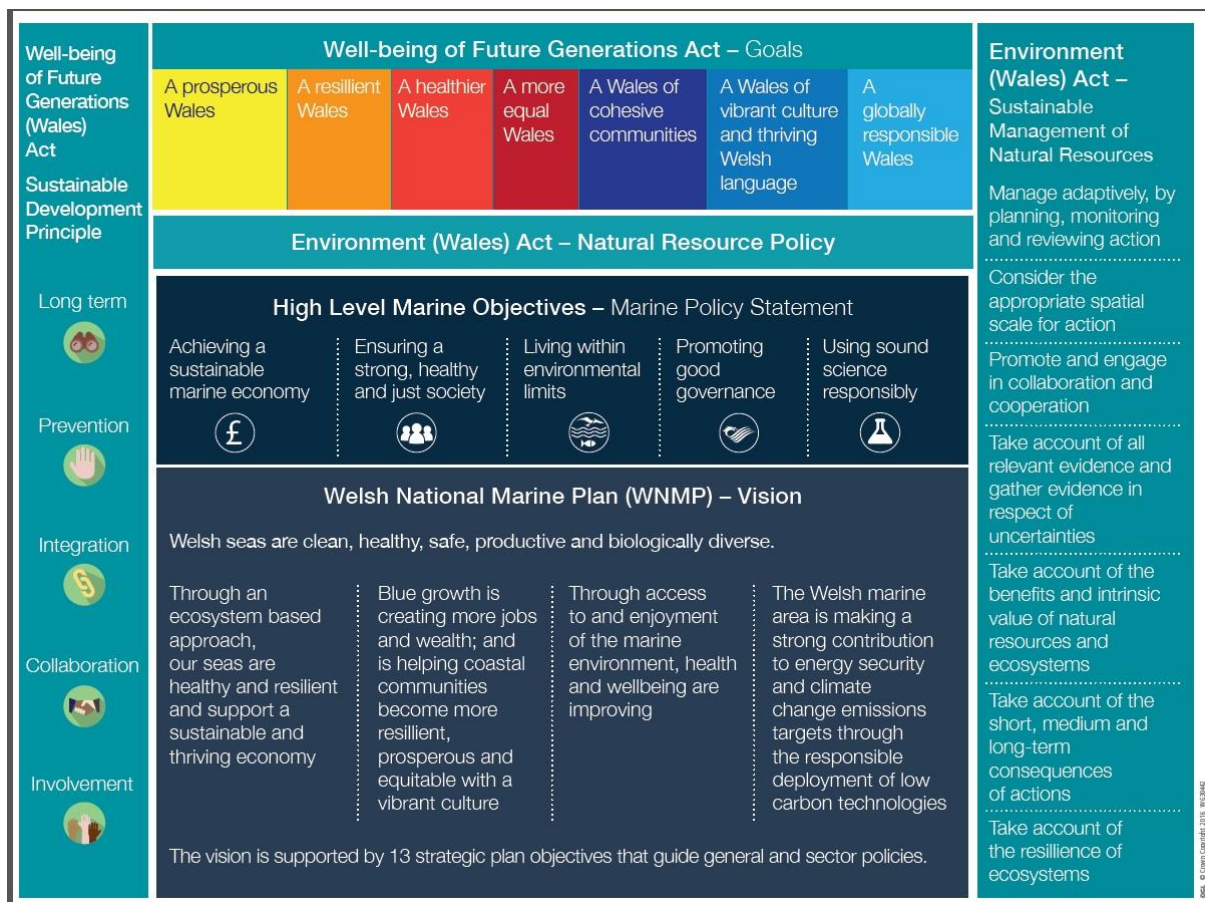
²⁵ Welsh Government (2011) *Sustainable Development for Welsh Seas: Our Approach to Marine Planning in Wales*. Available from <http://gov.wales/docs/desh/consultation/110216marineconsultationen.pdf> [Accessed January 2017].

implementation and delivery. They will ensure that different and potentially competing activities are managed in such a way that they contribute to the achievement of sustainable development. A key principle will be to promote compatibility and reduce conflict. Monitoring of implementation will ensure that activities within a marine plan area contribute to the delivery of the MPS, as well as its future revisions.” Article 5 (2) of the Maritime Spatial Planning Directive, meanwhile, sets out that marine spatial plans should “aim to contribute to the sustainable development of energy sectors at sea, of maritime transport, and of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, including resilience to climate change impacts.”

The WNMP is the first marine plan for Wales and represents the start of a process of shaping Wales’ seas through marine planning to support economic, social and environmental objectives. It will implement the UK MPS at the national level, guiding the sustainable development of Wales’ seas by setting out how applicants should shape licence applications and how proposals will be considered by decision makers including, in particular, the consenting authorities. The WNMP is also being developed in the context of the Well-being of Future Generations (Wales) Act 2015 and Environment (Wales) Act 2016. It is important that the plan is prepared in accordance with this legislation and, specifically, that it supports the sustainable development of the Welsh marine area, is developed in line with the SMNR objective and principles and helps to deliver Wales’ well-being goals (see **Section 1.5** for further information).

Figure 2.1 demonstrates how the WNMP will support the delivery of these wider objectives.

Figure 2.1 WNMP Legislative and Policy Context



Geographic Scope

The Welsh marine area consists of around 32,000 km² of sea, as well as 2,120 km of coastline. The WNMP will cover both the Welsh inshore region (from high water and the landward extent out to 12 nautical miles from shore) and offshore region (beyond 12 nautical miles) in a single document.

Functional Scope

The management of activities in Welsh waters is split between devolved functions which are the responsibility of The Welsh Ministers, and reserved functions which are retained by UK Government. The Welsh Government has set out that the WNMP will include policy relating the exercise of both devolved and reserved functions and therefore requires the agreement of the Secretary of State. The balance of retained and devolved functions may change with time.

Duration and Review

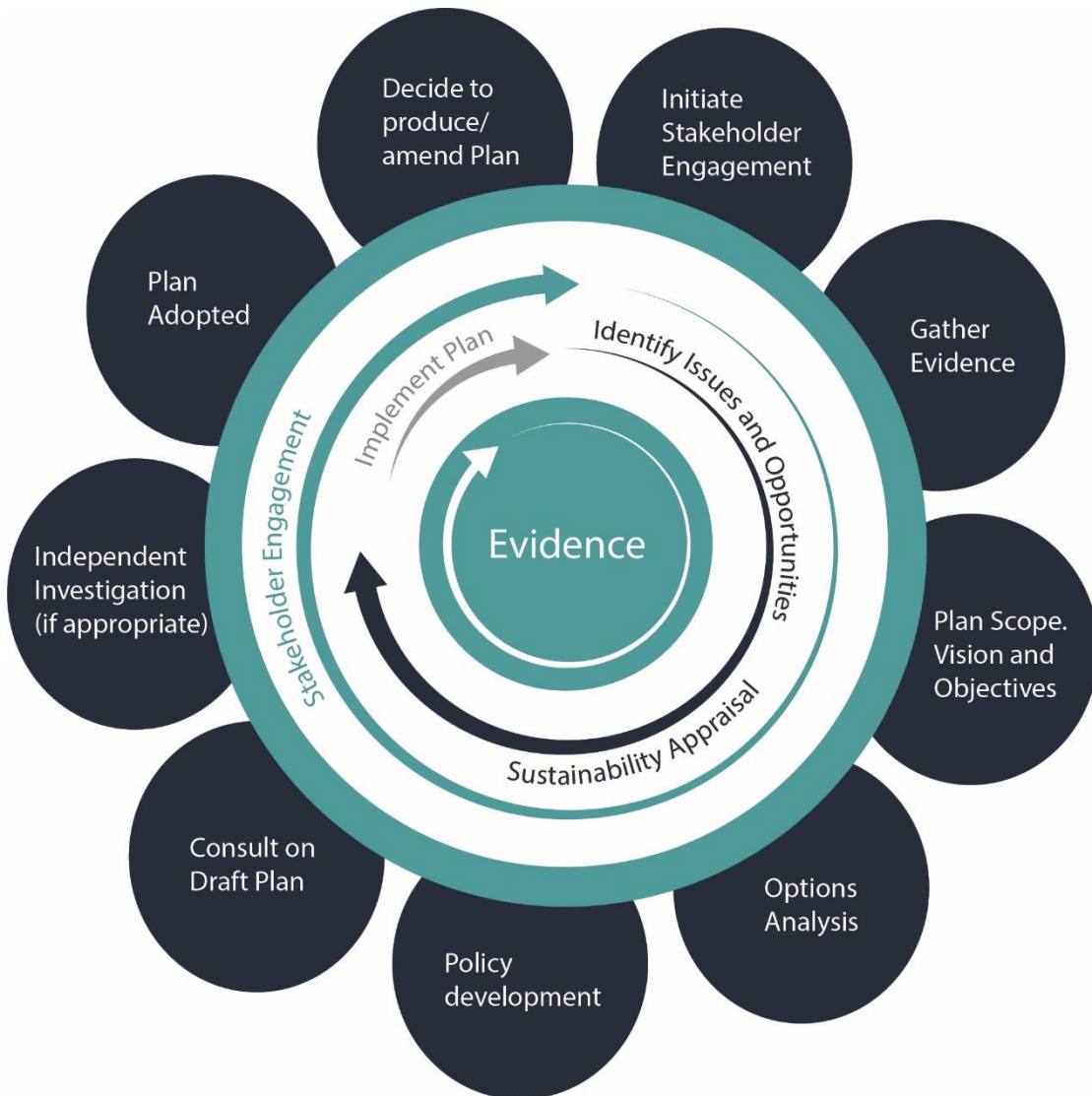
The WNMP takes a 20 year view whilst recognising that certain activities may need to be planned for beyond this time period and that others are likely to change significantly during the lifetime of the plan.

Monitoring and reporting are important steps in the planning process to ensure that the WNMP and its policies are effectively contributing to achieving the plan's objectives. The Welsh Government will review and report at least every three years on the effects of policies in the WNMP 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.

2.3 Development of the Welsh National Marine Plan

Schedule 6 of the MCAA sets out the procedure for the preparation and adoption of marine plans. The plan preparation process has involved a number of steps covering evidence gathering, policy development, plan implementation and review, supported by ongoing stakeholder engagement and assessment. This is summarised in **Figure 2.2**.

Figure 2.2 The Marine Plan Preparation Process



Following initial consultation on the broad approach to marine planning in Wales between February and May 2011, development of the WNMP began with consultation on a draft Statement of Public Participation (SPP) that set out how the Welsh Government would engage with key stakeholders and the public in the preparation of the plan. Consultation on the draft SPP concluded in March 2014 and the SPP was subsequently finalised (taking into account the consultation responses received) and published in June 2014. As per Schedule 6 of the MCCA, the SPP has since been reviewed and updated²⁶.

In accordance with the SPP, a process of continuous engagement with key stakeholders and the public has helped to inform the emerging WNMP. This has included the following specific activities:

- ▶ consultation on a proposed structure, vision and objectives for the WNMP in Summer 2014;

²⁶ See Welsh Government (2015) *Statement of Public Participation for the Welsh National Marine Plan*. Available from <http://gov.wales/docs/drah/publications/150930-marine-planning-revised-statement-of-public-participation-en.pdf> [Accessed January 2017].

- ▶ consultation on the draft SSE including the scope of the SA that was published in August 2014;
- ▶ sharing of an Initial Draft WNMP between November 2015 and January 2016; and
- ▶ ongoing public events and exhibitions, stakeholder meetings and engagement including the establishment of a Stakeholder Reference Group to help guide the plan's development and which, most recently, was informally involved in considering the Draft WNMP and Initial Draft SA Report between 16th February and 10th March 2017.

Alongside and informing these processes, the Welsh Government has developed the evidence base to inform development and implementation of the WNMP. The evidence that supports the plan includes:

- ▶ the draft SSE, the process undertaken from 2014 to identify the best currently available evidence, highlight evidence gaps, inform the scope of the SA and to form the basis for the production of the WMER;
- ▶ the WMER, which provides a comprehensive overview of the best currently available evidence on the state of Welsh seas; and
- ▶ the marine planning evidence portal, which makes marine evidence available spatially using an online mapping application²⁷.

Additional marine planning related evidence that has been commissioned to inform plan development includes a spatial assessment of the potential for aquaculture in Welsh waters, a review of Welsh coastal partnerships and fora, a review of marine aggregates evidence and the development of a Coastal Community Typology for Wales.

The consultation undertaken to-date and the evidence base have together helped inform the preparation of the Draft WNMP that is the subject of formal consultation (as per Schedule 6 of the MCAA) prior to independent investigation (if required) and adoption. It is currently envisaged that the WNMP will be adopted by the Welsh Government in 2018 depending upon the responses received to the consultation and any need for independent investigation.

Further information in respect of the preparation of the WNMP is available via the Welsh Government's website:

<http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/?lang=en>.

2.4 The Draft Welsh National Marine Plan

The Draft WNMP comprises the following key plan components:

- ▶ Vision;
- ▶ Plan objectives;
- ▶ General cross-cutting policies;
- ▶ Sector objectives; and

²⁷ Available at <http://lle.gov.wales/apps/marineportal/#lat=52.5145&lon=-3.9111&z=8> [Accessed January 20217].

- ▶ Sector policies (including mapping).

These key plan components are discussed in-turn below.

Vision and Plan Objectives

The Draft WNMP sets out the following vision for the Welsh inshore and offshore marine area over the 20 year view taken by the plan:

“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 Growth²⁸ 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 plan-led 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.”

The Draft WNMP vision outlined above is underpinned by 13 plan objectives. The plan objectives are a statement of desired outcomes or changes that the WNMP is seeking to achieve in order to realise the vision. The objectives are set out in **Table 2.1** under the HLMO themes used in the UK MPS.

Table 2.1 Draft WNMP Plan Objectives

HLMO		Plan 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 interests and ecosystem resilience.
	4	Provide space to support existing and future sustainable economic activity through managing multiple uses, encouraging the co-existence of compatible activities, the mitigation of conflicts between users and, where possible, by reducing 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.

²⁸ Blue Growth concerns sustainable economic growth in marine and maritime sectors.

HLMO	Plan Objective
	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.

General Cross-cutting Policies

The general cross-cutting policies of the Draft WNMP potentially apply to all sectors and activities and support the delivery of the plan objectives, ensuring that socio-economic and environmental considerations are part of the decision making process. The Draft WNMP contains 25 general cross-cutting policies that are set out by HLMO theme in addition to two general overarching policies. These are listed in **Table 2.2** (detailed policy wording is contained in the appraisal matrices at **Appendix D**).

Table 2.2 Draft WNMP General Cross-cutting Policies

HLMO	General Cross-cutting Policies
Overarching planning policy	GEN_01, GEN_02
Achieving a sustainable marine economy	ECON_01, ECON_02
Ensuring a strong, healthy and just society	SOC_01, SOC_02, SOC_03, SOC_04, SOC_05, SOC_06, SOC_07, SOC_08, SOC_09, SOC_10, SOC_11, SOC_12
Living within environmental limits	ENV_01, ENV_02, ENV_03, ENV_04, ENV_05, ENV_06
Promoting good governance	GOV_01, GOV_02
Using sound science responsibly	SCI_01

Sector Objectives, Policies and Mapping

Sector objectives and policies operate alongside the plan objectives and general cross-cutting policies and apply to decisions related to a particular activity. They may include supporting policies (to support development and growth of a given sector) and safeguarding policies (to protect a given sector's current or potential future activities from

negative impacts from other activities). These objectives and policies are grouped across 11 sectors that operate in Welsh seas. For each sector, objective(s), policies and supporting information are presented.

The information for some sectors is accompanied by one or more maps to spatially define the sector policies or for illustrative purposes. In order to describe the distribution of resources, the Draft WNMP identifies Resource Areas (RAs) for certain sectors. These are broad areas used to 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). In order to indicatively allocate space and focus future use, the Draft WNMP also identifies Strategic Resource Areas (SRAs) for certain sectors. These are areas of good opportunity for potential future use by a particular sector 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 particular sector. SRAs 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.

Marine planning spatial policies (those aligned to SRAs) may change as marine planning develops and the Welsh Government's understanding improves. Identification of an SRA through the WNMP will support a process of collating and developing further evidence and understanding to inform decision making at the local scale. All maps in the Draft WNMP are indicative.

Table 2.3 reproduces the 12 objectives and lists the 30 policies for each sector. For each sector, the table indicates whether SRAs have been identified and illustrates the applicability of the general cross-cutting policies. Detailed policy wording is contained in the appraisal matrices at **Appendix E**. Mapping is contained in the Draft WNMP.

Table 2.3 Draft WNMP Sector Objectives and Policies

Sector	Sector Objective(s)	Sector Policies	SRA(s) Identified?	Relevant General Cross-cutting Policies
Aggregates	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.	AGG_01 AGG_02 AGG_03 AGG_04	Yes	All
Aquaculture	To double production by 2020, and to further increase production over the lifetime of this plan. Specifically by 2020 increase: <ul style="list-style-type: none"> Marine finfish to 2,000 tonnes (761 Tonnes in 2012); Shellfish, especially mussels, to 16,000 tonnes (from 8,376 tonnes in 2012). 	AQU_01 AQU_02 AQU_03	Yes	All
Defence	To contribute to the defence of the nation by ensuring that Defence and National Security activities are not compromised.	DEF_01	No	All
Dredging and Disposal	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	D&D_01 D&D_02 D&D_03	No	All

Sector	Sector Objective(s)	Sector Policies	SRA(s) Identified?	Relevant General Cross-cutting Policies
	facilities are available.			
Energy – Low Carbon	<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 the number of devices deployed in commercial scale developments over the next 10-20 years; Supporting further commercial development of offshore wind over the next 3-5 years taking advantage of any favourable UK Government financial mechanisms under the Contract for Difference; Promote evidence gathering and research on tidal lagoon development to support the sustainable development and deployment of tidal lagoon technology; 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>	<p>ELC_01 ELC_02 ELC_03 ELC_04</p>	Yes	All
Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage)	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.	<p>O&G_01 O&G_02 O&G_03 O&G_04</p>	No	All
Fisheries	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.	<p>FIS_01 FIS_02 FIS_03</p>	No	All
Ports and Shipping	To safeguard established shipping routes and support sustainable growth in the shipping and ports sector.	<p>P&S_01 P&S_02 P&S_03</p>	Yes	All
Subsea Cabling	To support the optimal distribution of electricity and better global communications through the growth of digital communication networks.	<p>CAB_01 CAB_02</p>	No	All
Surface Water and Wastewater Treatment and Disposal	To safeguard the capacity to safely and effectively treat and discharge surface water runoff and wastewater.	<p>SWW_01</p>	No	All
Tourism and Recreation	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.	<p>T&R_01 T&R_02</p>	No	All

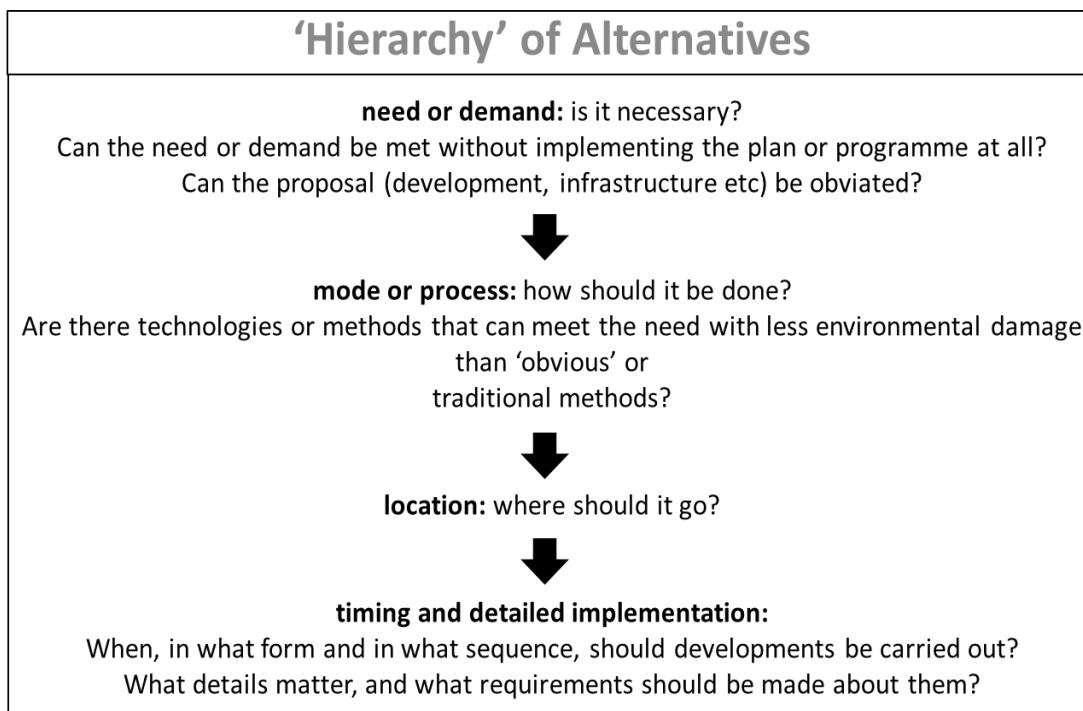
2.5 Reasonable Alternatives to the Draft Welsh National Marine Plan

Overview

Article 5(1) of the SEA Directive requires the identification, description and evaluation of “*the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*”. The European Commission guidance on the SEA Directive²⁹ discusses possible interpretations of handling ‘reasonable alternatives’ as required by Article 5(1). It states that “*The alternatives chosen should be realistic. Part of the reason for studying alternatives is to find ways of reducing or avoiding the significant adverse effects of the proposed plan or programme*”.

UK Government guidance on SEA³⁰ includes a ‘hierarchy’ of alternatives, as shown in **Figure 2.3**.

Figure 2.3 Hierarchy of Alternatives



The questions contained in this hierarchy have been used to guide the identification of options for the WNMP and which have focused specifically on whether a marine plan for Welsh waters is necessary, how it should be done and the extent to which it should specify locations for future development and use of the marine plan area. In this context, consistent with the hierarchy, the following alternatives to the Draft WNMP (as proposed) have been identified:

²⁹ European Commission (2003) *Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*. Available from http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf [Accessed January 2017].

³⁰ ODMP (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*. Available from <http://bit.ly/1GBP4zo> [Accessed January 2017].

- ▶ Is it necessary? To address this, the alternative of 'no WNMP' is considered;
- ▶ How should it be done? To address this, the following alternatives are considered:
 - ▶ A Draft WNMP that prioritises specific outcomes ahead of others; or
 - ▶ A Draft WNMP incorporating a generic sector hierarchy; or
 - ▶ A quantitative, target-led Draft WNMP.

[The Draft WNMP (as proposed) contains an approach that does not attempt to set or quantify the scale of future growth, but provides a combination of general and sector specific policies to encourage and guide decisions on future use of the marine area and to manage any associated effects.]

- ▶ How locationally specific should it be? To address this, the following two alternatives are considered:
 - ▶ A high level strategic Draft WNMP; or
 - ▶ A Draft WNMP with a high level of spatial definition/regional marine plans.

[The Draft WNMP (as proposed) includes Resource Areas and Strategic Resource Areas that set out the extent of a resource (such as renewables, aggregates or aquaculture) based on the information in the current evidence base and seeks to safeguard that resource for potential future use.]

The alternatives to the Draft WNMP (as proposed) listed above are considered in more detail below with the rationale provided in terms of whether they are considered to be 'reasonable' and taken forward for appraisal.

Alternatives to the Draft WNMP

No WNMP

Under this alternative, a marine plan for Welsh waters would not be prepared and adopted by the Welsh Government. Proposals for the development and use of the marine area would therefore be considered in the context of the existing policy and legislative framework governing the inshore and offshore regions of Wales. This framework includes, for example, European directives such as the Marine Strategy Framework Directive (MSFD), Water Framework Directive (WFD) and Habitats Directive, and National Policy Statements, national (Wales) land use planning policy, and other existing plans, programmes and legislation (including, for example, local development plans and shoreline management plans). Existing decision-making bodies, such as the Welsh Government, local authorities, the relevant Secretary of State (for nationally significant infrastructure projects), The Crown Estate and Natural Resources Wales would continue to exercise their functions.

The MCAA requires that marine plan authorities prepare marine plans. An alternative that proposes no WNMP would not be compliant with this statutory requirement and in consequence, the Welsh Government may have to withdraw from the UK MPS. This would result in an absence of statutory planning policy relating to Welsh waters. In the absence of a WNMP, opportunities to promote the sustainable management of natural resources, economic growth and social well-being may therefore be missed, undermining

the ability of marine planning to deliver sustainable development of the marine area in accordance with Wales' well-being goals set out in the Well-being of Future Generations (Wales) Act 2015. **In consequence, the 'no WNMP' alternative is not considered to be reasonable and has not been taken forward for appraisal.**

Draft WNMP that prioritises specific outcomes ahead of others

Under this alternative, the Draft WNMP would seek to prioritise specific plan outcomes. For example, the objectives and policies of the Draft WNMP could prioritise economic development over environmental protection (or vice-versa). Alternatively, the Draft WNMP could include policies and proposals that prioritise the delivery of certain well-being goals ahead of others.

The aim of marine planning, as set out in the UK MPS, is to ensure a sustainable future for the UK's coastal and offshore waters through managing and balancing the many activities, resources and assets in the marine environment. As highlighted in **Section 2.2**, the UK MPS sets out that the process of marine planning is intended to achieve integration between different objectives and manage competing demands on the marine area in accordance with the HLMOs. The Well-being of Future Generations (Wales) Act, meanwhile, places a duty on public bodies to carry out sustainable development, which is defined as "*the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the wellbeing goals*".

By not affording equal consideration to all strands of sustainable development (as per the Draft WNMP as proposed), an approach to marine planning that prioritises certain outcomes ahead of others could undermine the delivery of sustainable development in the marine area and would not be consistent with the UK MPS or the Well-being of Future Generations (Wales) Act. **In consequence, a 'Draft WNMP that prioritises specific outcomes ahead of others' has not been taken forward for appraisal.**

Draft WNMP incorporating a generic sector hierarchy

The Draft WNMP (as proposed) contains objectives and policies across a number of sectors; however, it does not indicate a preference for the growth of one sector over another. Under this alternative, support for specific sectors would be prioritised above others across the entire plan area in accordance with a generic sector hierarchy meaning that, where incompatibilities are identified between proposals/activities in differing sectors, development and activities in sectors higher up the hierarchy would be given precedence. This option could also mean that policy is not provided for some sectors.

Neither the UK MPS nor existing Welsh Government policy provide any clear preference in terms of sector growth and it is therefore unclear on what basis a generic sector hierarchy could be developed. There is also a risk that, without robust evidence, any hierarchy developed as part of the WNMP could fail to recognise and adequately reflect, for each sector, the economic potential of the sector, the capacity of the marine environment to support that sector and the range of potential impacts associated with development at the project level.

This option would not be in conformity with the UK MPS which sets out (in Section 2.2) that marine plans should "*ensure that different and potentially competing activities are managed in such a way that they contribute to the achievement of sustainable*

development. A key principle [of marine plans] will be to promote compatibility and reduce conflict" (in accordance with the UK MPS, the Draft WNMP (as proposed) includes policies that seek to maximise opportunities for coexistence and reduce conflict). With regard to the exclusion of policy relating to a sector(s), meanwhile, this would also be inconsistent with the UK MPS (which clearly establishes the range of sectors to be considered in marine plans) and could undermine the growth of some marine sectors.

Overall, a 'Draft WNMP incorporating a generic sector hierarchy' is not considered to be a reasonable alternative and has not been taken forward for appraisal.

A quantitative, target-led Draft WNMP

Under this alternative, the Draft WNMP would include explicit targets relating to, for example, the number of jobs to be created over the plan period, the volume of aggregates to be produced or the amount of energy to be generated (analogous to terrestrial local development plans). This could help provide greater clarity in terms of the intended outcomes of the plan, support future monitoring of the plan's implementation and prevent the over-exploitation of resources. It would also be consistent with the National Assembly for Wales' Enterprise and Business Committee recommendation³¹ that the WNMP should contain "*objectives and measurable targets – including for economic performance – and be implemented through a 'whole government' approach*".

As set out above, there is currently a lack of available evidence to ascertain the capacity of the marine environment in Wales to accommodate future development and the future effects of market influences on sectors. This means that, for the majority of sectors covered by the Draft WNMP (as proposed), it is not currently possible to identify quantified growth targets with any confidence of certainty (the Draft WNMP describes sectors where there is particular growth opportunity but has not described the scale of that potential growth in most cases). **In consequence, 'a quantitative, target-led Draft WNMP' is not considered to be a reasonable alternative and has not been taken forward for appraisal.** It should be noted, however, that it remains the Welsh Government's intention to keep this approach to marine planning under review as part of the preparation of future marine plans.

High level strategic Draft WNMP

A high level strategic marine plan would provide a lower level of spatial specificity relative to the Draft WNMP as proposed. For the purposes of this SA, it is assumed that a marine plan under this option would still provide sector-specific policy but would not identify SRAs.

This form of marine plan would reflect that adopted in respect of Scotland's National Marine Plan (although Scotland has a two tier approach to marine planning unlike Wales). **In consequence, a 'high level strategic Draft WNMP' is considered to be a reasonable alternative and has been taken forward for further appraisal.**

Draft WNMP with a high level of spatial definition

Under this alternative, the SRAs identified in the Draft WNMP (as proposed) would be refined, providing greater spatial specificity by 'zoning' areas for specific activities (similar

³¹ See

<http://www.senedd.assembly.wales/documents/s49044/Executive%20Summary%20and%20recommendations%20PDF%20155%20KB.pdf> [Accessed January 2017].

to the approach adopted in terrestrial land use plans) and with stronger policy support for activity in these more refined areas. This could be achieved through a more geographically specific Draft WNMP or through the production of a series of regional marine plans that together cover the entire Welsh marine planning area. This option could provide greater certainty with respect to future development/activity in the marine area helping to support economic development (for example, by affording greater confidence to investors) and provide positive protection for the marine environment (for example, by excluding sensitive features of designated nature conservation sites from SRAs).

Despite the potential benefits of this option, there is currently insufficient evidence relating to the distribution and capacity of marine natural resources in Wales, sector compatibility and market influences on different marine industries to enable the Welsh Government to prepare a Draft WNMP with a high level of spatial definition or regional plans with this level of spatial prescription. As a result, the implementation of this alternative would necessarily result in a delay to plan adoption in order to allow for the collection and analysis of sufficient evidence to support and inform a zoned approach; without sufficient evidence, there is a risk that the Draft WNMP/regional plans could include policies that unduly restrict development/activities in the marine area or zone inappropriate areas for future activity (leading to adverse environmental impacts or lost economic opportunity). A policy gap would therefore exist in the short to medium term that would likely affect the ability of marine planning to support economic, social and environmental objectives in Wales. During early consultation on the development of the WNMP, many consultees also held the view that providing a high level of spatial prescription in the WNMP would be unwelcome as this could be inflexible and result in an overly bureaucratic approach to decision making.

It should be noted that the MCAA does not explicitly provide for a two tier marine planning policy system in Wales. In consequence, it may not be straightforward for the Welsh Government to prepare both a national level WNMP and subordinate regional marine plans. Should a regional approach to marine planning be adopted, the consequential absence of an overarching Welsh marine planning policy framework might affect the ability of the Welsh Government to apply a strategic, coordinated approach to marine planning across Wales. This would likely undermine the sustainable management of natural resources at the national level (and in accordance with the Environment (Wales) Act 2016) and could lead to inconsistencies in policy across the marine area (or unnecessary duplication of effort).

Overall, a 'Draft WNMP with a high level of spatial definition' is not considered to be a reasonable alternative and has not been taken forward for appraisal. It should be noted, however, that the Draft WNMP is the first marine plan for Wales and represents the start of an ongoing process of shaping Wales' seas through marine planning to support economic, social and environmental objectives and, under the MCAA, the Welsh Government must keep the WNMP under review once it is adopted. As such, it may be possible for future WNMPs to provide a greater level of spatial specificity than is currently deemed possible including adopting a more regional approach to planning.

Summary of the Reasonable Alternatives to the Draft WNMP

Following the application of the reasonableness test in compliance with Article 5(1) of the SEA Directive, one alternative to the Draft WNMP (as proposed) has been identified as reasonable and has been taken forward for appraisal as part of this SA, namely a 'High level strategic Draft WNMP'. A high level strategic marine plan would provide a lower level



of spatial specificity relative to the Draft WNMP as proposed. For the purposes of this SA, it is assumed that the high level strategic Draft WNMP alternative would still provide sector-specific policy but would not identify SRAs.

3. Appraisal Methodology

3.1 Introduction

This section describes the approach to the appraisal of the Draft WNMP (including reasonable alternatives). It draws on the information presented in the WMER and the related key policy objectives and issues that are summarised in **Appendix B** to this report, as well as the responses received to consultation on the draft SSE, to define the scope of the appraisal (in terms of the environmental and socio-economic issues considered) and sets out the SA criteria and guide questions that comprise the SA Framework. The section then sets out how this SA Framework has been used to appraise the key components of the Draft WNMP (including reasonable alternatives) before highlighting the difficulties encountered during the appraisal process.

3.2 Scope of the Appraisal

SEA Topics included within the Appraisal

The range of potential environmental and socio-economic effects under consideration has been informed primarily by the SEA Directive and implementing regulations. Annex I of the SEA Directive and Schedule 2 of the SEA Regulations require that the assessment includes information on the “*likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to*”. The scope of the WNMP presented in **Section 2** and the outputs from a review of other relevant plans and programmes and baseline information contained in the WMER and summarised in **Appendix B** have also been used to define the scope of the appraisal. In this case, all of the topic areas identified in the SEA Directive are considered to be relevant to the WNMP and have been included in the SA Framework.

Well-being Goals for Wales and the Objective for SMNR

Alongside the SEA Directive topics, the SA has also considered the likely contribution of the Draft WNMP to the achievement of the seven well-being goals established in the Well-being of Future Generations (Wales) Act 2015 and the objective for SMNR established in the Environment (Wales) Act 2016 (see also **Section 1.5**). This has been achieved by mapping the well-being goals and objective to the SA criteria that comprise the SA Framework (see **Table 3.1**). Through the appraisal of the Draft WNMP against the SA criteria, it has then been possible to predict the contribution that the implementation of the plan would make to their delivery.³²

³² Please note that the methodology for the SA of the Draft WNMP set out in the draft SSE included a proposal to integrate the consideration of ecosystem services with the SA, which reflected Welsh Government’s intentions at the time. However, the approach has been superseded by (and included within) the legislative requirement contained in the Well-being of Future Generations (Wales) Act (2015) for public bodies to carry out sustainable development in accordance with the well-being goals for Wales. In consequence, the SA of the Draft WNMP has considered the contribution of the plan policies to the achievement of the well-being goals (see **Section 5.7**).

3.3 SA Framework

Establishing appropriate SA criteria and guide questions is central to appraising the sustainability effects of the Draft WNMP. The SA criteria and guide questions used in the appraisal of the Draft WNMP reflect the topics contained in Annex I of the SEA Directive and have been informed by:

- ▶ the scope of the Draft WNMP (see **Section 2**);
- ▶ the review of relevant plans and programmes (contained in the WMER) and the associated key policy objectives and messages (**Appendix B**);
- ▶ the baseline information contained in the WMER and key sustainability issues (see **Appendix B**); and
- ▶ responses received to consultation on the proposed SA criteria and guide questions set out in the draft SSE.

Broadly, the criteria present the preferred social, economic and environmental outcome which usually involves minimising potential adverse effects and enhancing positive effects. By appraising the policies of the Draft WNMP against the criteria, it is apparent where they will contribute to sustainability, where they might have an adverse effect, and where any positive effects could be enhanced. Associated guide questions have been developed for each SA criterion to provide a detailed SA Framework against which the Draft WNMP has been appraised.

Table 3.1 presents the SA Framework including the SA criteria and guide questions. For each SA criteria, the relevant well-being goals of the Well-being of Future Generations (Wales) Act 2015 are identified to facilitate an appraisal of the Draft WNMP’s performance in terms of its contribution to the delivery of the goals. Additionally, those criteria that are directly related to the objective for SMNR established in the Environment (Wales) Act 2016 are highlighted (although in this instance, all of the SA criteria are considered to be relevant to the objective).

Table 3.1 SA Framework

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
1. To protect and enhance biodiversity (habitats, species and ecosystems).	<i>Protect and enhance designated nature conservation sites (e.g. SACs, SPAs, Ramsar and SSSIs), habitats and species?</i> <i>Protect and enhance the structure and function of marine and coastal ecosystems?</i> <i>Avoid adverse impacts on marine ecology from underwater noise?</i> <i>Provide opportunities for people to come in to contact with and appreciate wildlife and wild places?</i> <i>Maintain and restore key ecological processes, and in particular coastal and marine processes?</i>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A globally responsible Wales • A Wales of vibrant culture and thriving Welsh language 	Yes
2. To protect and enhance the quality of surface, ground,	<i>Affect demand for water resources and the</i>	<ul style="list-style-type: none"> • A prosperous 	Yes

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
estuarine and coastal water.	<p><i>availability of water to meet the demand?</i></p> <p><i>Affect groundwater or freshwater, estuarine or marine water quality?</i></p> <p><i>Promote high quality surface water management and waste water treatment and disposal?</i></p>	<p>Wales</p> <ul style="list-style-type: none"> • A resilient Wales • A healthier Wales 	
3. To protect and enhance the physical features of the marine environment.	<p><i>Affect marine and coastal processes and/or erosion rates?</i></p> <p><i>Protect and enhance designated coastal features or sites e.g. geological SSSIs?</i></p> <p><i>Ensure the protection of the seabed in designated or sensitive areas?</i></p> <p><i>Support the policies and actions of Shoreline Management Plans?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales 	Yes
4. To protect and enhance air quality.	<p><i>Help to reduce emissions of air pollutants associated with marine or coastal activities and developments?</i></p>	<ul style="list-style-type: none"> • A healthier Wales • A resilient Wales • A globally responsible Wales 	Yes
5. To protect and enhance landscape and seascape character and other protected features.	<p><i>Recognise and respect non-designated landscape and seascape character?</i></p> <p><i>Help to protect designated coastal landscapes and/or townscapes, such as National Parks, AONBs, Heritage Coast or conservation areas?</i></p>	<ul style="list-style-type: none"> • A resilient Wales • A healthier Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes
6. To limit the causes and effects of climate change and promote adaptation.	<p><i>Contribute to a reduction, directly or indirectly, in greenhouse gas emissions?</i></p> <p><i>Contribute positively to resilience and/or adaptation to climate change, helping to ensure that forecast changes are considered over the lifetime of any proposed development or activity?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A globally responsible Wales 	Yes
7. To protect and enhance cultural, historic and industrial heritage resources.	<p><i>Help to protect the site and setting of marine and coastal historic sites and assets including scheduled monuments and protected wrecks, landscapes and seascapes?</i></p> <p><i>Help to avoid or minimise damage to onshore and offshore archaeologically important sites?</i></p> <p><i>Help to protect and enhance culturally important sites?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes
8. To support and enhance the	<p><i>Protect Welsh language and culture?</i></p>	<ul style="list-style-type: none"> • A prosperous 	Yes

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
Welsh language and culture.	<i>Promote and enhance opportunities for the promotion and development of Welsh language and culture?</i>	<p>Wales</p> <ul style="list-style-type: none"> • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	
9. To support appropriate tourism in Wales and protect and enhance opportunities for recreation.	<p><i>Help to protect and promote the attractiveness of the coastal and marine environment for visitors?</i></p> <p><i>Help to protect and promote the distinctiveness of landscapes and seascapes?</i></p> <p><i>Help to protect and promote sustainable opportunities for recreation in the coastal and marine environment for residents and visitors?</i></p> <p><i>Help to promote the health and well-being of local communities through supporting appropriate opportunities for recreation?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language 	Yes
10. To promote the sustainable use of natural resources.	<p><i>Promote the protection and accessibility of the seabed for the winning of marine aggregates?</i></p> <p><i>Promote the sustainable use of natural resources including oil and gas?</i></p> <p><i>Help to support the development of low carbon energy and thereby contribute towards meeting renewable energy targets?</i></p> <p><i>Promote the sustainable management of waste?"</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A globally responsible Wales 	Yes
11. To support sustainable development of marine and coastal economy.	<p><i>Contribute to the growth of any marine activity without detriment to another?</i></p> <p><i>Help to ensure that capacity is provided for shipping needs, including sea space, water depth and port facilities?</i></p> <p><i>Support the protection and conservation of marine fish stocks and ensure the continuation a sustainable fishing industry in Wales?</i></p> <p><i>Help to promote the sustainable growth of aquaculture in Wales?</i></p> <p><i>Help ensure appropriate defence activities can be undertaken in sustainable manner?</i></p> <p><i>Facilitate telecommunications including cable laying in appropriate areas?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A globally responsible Wales 	Yes
12. To maintain and enhance the well-being of local communities.*	<p><i>Help to promote employment creation and thereby support the local and Welsh economy?</i></p> <p><i>Help to address social needs such as the retention of high skill levels and achieving a balance of full and</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A healthier Wales 	Yes

Criteria	Guide Questions: <i>Will the proposed WNMP policies...</i>	Well-being Goals	Relevant to the Objective for SMNR?
	<p><i>part-time work, where appropriate?</i></p> <p><i>Help to promote attractive, viable, safe and well-connected communities?</i></p> <p><i>Help to promote equality?</i></p>	<ul style="list-style-type: none"> • A more equal Wales • A Wales of cohesive communities • A globally responsible Wales 	
13. To protect and enhance human health with special regard to vulnerable groups in society.	<i>Promote the maintenance and enhancement of human health, and minimise the adverse effects on any vulnerable groups in particular?</i>	<ul style="list-style-type: none"> • A more equal Wales • A healthier Wales • A Wales of cohesive communities 	Yes
14. To promote good governance.	<p><i>Support integrated decision making and collaboration across marine and terrestrial interfaces and boundaries?</i></p> <p><i>Promote engagement in marine planning?</i></p> <p><i>Support continued research and policy development in marine planning?</i></p>	<ul style="list-style-type: none"> • A prosperous Wales • A resilient Wales • A healthier Wales • A more equal Wales • A Wales of cohesive communities • A Wales of vibrant culture and thriving Welsh language • A globally responsible Wales 	Yes

* Please note that well-being in the context of SA Criteria 12 is separate and distinct from the seven well-being goals for Wales established in the Well-being of Future Generations (Wales) Act 2015. Identification of this criteria predated the Act. Commentary on the contribution of the Draft WNMP to the well-being goals of the Act is contained in **Section 4.8** of this SA Report.

3.4 Completing and Recording the Appraisal

Based on the scope and contents of the Draft WNMP set out in **Section 2**, it has been determined that the following key plan components are relevant and have been subject to appraisal:

- ▶ vision;
- ▶ plan objectives;
- ▶ sector objectives;
- ▶ general cross-cutting policies; and
- ▶ sector policies (including mapping).

In considering the likely effects of the Draft WNMP policies on the SA criteria, the following factors have been taken into account:

- ▶ the nature of the potential effect (what is expected to happen);
- ▶ the probability of the potential effect occurring;
- ▶ the timing of the potential effect;
- ▶ the magnitude of the potential effect;
- ▶ the potential effect on vulnerable communities, sensitive habitats and/or ecosystems;
- ▶ the geographic scale of the potential effect (e.g. local, regional, national);
- ▶ the location of the potential effect;
- ▶ the duration of the potential effect (e.g. short, medium or long term);
- ▶ the permanence of the potential effects; and
- ▶ the reasons for any uncertainty and any assumptions needed to complete the appraisal.

To inform the appraisal, a range of information sources have been used, including:

- ▶ baseline information contained in the WMER, Wales' Marine Planning Portal and the State of Natural Resources Report (SoNaRR) developed by Natural Resources Wales³³;
- ▶ published research, statistics and guidance including the UK Offshore Energy SEA Environmental Report³⁴;
- ▶ the HRA and impact assessments being undertaken in support of the WNMP;
- ▶ the guide questions contained in the SA Framework.

The completed appraisal matrices are contained in **Appendix D** (general cross-cutting policies) and **Appendix E** (sector policies). Sections 4.3 and 4.4 provide a summary of the findings of the appraisal.

Definitions of Significance

Criteria-specific guidance has been developed for what constitutes a significant effect, a minor effect or a neutral effect for each of the SA criteria. These definitions of significance have helped ensure a consistent approach to interpreting the significance of effects and will help the reader understand the decisions made by the appraiser. The guidance on significance is contained in **Appendix C**.

³³ Natural Resources Wales (2016) *State of Natural Resources Report*. Available from <https://naturalresources.wales/our-evidence-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en> [Accessed January 2017].

³⁴ Department of Energy and Climate Change (2016) *UK Offshore Energy Strategic Environmental Assessment: OESEA3 Environmental Report*. Available from <https://www.gov.uk/government/consultations/uk-offshore-energy-strategic-environmental-assessment-3-oesea3> [Accessed November 2016].

Mitigation and Enhancement

Identifying effective mitigation and enhancement measures is a fundamental part of the SA. **Box 3.1** provides information on the mitigation hierarchy that has been followed in undertaking the SA of the Draft WNMP. The mitigation hierarchy is based on the principle that it is preferable to prevent the generation of an impact rather than counteract its effects. It thus suggests that mitigation measures higher up the hierarchy should be considered in preference to those further down the list.

Box 3.1 Mitigation Hierarchy

Mitigation measures should be consistent with the mitigation hierarchy (after DETR 1997³⁵ and CLG 2006³⁶):

- Avoidance – making changes to a design (or potential location) to avoid adverse effects on an environmental feature. This is considered to be the most acceptable form of mitigation.
- Reduction – where avoidance is not possible, adverse effects can be reduced through sensitive environmental treatments/design.
- Compensation – where avoidance or reduction measures are not available, it may be appropriate to provide compensatory measures (e.g. an area of habitat that is unavoidably damaged may be compensated for by recreating similar habitat elsewhere). It should be noted that compensatory measures do not eliminate the original adverse effect, they merely seek to offset it with a comparable positive one.
- Remediation – where adverse effects are unavoidable, management measures can be introduced to limit their influence.
- Enhancement – where there are no negative impacts, but measures are adopted to achieve a positive move towards the sustainability objectives e.g. through innovative design.

Mitigation and enhancement measures identified through the appraisal of the Draft WNMP policies have been recorded in the appraisal matrices. Further information is provided in **Section 4.8**.

3.5 Appraisal of Secondary, Cumulative and Synergistic Effects

The SEA Directive, and its implementing regulations, require that potential secondary, cumulative and synergistic effects are considered as part of the SA (see definitions presented in **Table 3.2**). In particular, it is important to consider the combined sustainability effects of the policies of the Draft WNMP both alone and in-combination with other plans and programmes.

Table 3.2 Definitions of Secondary, Cumulative and Synergistic Effects

Type of Effects	Definition*
Secondary (or indirect)	Effects that do not occur as a direct result of the Draft WNMP's implementation, but occur at distance from the direct impacts or as a result of a complex pathway. Examples of a secondary effect would include the materials (and embedded carbon) used in the development of offshore windfarm installations
Cumulative	Effects that occur where several individual activities which each may have an insignificant effect, combine to have a significant effect. Examples of a cumulative effect of the Draft WNMP could include the potential effects on a European designated site, where a habitat or species is vulnerable and the cumulative effects of disturbance and pollutant emissions arising from multiple offshore developments and activities (including existing consented activities).
Synergistic	Effects that interact to produce a total effect that is greater than the sum of the

³⁵ Department of the Environment, Transport and the Regions (1997) *Mitigation Measures in Environmental Statements*. London: DETR

³⁶ Department for Communities and Local Government (2006): *Consultation Document - EIA: A guide to good practice and procedures*. London: CLG

Type of Effects	Definition*
	individual effects. For example, this can occur where the toxicity of two chemicals is greatly increased when they are combined.

*Adapted from SEA guidance, ODPM (2005)⁵².

The cumulative effects of the general cross-cutting policies (by theme) and sector policies (by topic) of the Draft WNMP are discussed in **Section 4.4** and **Section 4.5** respectively. In addition, an appraisal of the cumulative effects of the Draft WNMP both alone and in combination with other plans and programmes has been undertaken. This is contained in **Section 4.6**.

Professional judgement has been used to derive the potential cumulative effect associated with each set of general cross-cutting policies (see **Table 4.3**) and sector policies (see **Table 4.4**). An overall judgement of the potential cumulative effects of the Draft WNMP (i.e. the predicted effects of implementing all of the Draft WNMP policies together) against the SA criteria is presented in **Table 4.5**. No specific criteria have been applied to reach these judgements on cumulative effects.

Due to the large number of plans and programmes that, in-combination with the Draft WNMP, could potentially give rise to cumulative significant effects, a screening assessment has been undertaken. The purpose of this assessment is to highlight where the Draft WNMP could have a significant in-combination effect and what the nature of that effect would be (i.e. whether significant positive or significant negative).

A matrix has been used to support this screening assessment and this is contained in **Appendix F**. Where the screening indicates the potential for significant negative in-combination effects, these are explored further in **Section 4.6**.

3.6 Assessment of the Draft WNMP's Contribution to the Well-being Goals for Wales and Objective for SMNR

Informed by the appraisal of the general cross-cutting policies and sector policies against the SA criteria, a judgement has been made regarding whether, and the extent to which, the Draft WNMP would support or detract from the achievement of each of the well-being goals for Wales and the objective for SMNR. A matrix has been used to record this assessment and the results are presented in **Section 4.8**.

3.7 Appraisal of Reasonable Alternatives

One reasonable alternative to the Draft WNMP as proposed has been identified, namely 'a high level strategic Draft WNMP'. This alternative has also been appraised using the SA Framework and an appraisal matrix is presented in **Section 4.10**.

3.8 Independent Review

Prior to publication, this SA Report was subject to independent review by the Centre for Environment Fisheries and Aquaculture Science (Cefas). This peer review considered the methodology and approach to the SA of the Draft WNMP, the results of the appraisal and their presentation. The review confirmed that these elements of the SA Report are robust;

where the review identified proposed amendments to the SA Report, these were designed to provide further clarity and alignment with the Draft WNMP (as opposed to changes to the findings of the appraisal) and included, for example, revisions to wording in the NTS. Where deemed appropriate, these recommendations have been adopted in this SA Report.

3.9 Difficulties Encountered in Undertaking the Appraisal

The SEA Directive requires the identification of any difficulties (such as technical deficiencies or lack of knowledge) encountered during the appraisal process. These uncertainties and assumptions are detailed in the appraisal matrices. Those uncertainties and assumptions common across the appraisal are outlined below.

Uncertainties

The following uncertainties have been encountered during the SA of the Draft WNMP:

- ▶ the exact type, scale, location and timing of future marine activity/development that may come forward as a result of the implementation of the Draft WNMP (including within identified SRAs) is unknown;
- ▶ there are considerable uncertainties with regard to the exact type and magnitude of effects associated with new development and activity in many sectors supported by the Draft WNMP;
- ▶ the extent to which job creation resulting from the implementation of the Draft WNMP is locally significant will depend on the number and type of jobs created (in the context of the local labour market) and the recruitment policies of prospective employers;
- ▶ the type, scale and location of measures to enhance coastal or marine features, reduce flood and coastal change risk, minimise greenhouse gas emissions or provide socio-economic enhancement that may come forward as a result of the implementation of the Draft WNMP are unknown;
- ▶ it is uncertain whether proposals in, for example, exploration or option areas or which benefit from a consent/lease/licence (but have not yet been implemented) would come forward;
- ▶ the exact scale of greenhouse gas emissions associated with the implementation of the Draft WNMP will be dependent on a number of factors including: the exact type, scale and design of new development; individual energy consumption behaviour; and the extent to which energy supply has been decarbonised over the plan period;
- ▶ future changes to the socio-economic and environmental baseline beyond those discussed in the WMER are difficult to predict;
- ▶ there is some uncertainty with regard to the impacts of new economic activity on Welsh language and culture.

Assumptions

The following general assumptions have been made in undertaking the SA of the Draft WNMP:

- ▶ it is assumed that the construction, operation and closure/decommissioning of proposals in the marine area will comply (where appropriate) with all relevant regulations;
- ▶ it is assumed that the environmental effects of activities/development that may come forward as a result of the implementation of the Draft WNMP will be fully considered through the relevant regulatory regime including, for example, marine licensing, Environmental Impact Assessment (EIA) and HRA (as appropriate) at the project stage;
- ▶ it is assumed that there will be no significant change to the existing regulatory framework over the plan period;
- ▶ it is assumed that the revocation of the Interim Marine Aggregates Dredging Policy³⁷ following adoption of the WNMP would not result in the loss of policy effect/coverage.

³⁷ Welsh Government (2004) *Interim Marine Aggregates Dredging Policy*.

4. Appraisal of the Draft Welsh National Marine Plan and Reasonable Alternatives

4.1 Introduction

This section of the SA Report presents the findings of the appraisal of the Draft WNMP, which has been undertaken in accordance with the methodology described in **Section 3**. It begins by providing an overview of the findings and recommendations of the high level sustainability review of the Initial Pre-Consultation Draft WNMP (**Section 4.2**). An assessment of the compatibility of the Draft WNMP vision and objectives with the SA criteria is then contained in **Section 4.3** before the likely significant environmental and socio-economic effects of the proposed general cross-cutting policies (**Section 4.4**) and sector policies (**Section 4.5**) are summarised in-turn. The cumulative, synergistic and secondary effects of the Draft WNMP are considered in **Section 4.6**. Commentary is then provided on the performance of the Draft WNMP against the well-being goals of the Well-being of Future Generations (Wales) Act 2015 and the objective for SMNR set out in the Environment (Wales) Act 2016 (**Section 4.8**) before an overview of the mitigation and enhancement measures identified during the appraisal is set out in **Section 4.8**. Finally, the section presents the findings of the appraisal of the reasonable alternative to the Draft WNMP (as proposed) (**Section 4.10**).

4.2 High Level Sustainability Review of the Initial Pre-Consultation Draft Welsh National Marine Plan and Initial Draft SA Report

The preparation of the Draft WNMP and SA thereof has been an iterative process. As set out in **Section 1.4**, informal feedback on the developing WNMP vision, objectives and plan policies has been provided to the Welsh Government alongside a high level sustainability review of emerging policies contained in the Initial Pre-Consultation Draft WNMP³⁸. The high level review was undertaken to provide provisional views on the sustainability implications of the indicative policies of the WNMP as an early contribution to their further development. The review was published alongside the Initial Draft WNMP in November 2015.

The high level sustainability review concluded that the emerging draft general cross-cutting policies would be likely to have a positive or significant positive effect in respect of the SA criteria. The emerging draft sector policies, meanwhile, were assessed as having both positive and negative effects on the SA criteria, although the review concluded that the negative effects identified could be reduced through other Draft WNMP policies (and in particular those general cross-cutting policies that promote environmental conservation and enhancement) and that existing licensing and consenting regimes would ensure that

³⁸ Amec Foster Wheeler (2015) *High Level Sustainability Review of the Emerging Policies of the Initial Pre-Consultation Draft Welsh National Marine Plan*. Available from <http://gov.wales/docs/drah/publications/151127-welsh-national-marine-plan-sustainability-review-en.pdf> [Accessed January 2017].

any significant adverse effects associated with proposals in the marine area would be fully considered and minimised/mitigated where possible and appropriate.

Through the high level review of the Initial Draft WNMP, a number of recommendations were made. In terms of the emerging general cross-cutting policies, these recommendations predominantly focused on adjusting policy wording to more accurately capture how the policy might promote the interests of sustainable development as well as opportunities to merge policies on the grounds of clearer presentation of the strategic intentions of the WNMP. It was also recommended that a specific policy be included in the WNMP relating to support for Welsh language and culture. With regard to the emerging sector policies, recommendations focused on the inclusion of additional policy wording and/or supporting text relating to:

- ▶ the identification of factors to be taken into account when determining potential impacts on existing sector activities;
- ▶ detailing the instances where proposals which would adversely affect particular activities may be supported;
- ▶ highlighting the range of potential socio-economic and environmental impacts that could arise from the various sector activities and associated mitigation measures;
- ▶ ensuring that the adverse socio-economic and environmental effects of sector activities are avoided, minimised or mitigated and positive effects enhanced;
- ▶ avoiding duplication of existing legislation.

The recommendations of the high level sustainability review were considered by the Welsh Government in developing the Draft WNMP. In particular, on the basis of the findings of the review, a specific policy concerning Welsh language and culture has been included in the proposed plan (see Policy SOC_04).

As set out in **Section 1.4**, an Initial Draft SA Report was issued to the WNMP Stakeholder Reference Group and other bodies for comment between 16th February and 10th March 2017. The findings of the appraisal contained in the Initial Draft SA Report helped to inform further revisions to the Draft WNMP.

4.3 Compatibility Assessment of the Draft WNMP Vision and Objectives

The Draft WNMP sets out the Welsh Government's vision for the Welsh inshore and offshore marine area which is underpinned by 13 plan objectives and 12 sector objectives. Matrices have been completed to assess the compatibility of the Draft WNMP vision and objectives against the 14 criteria that comprise the SA Framework. **Table 4.1** presents the results of this compatibility assessment for the vision and plan objectives.

Table 4.1 Compatibility Assessment – Draft WNMP Vision and Plan Objectives

Draft WNMP Vision/Plan Objective	SA Criteria													
	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Vision	+	+/?	+/?	+/-	+/?	+/-	?	?	+	+/-	+	+	+	+
Plan Objectives														
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.	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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 interests and ecosystem resilience.	+/-	-	-	+	-	+	-	?	-	+	+	+	+	~
4. Provide space to support existing and future sustainable economic activity through managing multiple uses, encouraging the co-existence of	~	~	~	~	~	~	~	~	~	~	+	~	~	+

Draft WNMP Vision/Plan Objective	SA Criteria													
	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
compatible activities, the mitigation of conflicts between users and, where possible, by reducing displacement of existing activities.														
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.	+	+	+	+	+	+	~	~	~	+	+/-	+/-	+	+
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	+	+	+	~	+	+	~	~	+	+	+	+	+	~

Draft WNMP Vision/Plan Objective	SA Criteria													
	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
of present and future generations.														
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.	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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.	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Key

Symbol	Effect
+	Vision/objectives are potentially compatible.

Symbol	Effect
~	No clear relationship between vision/objectives.
-	Vision/objectives are potentially incompatible.
?	Uncertain if vision/objectives are related.

NB: where more than one symbol/colour is presented in a box it indicates that the appraisal has identified both compatibilities and incompatibilities between the Draft WNMP vision/objectives and the SA criteria. Where a box is coloured but also contains a '?', this indicates a degree of uncertainty regarding the relationship between the Draft WNMP vision/objectives and the SA criteria although a professional judgement is expressed in the colour used.

Vision

The vision for the Welsh inshore and offshore marine area set out in the Draft WNMP seeks to deliver clean, healthy, safe, productive and biologically diverse seas, and is consistent with the UK shared vision for the marine environment of the UK MPS.

Reflecting its emphasis on an ecosystem-based approach to marine planning, improved access to, and enjoyment of, the marine environment, blue growth and enhanced energy security including climate change mitigation, the vision has been assessed as being compatible with the majority of the SA criteria.

There is the potential for conflicts, particularly between those elements of the vision that support economic growth and social transformation and SA criteria concerning environmental protection and enhancement (and vice-versa), although the extent of any conflict is likely to depend on how the vision is realised through the policies of the Draft WNMP. In consequence, where the relationship between the vision and SA criteria relating to biodiversity (SA Criteria 1), water (SA Criteria 2), the physical environment (SA Criteria 3) and landscape and seascape (SA Criteria 5) has been assessed as being compatible, a degree of uncertainty has also been identified.

The potential for both compatibilities and incompatibilities has been identified in respect of those SA criteria relating to air quality (SA Criteria 4), climate change (SA Criteria 6) and resources (SA Criteria 10). This reflects the fact that, whilst the vision promotes climate change mitigation through the deployment of low carbon technologies, economic growth will inevitably lead to an increase in resource use and emissions to air including greenhouse gas emissions.

The relationship between the vision and those SA criteria relating to heritage (SA Criteria 7) and Welsh language and culture (SA Criteria 8) has been assessed as uncertain. As currently worded, the vision does not include specific reference to the historic environment or Welsh language and culture and which may be affected (both positively and negatively) by proposals for the development and use of the marine area arising from the implementation of the Draft WNMP.

Overall, the vision is compatible with the majority of the SA criteria; however, some uncertainties remain due to the potential conflict between the desire for growth on the one hand and resource use, emissions and environmental factors on the other. The effects are highly dependent on the extent to which future development proposals in the marine area achieve economic, social and environmental outcomes. Whilst the vision does promote an “*integrated, evidenced and plan-led approach*” it could place explicit emphasis on the promotion of sustainable development of the marine area (although it is recognised that this is addressed in the plan objectives). Additionally, it is considered that the vision could usefully make specific reference to:

- ▶ conservation and enhancement of the historic environment; and
- ▶ support for Welsh language and culture.

Plan Objectives

The Draft WNMP vision is underpinned by 13 plan objectives. The plan objectives are a clear statement of desired outcomes or observable behavioural changes that the WNMP is seeking to achieve in order to realise the vision for the plan area.

The Draft WNMP objectives are broad ranging and span key socio-economic and environmental policy areas which are consistent with the themes of the HLMOs. As a result, none of the plan objectives have been assessed as being incompatible with all of the SA criteria whilst compatibilities have been identified against each SA criteria.

The compatibility assessment presented in **Table 4.1** does highlight that in some instances possible tensions may exist between the plan objectives and the SA criteria. Where tensions have been identified, this primarily relates to, on the one hand, the aspiration for blue growth, and on the other, the need to protect and enhance the marine environment, optimise resource use and reduce emissions. In this respect, Plan Objective 2 in particular could be less compatible with those SA criteria concerning environmental conservation and enhancement (SA Criteria 1, 2, 3, 5 and 7), air quality (SA Criteria 4), climate change (SA Criteria 6) and resource use (SA Criteria 10). This reflects the potential for activities in the marine area supported by Plan Objective 2 to result in adverse environmental effects and an increase in the use of natural resources both during construction and operation. Similarly, Plan Objective 3 has been assessed as being less compatible with a number of the SA criteria given the possible adverse impacts associated with renewable energy development (although there may be longer term benefits in terms of biodiversity, air quality and climate change). The range and type of adverse effects associated with development in the sectors supported by the Draft WNMP are discussed further in **Section 4.5** and to avoid repetition are not repeated here. Conversely, those plan objectives that seek to protect and enhance the marine environment (in particular Plan Objectives 8 and 9) could restrict blue growth should associated WNMP policies unnecessarily preclude activities from taking place in the marine area. Possible tensions have therefore been identified in respect of SA Criteria 11 (economy) and 12 (well-being). However, it should be recognised that the aim of blue growth supported by the Draft WNMP is to support sustainable development in the marine area and in this context, where the plan objectives have been identified as being potentially less compatible with the SA criteria, such tensions can be resolved if activity takes place in accordance with all of the plan objectives and policies which together seek to deliver the vision of the Draft WNMP for clean, healthy, safe, productive and biologically diverse seas.

In some instances, the potential for both compatibilities and incompatibilities has been identified. In particular, Plan Objectives 8 and 9 have been assessed as having mixed compatibility with SA Criteria 9 which reflects the reliance of coastal tourism and recreation in Wales upon the natural environment but also the potential for objectives that promote environmental protection to restrict development in this sector. Plan Objective 7, meanwhile, has been assessed as being both compatible and less compatible with SA Criteria 11 and 12 due to the potential for the promotion of climate change adaptation and mitigation to support economic development and jobs creation in the renewables sector but also the restriction this may place on economic growth more generally.

Overall, it is considered that the plan objectives could be enhanced through reference to:

- ▶ the protection and promotion of Welsh language and culture (under Plan Objective 5);
- ▶ the achievement of the WFD objectives (under Plan Objective 8);
- ▶ the conservation and enhancement of Marine Protected Areas (MPAs) (under Plan Objective 9);

- ▶ working across marine and terrestrial boundaries and supporting other plans and programmes such as local development plans and shoreline management plans (under Plan Objective 11); and
- ▶ engagement on marine planning issues (under Plan Objective 13).

Sector Objectives

Alongside the plan objectives, the Draft WNMP sets out 12 sector objectives. **Table 4.2** comprises the compatibility assessment of the sector policies with the 14 SA criteria.

Table 4.2 Compatibility Assessment – Draft WNMP Sector Objectives

Sector	Draft WNMP Sector Objective	SA Criteria													
		1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascap	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Aggregates	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.	-	-	-	+/-	0	+/-	-	?	0	+/-	+	+	~	~
Aquaculture	To double production by 2020, and to further increase production over the lifetime of this plan. Specifically by 2020 increase: <ul style="list-style-type: none"> Marine finfish to 2,000 tonnes (761 Tonnes in 2012); Shellfish, especially mussels, to 16,000 tonnes (from 8,376 tonnes in 2012). 	+/-	+	-	+/-	-	+/-	-	?	+/-	~	+	+	+	~
Defence	To contribute to the defence of the nation by ensuring that Defence and National Security activities are not compromised.	+	+	~	~	~	~	~	~	~	~	+	+	+	+
Dredging and Disposal	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.	-	-	-	-	~	+/-	-	~	+	-	+	+	-	~
Energy – Low Carbon	To contribute significantly to the decarbonisation of our economy and blue growth by increasing the amount of low-carbon marine energy generated, by: <ul style="list-style-type: none"> Supporting the development and demonstration of tidal stream and wave energy technologies over the next 5-10 years; 	+/-	-	-	+	-	+	-	?	-	+	+	+	+	~

Sector	Draft WNMP Sector Objective	SA Criteria													
		1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
	<ul style="list-style-type: none"> Increasing the number of devices deployed in commercial scale developments over the next 10-20 years; Supporting further commercial development of offshore wind over the next 3-5 years taking advantage of any favourable UK Government financial mechanisms under the Contract for Difference; Promote evidence gathering and research on tidal lagoon development to support the sustainable development and deployment of tidal lagoon technology; 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>														
Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage)	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.	-	-	-	-	-	-	-	?	~	+/-	+	+	-	~
Fisheries	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.	+/-	?	?	?	+	?	+	+	+	?	+	+	+	~

Sector	Draft WNMP Sector Objective	SA Criteria													
		1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Ports and Shipping	To safeguard established shipping routes and support sustainable growth in the shipping and ports sector.	-	-	-	+/-	-	+/-	-	?	+	-	+	+	+/-	~
Subsea Cabling	To support the optimal distribution of electricity and better global communications through the growth of digital communication networks.	-	~	-	~	~	+/-	-	~	~	+/-	+	+	~	~
Surface Water and Wastewater Treatment and Disposal	To safeguard the capacity to safely and effectively treat and discharge surface water runoff and wastewater.	+	+	~	~	~	+	~	~	+	+	+	+	+	~
Tourism and Recreation	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.	+/-	+/-	+/-	-	+/-	-	+/-	+	+	-	+	+	+	~

Key

Symbol	Effect
+	Vision/objectives are potentially compatible.
~	No clear relationship between vision/objectives.
-	Vision/objectives are potentially incompatible.
?	Uncertain if vision/objectives are related.

NB: where more than one symbol/colour is presented in a box it indicates that the appraisal has identified both compatibilities and incompatibilities between the Draft WNMP sector objectives and the SA criteria. Where a box is coloured but also contains a '?', this indicates a degree of uncertainty regarding the relationship between the Draft WNMP vision/objectives and the SA criteria although a professional judgement is expressed in the colour used.

The results of the compatibility assessment presented in **Table 4.2** broadly anticipate, and are consistent with, the findings of the sector policy appraisal summarised in **Section 4.5**. To avoid duplication, detailed commentary regarding the compatibility of the sector objectives and the SA criteria is therefore not provided here.

In general terms, the compatibility assessment indicates that the Draft WNMP sector objectives are strongly supportive of those SA criteria relating to the economy (SA Criteria 11) and well-being (SA Criteria 12). This reflects the expectation that the support afforded to key economic sectors in the marine area will help to maintain and enhance the marine economy, stimulate investment, protect jobs and generate new employment opportunities and support vibrant and viable coastal communities.

The sector objectives are potentially less compatible with those SA criteria that concern environmental conservation and enhancement (SA Criteria 1, 2, 3, 5 and 7), air quality (SA Criteria 4), climate change (SA Criteria 6) and resource use (SA Criteria 10) in particular. This is due to the potential for adverse environmental effects (including the use of finite resources (e.g. oil and gas, aggregates) and emissions to air) as a result of new development or activities, during construction, operation and decommissioning. However, this observation does not apply to all sectors. For example, support for the defence sector (and associated restrictions on certain activities) and safeguarding water treatment capacity can, indirectly, provide positive ecosystem resilience benefits. Whilst sectors such as low carbon, fisheries, aquaculture and tourism and recreation can have adverse environmental impacts, they can also generate long term benefits associated with, for example, improvements to water quality (aquaculture), maintenance of fish stocks (fisheries), climate change mitigation (low carbon) and environmental conservation (tourism and recreation). Where this is the case, both compatibilities and potential incompatibilities have been identified. Further, activities in the marine environment are heavily regulated and the environmental impacts of proposals would be considered during the award of licences (where relevant) and be assessed at the project stage in accordance with the relevant policies of the WNMP.

Summary

The vision and plan objectives set out in the Draft WNMP are considered to be broadly supportive of the SA criteria. The sector objectives have been identified as being potentially less compatible with SA criteria 1 to 7. However, activities in the marine environment are heavily regulated and the environmental impacts of proposals would be considered during the award of licences (where relevant) and be assessed at the project stage. Further, where the objectives have been identified as being potentially less compatible with the SA criteria, tensions can be resolved if activity takes place in accordance with all of the plan/sector objectives and which together seek to deliver the vision of the Draft WNMP for clean, healthy, safe, productive and biologically diverse seas. The appraisal of the proposed plan policies (see Sections 4.4 and 4.5) also highlights that many of the potential adverse effects identified are addressed through mitigation and the plan itself introduces safeguarding measures to address coexistence, promote sustainable development and allow balanced, transparent decision making. As such, any potential incompatibility is not necessarily an insurmountable issue nor does it necessarily mean that there would be adverse effects.

4.4 Appraisal of General Cross-cutting Policies

The Draft WNMP contains a total of 25 cross-cutting policies that apply to all sectors and activities and support the delivery of the vision and plan objectives. Each policy has been individually appraised against the SA criteria with commentary provided describing the potential effects. Where appropriate, mitigation measures have been identified in order to address adverse effects and enhance positive effects. The findings of the appraisal are presented at **Appendix D**.

A summary of the findings of the appraisal is presented in **Table 4.3**. Within this table, the policies have been grouped by theme (reflecting the structure of the Draft WNMP) with a score indicating both the performance of each individual policy against the SA criteria and the cumulative effects of the policies under each theme. Commentary is provided in the sub-sections that follow.

Table 4.3 Summary of the General Cross-cutting Policy Appraisal

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Overarching Planning Policy														
GEN_01	+	+	+	+	+	+	+	+	+	+	+	+	+	+
GEN_02	+	+	+	+	+	+	+	+	+	+	+	+	+	++
Cumulative Effect	+	+	+	+	+	+	+	+	+	+	+	+	+	++
Achieving a Sustainable Marine Economy														
ECON_01	?	?	?	?	?	+/?	+/?	+/?	++/?	?	++	++	+/?	0
ECON_02	+/?	+/?	+/?	0	+/?	+/?	+/?	0	+	+	++	+	+/?	++
Cumulative Effect	+/?	+/?	+/?	?	+/?	+/?	+/?	+/?	++/?	+/?	++	++	+/?	++
Ensuring a Strong, Healthy and Just Society														
SOC_01	+/?	?	?	?	+/?	?	+/?	?	++	?	+	+	+	+
SOC_02	+/?	+/?	+/?	+/?	+/?	+/?	+	+	+	0	+	++	+	+
SOC_03	++	++	+	++	+	0	+	0	+	+	+	++	++	0
SOC_04	0	0	0	0	0	0	++	++	+	0	0	+	0	0

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_05	0	0	0	0	++	0	++	+	++	0	+	+	0	0
SOC_06	+	0	+	0	++	0	+	+	+	0	+	+	0	0
SOC_07	0	0	+	0	++	0	++	+	++	0	+	+	+	0
SOC_08	+	0	++	0	0	++	0	0	+/?	0	+/?	+/?	+/?	0
SOC_09	+/-	+	++	0	+/-	++	+/-	0	+	0	++	++	++	0
SOC_10	+	0	0	+	0	++	0	0	0	++	+	+/?	+	+
SOC_11	+/-	+	+	0	+/-	++	+/-	0	+	-/?	+	+	+	+
SOC_12	+/-	+	+	+	+/-	++	+/-	0	+	++/-	+/?	+	+	0
Cumulative Effect	+/-	+	++	+	++/-	++	++/-	+	++	+/-	+	++	+	+
Living Within Environmental Limits														
ENV_01	++	++	++	+	+	+	0	0	+	0	+/?	+	+	0
ENV_02	++	++	++	0	0	+	0	0	+	0	+/?	+	+	+
ENV_03	++	+	+	0	0	0	0	0	+	0	++	0	+/?	0
ENV_04	++	++	0	0	+	0	+	0	+	++	+	+	+	0
ENV_05	++	0	0	0	+	0	0	0	0	0	0	+	+	0
ENV_06	++	++	0	++	0	+	0	0	+	+	+/?	+	++	0
Cumulative Effects	++	++	++	+	+	+	+	0	+	+	+/?	+	+	+
Promoting Good Governance														
GOV_01	+	+	+	+	+	+	+	+	+	+	+	+	+	++
GOV_02	+	+	+	+	+	+	+	+	+	+	+	+	+	++
Cumulative Effects	+	+	+	+	+	+	+	+	+	+	+	+	+	++

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Using Sound Science Responsibly														
SCI_01	+	+	+	+	+	+	+	+	+	+	+	+	+	++
Cumulative Effects	+	+	+	+	+	+	+	+	+	+	+	+	+	++

Key

Symbol	Effect
++	The draft policy is likely to have a significant positive effect on the SA criteria.
+	The draft policy is likely to have a positive effect on the SA criteria.
0	The draft policy is likely to have a neutral effect on the SA criteria.
-	The draft policy is likely to have a negative effect on the SA criteria.
--	The draft policy is likely to have a significant negative effect on the SA criteria.
?	The effects of the draft policy on the SA criteria are uncertain at this stage.

*Note: where more than one symbol is presented in a box it indicates that the appraisal has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Overarching Planning Policy

Policies GEN_01 and GEN_02 form the overarching Draft WNMP planning policies. Together, they support the sustainable development of the marine area in line with the seven well-being goals established in the Well-being of Future Generations (Wales) Act 2015 and through proportionate and risk-based decision making. In the Well-being of Future Generations (Wales) Act, sustainable development is defined as “*the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals*” (the well-being goals are reproduced in **Table 1.1**). In this context, and reflecting their focus on sustainable development, Policies GEN_01 and GEN_02 have been assessed as having cumulative positive effects across all of the SA criteria. The adoption of a proportionate, risk-based approach to marine planning, meanwhile, will enable appropriate decisions to be made whilst applying the suitable level of precaution.

This has been assessed as having a significant positive effect in respect of governance (SA Criteria 14).

No further significant positive effects have been identified during the appraisal of Policies GEN_01 and GEN_02.

No significant or minor negative effects have been identified during the appraisal of Policies GEN_01 and GEN_02.

Achieving a Sustainable Marine Economy

Policies ECON_01 and ECON_02 of the Draft WNMP concern the marine economy. Policy ECON_01 supports proposals for economically sustainable activities, particularly where they deliver multiple economic benefits. Policy ECON_02, meanwhile, encourages proposals that consider opportunities for coexistence with other compatible sectors in order to optimise the value and use of the marine area and marine natural resources.

The Welsh coastline and seas support a wide range of economic activities across a number of sectors. Evidence³⁹ suggests that the Gross Value Added (GVA) generated by the marine sector in Wales in 2014 was around £317 million, with the contribution to total GVA ranging between 0.4% and 2.2% between 2005-13. By promoting sustainable economic activity in the marine area and encouraging the coexistence of uses, Policies ECON_01 and ECON_02 are expected to help maintain and enhance Wales' marine economy (including the tourism sector) and, by making the most economic use of marine space and minimising conflicts or incompatibilities between activities through coexistence, maximise its contribution to national GVA. Policies ECON_01 and ECON_02 have therefore been assessed as having a cumulative significant positive effect on tourism and recreation (SA Criteria 9) and the economy (SA Criteria 11).

According to the Draft WNMP, there were around 5,800 employee jobs in the marine sector in Wales in 2013, representing around 0.5% of the total for Wales. However, the WMER highlights that, whilst the overall employment rate in coastal areas is higher than across the whole of Wales (61.8% for coastal communities compared to 60.8% for non-coastal communities), many jobs are seasonal and part time and in some coastal communities over a third of all those employed are part time workers. Further, the 2014 Welsh Index of Multiple Deprivation highlights that there are pockets of deprivation in some coastal areas and in particular in some northern coastal towns. Job creation and addressing socio-economic issues such as a dependence on seasonal work is therefore critical. In this context, Policy ECON_01 explicitly encourages proposals for economic development that generate local employment opportunities and wealth, tackle deprivation and increase skills within coastal communities. Allied with the economic benefits associated with the promotion of coexistence under Policy ECON_02, this has been assessed as having a cumulative significant positive effect on well-being (SA Criteria 12).

The implementation of Policy ECON_02 and the implicit requirement that proposals consider conflicts/synergies with other uses will help to facilitate collaboration, engagement and integrated decision making (potentially across marine and terrestrial boundaries). The policy will also provide greater clarity to decision makers on proposals that may cause conflict with existing uses and on opportunities to resolve such issues.

³⁹ *Annual Business Inquiry, Regional Accounts (Office for National Statistics)*. This included Minerals (25), Fish (29), Marine Transport (246), Oil and Gas (372), Inland (1).

Overall, cumulative significant positive effects have therefore been identified in respect of governance (SA Criteria 14).

No further significant positive effects have been identified during the appraisal of Policies ECON_01 and ECON_02.

Taken together, Policies ECON_01 and ECON_02 have been assessed as having positive effects across the majority of the remaining SA criteria. This reflects in particular the emphasis of Policy ECON_01 on economically sustainable activities and the sustainable management of natural resources and the promotion of coexistence under Policy ECON_02 which together may help to manage pressures associated with blue growth on the natural environment (including biodiversity, water, the physical environment and landscape and seascape), heritage assets and communities and support ecosystem resilience. However, it is recognised that enhancing economic outputs from the marine environment could result in adverse social and environmental effects. In consequence, where positive effects have been identified, a degree of uncertainty remains (the potential adverse effects associated with the development of the marine sectors is discussed further in **Section 4.5** and is therefore not repeated here).

No significant or minor negative effects have been identified during the appraisal of Policies ECON_01 and ECON_02.

Ensuring a Strong, Healthy and Just Society

Policies SOC_01 to SOC_12 under the theme of 'ensuring a strong, healthy and just society' relate to a range of social and environmental issues including: coastal communities; Welsh language and culture; heritage; landscape and seascape (including nationally designated landscape assets); coastal change and flooding; and climate change mitigation and adaptation. Reflecting the wide range of issues covered by these policies, cumulative positive effects have been identified across all of the SA criteria with those effects having been assessed as significant in respect of the physical environment (SA Criteria 3), landscape and seascape (SA Criteria 5), climate change (SA Criteria 6), heritage (SA Criteria 7), tourism and recreation (SA Criteria 9) and well-being (SA Criteria 12).

No significant negative effects have been identified during the appraisal of Policies SOC_01 to SOC_12.

Alongside the positive effects described above, negative effects have also been identified in respect of biodiversity (SA Criteria 1), landscape and seascape (SA Criteria 5), heritage (SA Criteria 7) and resources (SA Criteria 10). The negative effects identified principally reflect the potential for measures to minimise coastal change and flooding that require the creation of hard structures to adversely affect ecology, landscape and seascape and the setting of historic assets (although improved access to the marine environment promoted under Policy SOC_01 may also have adverse effects on biodiversity due to visitor pressure/disturbance). However, such effects will be assessed on a case-by-case basis as part of the design phase and consenting process for these activities. Also, the environmental effects associated with the implementation of shoreline management plans are considered during their preparation, including through SEA and HRA where appropriate.

Living Within Environmental Limits

Policies ENV_01 to ENV_06 under the theme 'living within environmental limits' promote the protection and enhancement of the marine environment and resilient marine ecosystems. They cover: the restoration and enhancement of marine ecosystems; impacts to MPAs; invasive non-native species; marine litter; noise; and air and water quality.

Wales is biologically diverse which is in part reflected by the 132 MPAs present in Welsh inshore waters (covering 69% of inshore waters). However, the WMER states that historically, the marine environment around Wales has suffered significant habitat loss, with key examples being coastal habitat (particularly saltmarsh) and subtidal native oyster beds. SoNaRR, meanwhile, highlights that marine habitats are in variable condition whilst coastal and marine water quality is fair with only 29% of Wales' estuarine and coastal waters being of good or better ecological status and only 3 of 22 Shellfish Waters meeting guideline quality standards in 2014. By supporting the restoration and enhancement of marine ecosystems, the provisions of Policies ENV_01 to ENV_06 are expected to help minimise adverse effects and generate positive effects on biodiversity, geodiversity and water quality and cumulative significant positive effects have therefore been identified in respect of biodiversity (SA Criteria 1), water (SA Criteria 2) and the physical environment (SA Criteria 3).

No further cumulative significant positive effects have been identified during the appraisal of Policies ENV_01 to ENV_06.

The policies that comprise this section of the Draft WNMP have been assessed as having cumulative positive effects on the majority of the remaining SA criteria. This principally reflects the wider socio-economic and environmental benefits that could be derived from improved ecosystem resilience such as increased flood protection, the enhancement of coastal character, improved recreational opportunities and human health and healthier seas that continue to support economic opportunities such as fishing, aquaculture and tourism.

No significant negative effects have been identified during the appraisal of Policies ENV_01 to ENV_06.

It is recognised that, in the short term in particular, proposals to protect marine ecosystems and the MPA network could limit activities and development in the marine environment. In consequence, a cumulative negative effect has also been identified in respect of the economy (SA Criteria 11). However, this is uncertain and in the longer term, if protection aids the recovery of marine fauna/flora, activities could increase and benefit from resilient marine ecosystems.

Promoting Good Governance

Policies GOV_01 and GOV_02 promote good governance in marine planning. They require proposals to consider cumulative effects (Policy GOV_01) and stipulate that relevant public authorities maximise the contribution to the achievement of Wales' seven well-being goals and make their decisions in accordance with the sustainable development principle of the Well-being of Future Generations (Wales) Act 2015.

Taken together, it is expected that Policies GOV_01 and GOV_02 will promote integrated decision making and the consideration of effects beyond project-specific boundaries and

will also ensure that Wales' well-being goals and the sustainable development principle are central in decisions relating to the development and use of Welsh seas. This has been assessed as making a significant contribution to governance (SA Criteria 14).

No further significant positive effects have been identified during the appraisal of Policies GOV_01 and GOV_02.

Maximising the achievement of the well-being goals for Wales, making decisions in accordance with the sustainable development principle and the consideration of cumulative effects are expected to have wide ranging positive effects across the other SA criteria by helping to ensure that proposals and decisions consider the full range of socio-economic and environmental issues and assess their impacts on/in-combination with other activity in the marine area.

No significant or minor negative effects have been identified during the appraisal of Policies GOV_01 and GOV_02.

Using Sound Science Responsibly

Policy SCI_01 seeks to ensure that decisions are made using sound evidence and a risk-based approach. Where appropriate, they should apply the precautionary principle and consider opportunities to apply adaptive management. The application of evidence-based analysis in decision making will make a significant contribution to good governance. The use of sound evidence is also expected to support continued research and policy development in marine planning. Alongside the stepped approach to decision making of adaptive management, this will contribute to a significant positive effect on SA Criteria 14.

No further significant positive effects have been identified during the appraisal of Policy SCI_01.

Under the precautionary principle, if a particular action may cause harm to the public, or to the environment, and if there is no scientific consensus on the issue, the action should not be pursued. Policy SCI_01 applies this principle with a risk-based approach thereby enabling appropriate decisions to be made whilst applying the appropriate level of precaution. This, alongside the sound use of evidence in decision making, is expected to generate positive effects across all environmental, social and economic SA criteria.

No significant or minor negative effects have been identified during the appraisal of Policy SCI_01.

4.5 Appraisal of Sector Policies

The Draft WNMP contains a total of 30 policies that relate to specific sectors/activities and support the delivery of the 12 sector objectives. They include supporting policies (to encourage development of a given sector) and safeguarding policies (to protect a given sector's current or potential future activities from negative impacts caused by other activities). In order to allocate space and focus future use, the Draft WNMP also identifies SRAs for certain sectors. These are areas of good opportunity for future use by a particular sector over the plan period and beyond.

Each sector policy (including the associated SRA(s) where applicable) has been individually appraised against the SA criteria and commentary provided describing the potential effects. Where appropriate, mitigation measures have been identified in order to

address adverse effects and enhance positive effects. The findings of the appraisal are presented at **Appendix E**.

A summary of the findings of the appraisal is presented in **Table 4.4**. Within this table, the policies have been grouped by sector (reflecting the structure of the Draft WNMP) with a score indicating both the performance of each individual policy against the SA criteria and the cumulative effects of the policies for each sector. Commentary is provided in the sub-sections that follow.

Table 4.4 Summary of the Sector Policy Appraisal

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Aggregates														
AGG_01	-/?	-/?	-/?	+/-	0	+/-	-/?	?	0	++/ --	++/ ?	+/?	0/-	+
AGG_02	0	0	0	+	0	+	0	0	0	++	++/ ?	+/?	0	+
AGG_03	0	0	0	+/?	0	+/?	0	0	0	++/ ?	++/ ?	+/?	0	+
AGG_04	0	0	0	+/?	0	+/?	0	0	0	++/ ?	++/ ?	+/?	0	+
Cumulative Effects	-/?	-/?	-/?	+/-	0	+/-	-/?	?	0	++/ --	++	+/?	0	+
Aquaculture														
AQU_01	+/- /?	+/?	-/?	+/- /?	-/?	+/- ?	-/?	0	+/- /?	0	++/ ?	+/?	+/?	+
AQU_02	0	0	0	0	0	0	0	0	0	0	++/ ?	+/?	0	+
AQU_03	0	0	0	0	0	0	0	0	0	0	++/ ?	+/?	0	+
Cumulative Effects	+/- /?	+/?	-/?	+/- ?	-/?	+/- /?	-/?	0	+/- /?	0	++/ ?	+/?	+/?	+
Defence														
DEF_01	+	+	0	0	0	0	0	0	0	0	+/?	+/?	+	+

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Cumulative Effects	+	+	0	0	0	0	0	0	0	0	+/?	+/?	+	+
Dredging and Disposal														
D&D_01	-/?	-/?	-/?	-	0	+/- /?	-/?	0	+	-	++	+	-	0
D&D_02	0	0	0	0	0	0	0	0	+	0	++	0	0	+
D&D_03	0	0	0	0	0	0	0	0	0	0	+	0	0	+
Cumulative Effects	-/?	-/?	-/?	-	0	+/- /?	-/?	0	+	-	++	+	-	+
Energy – Low Carbon														
ELC_01	+/- -/?	-- /?	-- /?	+/- /?	-/?	++/ ?	-/?	?	+/- /?	++	++/ ?	+/?	+/- /?	++
ELC_02	0	0	0	0	0	++	0	0	0	++	++/ ?	+/?	0	+
ELC_03	0	0	0	0	0	++/ ?	0	0	0	++/ ?	++/ ?	+/?	0	+
ELC_04	0	0	0	0	0	++/ ?	0	0	0	++/ ?	++/ ?	+/?	0	+
Cumulative Effects	+/- -/?	-- /?	-- /?	+/- /?	-/?	++/ ?	-/?	?	+/- /?	++	++/ ?	+/?	+/- /?	++
Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage)														
O&G_01	-/?	-/?	-/?	-/?	-/?	-/?	-/?	?	0	++/ - /?	++/ ?	+/?	-/?	0
O&G_02	-/?	-/?	-/?	-/?	-/?	++/ ?	-/?	?	0	++/ ?	+/?	+/?	-/?	+
O&G_03	0	0	0	0	0	0	0	0	0	++	++/ ?	+/?	0	+
O&G_04	0	0	0	0	0	0	0	0	0	++	++/ ?	+/?	0	+

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
Cumulative Effects	-/?	-/?	-/?	-/?	-/?	+/-/?	-/?	?	0	++/-/?	++/?	+/?	-/?	+
Fisheries														
FIS_01	+/-	?	?	?	+/?	?	+/?	+	+	?	+	+	+/?	+
FIS_02	0	0	0	0	+	0	+	+	0	0	+	+/?	+	0
FIS_03	+	0	0	0	0	0	0	0	0	0	+/?	+/?	0	0
Cumulative Effects	+/-	?	?	?	+/?	?	+/?	+	+	?	+	+	+/?	+
Ports and Shipping														
P&S_01	-/?	-/?	-/?	+/-/?	-/?	+/-/?	-/?	?	+/?	-/?	++/?	++/?	+/-/?	+
P&S_02	-/?	-/?	-/?	+/-/?	-/?	+/-/?	-/?	?	+/?	-/?	++/?	++/?	+/-/?	+
P&S_03	0	0	0	0	0	0	0	0	+/?	0	++/?	+/?	0	+
Cumulative Effects	-/?	-/?	-/?	+/-/?	-/?	+/-/?	-/?	?	+/?	-/?	++/?	++/?	+/-/?	+
Subsea Cabling														
CAB_01	-/?	0	-/?	0	0	++/-	-/?	0	0	++/-	++	++	0	0
CAB_02	0	0	0	0	0	++	0	0	0	0	++/?	+/?	0	+
Cumulative Effects	-/?	0	-/?	0	0	++/-	-/?	0	0	++/-	++	++	0	+
Surface Water and Wastewater Treatment and Disposal														
SWW_01	+	++	0	0	0	+	0	0	+	++	+	+	+	0
Cumulative Effects	+	++	0	0	0	+	0	0	+	++	+	+	+	0
Tourism and Recreation														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
T&R_01	+/- /?	+/- /?	+/- /?	-/?	+/- /?	-/?	+/- /?	+/?	++	-/?	++/ ?	++/ ?	++/ ?	+
T&R_02	+/?	+/?	+/?	0	+/?	0	+/?	+	++	0	++/ ?	++/ ?	++	+
Cumulative Effects	+/- /?	+/- /?	+/- /?	-/?	+/- /?	-/?	+/- /?	+/?	++	-/?	++/ ?	++/ ?	++/ ?	+

Key

Symbol	Effect
++	The draft policy is likely to have a significant positive effect on the SA criteria.
+	The draft policy is likely to have a positive effect on the SA criteria.
0	The draft policy is likely to have a neutral effect on the SA criteria.
-	The draft policy is likely to have a negative effect on the SA criteria.
--	The draft policy is likely to have a significant negative effect on the SA criteria.
?	The effects of the draft policy on the SA criteria are uncertain at this stage.

*Note: where more than one symbol is presented in a box it indicates that the appraisal has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Aggregates

Wales’ marine aggregates resource forms an important component of the national and local supply of aggregates. The WMER highlights that marine sand and gravel in particular provide an essential contribution to meeting the national demand for construction material. In this context, Policies AGG_01 to AGG_04 are expected to help maintain an adequate and continuing source of aggregate supply by safeguarding existing/proposed aggregate extraction activities and areas and by encouraging proposals for aggregate extraction in the SRA for the sector (which is focused around current licensed reserves in the Bristol Channel, Severn Estuary and off North Wales). This is consistent with the requirements of the UK MPS which sets out that marine plan authorities “*should as a*

minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates ... contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses". Cumulative significant positive effects have therefore been identified in respect of resources (SA Criteria 10). However, the winning of marine aggregates will result in the unavoidable depletion of a non-renewable resource and in consequence, a cumulative significant negative effect has also been identified in respect of SA Criteria 10.

The winning of marine aggregates such as sand and gravel supports development including housing and infrastructure as well as providing fill for major coastal infrastructure projects such as ports. The sector therefore makes a strategically important contribution to the Welsh economy and in this regard, the Draft WNMP estimates that the marine aggregates sector in Wales generated £16M GVA in 2014. Safeguarding existing/proposed aggregate extraction and areas and supporting growth of the industry is therefore expected to generate a cumulative significant positive effect on the economy (SA Criteria 11).

No further significant positive effects have been identified during the appraisal of the aggregates sector policies.

Cumulative positive effects have been identified in respect of well-being (SA Criteria 12), reflecting the potential for the implementation of Policies AGG_01 to AGG_04 to protect existing and generate new employment opportunities in the aggregates sector, and governance (SA Criteria 14), given the requirement of the policies for non-aggregate related proposals to consider their compatibility with the sector which is expected to encourage engagement on marine planning issues.

No significant negative effects have been identified during the appraisal of the aggregates sector policies, beyond those associated with resources (SA Criteria 10) noted above.

Aggregates extraction can cause the direct loss of and/or damage to habitats and species and affect water quality due to sediment removal, localised disturbance to marine ecology due to noise and vibration and sediment plumes. Indirectly, aggregates extraction may also cause physical changes to bathymetry and hydrodynamic processes. The aggregates sector policies have therefore been assessed as having a cumulative negative effect on biodiversity (SA Criteria 1) as well as water quality (SA Criteria 2) and the physical environment (SA Criteria 3). Effects on these SA criteria could be significant where impacts affect sensitive sites, areas or receptors and in this regard it is noted that the SRA for the sector is within/in close proximity to a number of European designated nature conservation sites. Mobile species such as marine mammals forming features of more distant European sites can also be affected (the HRA of the Draft WNMP identifies a total of 49 European sites within the marine and terrestrial Zone of Influence (Zoi) of the SRA). Effects in this regard may include:

- ▶ changes in habitat or prey distributions due to physical and physio-chemical changes;
- ▶ underwater noise and vibration due to turbine operation, particularly for fish and marine mammals;
- ▶ collisions with vessels and structures, particularly for marine mammals;
- ▶ introduction of lighting (although generally not likely to be substantial); and

- ▶ changes in foraging success / predation risk as a result of effects on prey distributions.

However, potential adverse environmental effects would be assessed at the project stage as part of any marine licence, EIA, Coastal Impact Study (CIS) and HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance the marine environment. In this regard, the findings of the HRA indicate that the policies will not result in adverse effects on any European sites based on the mitigation measures that are in place. Further, marine aggregate production is likely to result in fewer adverse impacts relative to land-won supplies.

Aggregates extraction can result in disturbance to, or loss of, underwater heritage assets. The aggregates sector policies have therefore been assessed as having a cumulative negative effect on heritage (SA Criteria 7). The magnitude of effect on this SA criteria will be dependent on the location and scale of development that may come forward as a result of the implementation of the policies as well as the significance of any heritage asset(s) affected. In this regard, it is noted that the SRA for this sector contains a number of wrecks (and is in close proximity to Resurgam Protected Wreck). However, impacts on heritage would be assessed and considered at the project stage and marine licence determination with proposals determined in accordance with Policy SOC_05 of the Draft WNMP which seeks to conserve and enhance heritage assets.

Aggregates extraction will result in energy use and generate emissions to air (including greenhouse gases) which could contribute to climate change and affect human health. However, the distribution of aggregates to market can have a significant impact on the overall carbon footprint and proximity to market is an important factor; in this regard the policies of the Draft WNMP seek to maintain aggregate supplies close to the point of use (this is reflected in the location of the SRA for the sector) and could therefore help to minimise the length of movements associated with the transportation of aggregates and related emissions. On balance, the aggregates sector policies have been assessed as having cumulative mixed positive and negative effects on air quality (SA Criteria 4) and climate change (SA Criteria 6).

Aquaculture

The Welsh Government is committed to helping support the sustainable growth of aquaculture and has ambitious plans to double Wales' annual finfish aquaculture output from 1,000 tonnes to 2,000 tonnes by 2020 and shellfish aquaculture production from 8,000 tonnes to 16,000 tonnes. The WMER identifies that total estimated GVA associated with aquaculture activities in the plan area was £3.7M in 2013-14 and this is forecast to increase to £5.24M by 2032-33. By helping to safeguard existing aquaculture activities and support the growth of the sector, Policies AQU_01 to AQU_03 are therefore considered likely to have cumulative significant positive effects on the economy (SA Criteria 11).

No further significant positive effects have been identified during the appraisal of the aquaculture sector policies.

Shellfish aquaculture requires good water quality and so there is the potential for the sector policies to support water quality improvements in Welsh waters. This is particularly pertinent given that only 3 of 22 Shellfish Waters in Wales met guideline quality standards in 2014 (as reported in SoNaRR). In consequence, the aquaculture sector policies have been assessed as having a cumulative positive effect on water (SA Criteria 2). Cumulative

positive effects have also been identified in respect of well-being (SA Criteria 12), due to potential for the sector policies to help maintain existing, and create new, employment opportunities in the aquaculture sector, and health (SA Criteria 13), given the links between aquaculture, food production and the supply of medicines.

There is the potential that growth of the aquaculture sector could support research and development in fields such as pharmaceuticals as well as innovation in aquaculture operations and engagement on associated marine planning issues. Overall, the aquaculture sector policies have therefore been assessed as having a cumulative positive effect on governance (SA Criteria 14).

No significant negative effects have been identified during the appraisal of the aquaculture sector policies.

The aquaculture sector policies have been assessed as having cumulative negative effects on the physical environment (SA Criteria 3), due to the potential for accumulation of waste on the seabed, and landscape and seascape (SA Criteria 5), given the possibility for aquaculture which takes place at the surface to be visible from land and affect seascapes. Onshore development associated with aquaculture could also have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on cultural heritage assets. The aquaculture sector policies have therefore also been assessed as having a cumulative negative effect on heritage (SA Criteria 7). However, it is recognised that aquaculture activity can and does operate in sensitive areas such as AONBs with no adverse effects.

Aquaculture such as that associated with finfish can result in the collection of waste feed and excreted waste on the seabed which can affect seabed biodiversity. The spread of disease from farmed to wild fish, as well as the release of medicines which are toxic to other species such as marine invertebrates, could also have detrimental effects on marine wildlife and birds.⁴⁰ These impacts could be particularly detrimental where they affect designated nature conservation sites and in this regard, it is noted that a number of European sites overlap with, or are within close proximity to, the SRA for this sector. Mobile species such as marine mammals forming features of more distant European sites can also be affected (the HRA of the Draft WNMP identifies a total of 79 European sites within the marine and terrestrial ZOI of the SRA). However, potential adverse effects on ecology would be assessed at the project stage as part of any HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 to ENV_03). In this context, the HRA concludes that the policies would not result in adverse effects on any European sites. Further, as noted above, aquaculture can help to improve water quality with associated benefits on marine ecology and ecosystems whilst mussel farms may also attract fish and enhance wild fish populations.⁴⁰ Overall, the aquaculture sector policies have been assessed as having a cumulative mixed positive and negative effect on biodiversity (SA Criteria 1).

Cumulative mixed positive and negative effects have also been identified in respect of air quality (SA Criteria 4) and climate change (SA Criteria 6). Marine biomass from seaweed harvesting is identified in the WMER as one of the newest prospective aquaculture business sectors for use in energy production. Support for such activity under the aquaculture sector policies may therefore have a positive effect upon climate change

⁴⁰ Scottish Government (2012) *Aquaculture: Environmental Impacts*. Available from <http://www.gov.scot/Topics/marine/Fish-Shellfish/18716/environmentalimpact> [Accessed August 2016].

together with benefits associated with reductions in emissions to air (as the release of polluting combustion products could be reduced). Development of the aquaculture sector would, however, be likely to generate emissions to air including greenhouse gas emissions associated with both the construction of facilities (including the embodied carbon in materials) and vessel and vehicle movements during operation.

As noted above, aquaculture can support long term improvements in water quality and the provision of locally sourced seafood to retailers and restaurants which can help to sustain the tourism industry. Whilst aquaculture activity could also affect tourism and recreation (principally due to space conflicts and potential visual impacts), any adverse impacts are likely to be manageable and, further, proposals would need to be considered at the project stage with reference to Policy ECON_02 which promotes coexistence. On balance, the aquaculture sector policies have been assessed as having a mixed positive and negative effect on SA Criteria 9.

Defence

Relatively little military activity occurs in the plan area, partly due to the lack of naval bases along the coast. However, there are extensive areas protected for defence-related interests and activity including several military practice areas such as the Air Defence Range at Manorbier Head on the Pembrokeshire coast, the Pembrey Sands Air Weapons Range and the Castlemartin firing range in Pembrokeshire. Cardigan Bay is also a military practice area and there are some relatively small munitions disposal sites off the coast of Pembrokeshire. Policy DEF_01 seeks to safeguard these areas.

No significant positive effects have been identified during the appraisal of this policy. Indirectly, the implementation of the policy, and the continued restriction of development/activity in certain areas, could help to conserve ecology and protect water quality, providing positive ecosystem resilience benefits. In this context, Policy DEF_01 has been assessed as having an indirect positive effect on biodiversity (SA Criteria 1) and water (SA Criteria 2). Further positive effects have been identified in respect of the economy (SA Criteria 11), as the policy will help ensure the continuation of defence-related activities, and well-being (SA Criteria 12) and health (SA Criteria 13), as the restriction of certain activities in Ministry of Defence (MoD) areas is expected to help ensure the safety of marine users.

No significant negative or negative effects have been identified during the appraisal of Policy DEF_01.

Dredging and Disposal

Dredging and disposal (D&D) is essential for maintaining and developing unimpeded and safe navigation of ports, harbours and waterways for shipping and recreational boating which in-turn supports the local and national economy through the transportation of people, materials and goods, and supporting tourism and recreation. By encouraging D&D proposals and safeguarding licensed D&D areas/areas under investigation for capital dredging, the D&D sector policies will together provide confidence to the port and shipping sector that appropriate navigable channels will be established and maintained, helping to ensure the resilience of the Welsh economy. The D&D sector policies have therefore been assessed as having a cumulative significant positive effect on the economy (SA Criteria 11) and a positive effect on tourism and recreation (SA Criteria 9) and well-being (SA Criteria 12).

No further significant positive effects have been identified during the appraisal of the D&D sector policies.

In addition to the positive effects identified in respect of tourism and recreation and well-being above, the D&D sector policies have been assessed as having a cumulative positive effect on governance (SA Criteria 14) as the requirement to consider the compatibility of proposals with D&D activities could help to promote engagement on marine planning issues.

No significant negative effects have been identified during the appraisal of the D&D sector policies.

D&D activity can cause the direct loss of and/or damage to the seabed and the habitats that it supports as well as disturbance to marine ecology due to noise and vibration. It may also give rise to suspended sediments, resulting in decreased water quality with associated impacts on marine ecology and ecosystems. Indirectly, D&D activities can cause physical changes to bathymetry and hydrodynamic processes which could further affect water quality and coastal habitats and species. This is particularly pertinent given the location of many of Wales' harbours being within or in close proximity to designated nature conservation sites. In consequence, the D&D sector policies have been assessed as having a cumulative negative effect on biodiversity (SA Criteria 1) as well as water quality (SA Criteria 2) and the physical environment (SA Criteria 3). However, as most dredging is associated with ongoing maintenance and takes place within designated Statutory Harbour Authority areas that are likely to have already been subject to dredging, the likelihood of adverse impacts occurring is expected to be limited.

D&D activity will result in energy use and emissions to air including greenhouse gases. Cumulative negative effects have therefore also been identified in respect of air quality (SA Criteria 4) and climate change (SA Criteria 6) (although the volume of emissions associated with D&D activities is not expected to be significant). With specific regard to climate change, there may also be the potential to utilise dredged material in flood defences which could generate a positive effect on this SA criteria (although this is uncertain).

Further cumulative negative effects have been identified in respect of heritage (SA Criteria 7), due to the potential for D&D activities to result in disturbance to, or loss of, underwater heritage assets, and resources (SA Criteria 10), as dredging will produce waste requiring disposal. Emissions to air and any change in water quality could also have adverse impacts on human health (SA Criteria 13). However, negative effects on these SA criteria are expected to be minor given the anticipated scale of activity that may take place over the plan period (the WMER highlights that the amount of dredged material disposed at sea has remained relatively constant over the last 20 years) and existing regulation.

Energy – Low Carbon

The Welsh Government's Marine Renewable Energy Strategic Framework⁴¹ has identified a scenario to secure 6.4GW through marine tidal stream and wave energy development. Tidal range also represents a strategically important source of renewable energy for Wales and the UK as a whole, particularly associated with the Severn Estuary which has the second highest tidal range in the world. On this matter, the findings of the recent Hendry

⁴¹ Welsh Government (2011) *Marine Renewable Energy Strategic Framework*. Available from <http://mresf.rpsgroup.com/> [Accessed January 2017].

(2016) review into tidal lagoons (the Hendry Review)⁴² concludes that “*power from tidal lagoons could make a strong contribution to UK energy security, as an indigenous and completely predictable form of supply*”.

Together, Policies ELC_01 to ELC_04 support the development of the low carbon sector (particularly in test and demonstration zones and SRAs identified for tidal stream, wave and tidal lagoon technologies) and seek to safeguard proposals and areas for future potential renewable energy generation. Policy ELC_01 also stipulates that relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of renewable energy SRAs and wider natural resources that provide renewable energy potential and with specific regard to offshore wind, it encourages proposals that support strategic planning for the future deployment of this technology. These policy provisions will help realise the Welsh Government’s ambitions for decarbonising the economy in part through marine renewable energy generation and in consequence, the low carbon sector policies have been assessed as having a cumulative significant positive effect on climate change (SA Criteria 6) and resources (SA Criteria 10).

The delivery of renewable energy schemes is likely to generate considerable investment in local economies and the supply chain (the WMER highlights that the renewables sector in the plan area generated approximately £127 million GVA in 2013). Investment in the renewables sector may also create local employment opportunities which could benefit coastal communities including those in the more deprived coastal areas around North Wales, Swansea and South East Wales which are in the vicinity of SRAs for this sector. With specific regard to tidal lagoons, the Hendry Review highlights that schemes can provide significant opportunities for investment and employment as well as regeneration benefits associated with the unlocking of land for development (through increased flood protection) and the use of seawalls for recreation and tourism. Overall, the low carbon sector policies have been assessed as having a cumulative significant positive effect on the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12).

Renewable energy generation would contribute towards UK and Welsh Government climate change targets. Further, the policy support for development in test and demonstration zones afforded by the low carbon sector policies, and for further collaboration in respect of wind opportunities, will facilitate continued research and development in the marine renewables field. Allied with the plan’s requirement that developers consider the compatibility of their proposals with renewable/low-carbon energy schemes (which could help to promote engagement on marine planning issues), the low carbon sector policies have been assessed as having a cumulative significant positive effect on governance (SA Criteria 14).

No further significant positive effects have been identified during the appraisal of the low carbon sector policies.

Negative effects on biodiversity could arise during the construction, operation and decommissioning of renewable energy developments due to (inter alia): the introduction of non-native species; physical damage to habitats during construction (e.g. as a result of the anchoring of infrastructure); construction and operational noise and vibration (e.g. underwater noise due to piling or the operational noise associated with wave and tidal energy devices); entrainment of marine species; behavioural disturbance from the presence of infrastructure and barriers to movement; discharges to water; and the use of

⁴² Hendry, C. (2016) *The Role of Tidal Lagoons*. Available from <https://hendryreview.wordpress.com/> [Accessed September 2017].

antifouling materials. Both direct impacts (e.g. loss of habitat or species) and indirect impacts (e.g. disturbance) could also occur on terrestrial ecology associated with the construction of onshore supporting facilities such as substations (a large number of designated sites including Sites of Special Scientific Interest (SSSI) occur along the coastline of Wales and in close proximity to the SRAs identified for this sector).

The appraisal of Policy ELC_01 has identified that the potential range and magnitude of effects on biodiversity associated with the deployment and operation of tidal lagoon schemes are likely to be of greater significance relative to other types of renewable energy development. In addition to the effects already identified above, tidal lagoon schemes can (depending on scale) result in:

- ▶ hydrodynamic changes - large impoundments alter tidal regimes, the tidal currents (around the impoundment, and locally around turbines), and wave exposure. The habitats enclosed by the impoundment will have the greatest exposure to change but large-scale schemes also have the potential to substantially alter coastal processes locally and regionally, particularly far-afield longshore drift;
- ▶ physio-chemical changes - physio-chemical changes would be expected in conjunction with the hydrodynamic changes, as tidal currents and fluxes are altered; the extent would depend on the scale of the scheme, but may result in pressures such as localised changes in salinity or temperature, or accumulation of nutrients where dispersal is limited; and
- ▶ physical loss / changes - the hydrodynamic changes are likely to result in the physical loss of some habitats.

The tidal lagoon SRA includes several marine SACs and SPAs (including Liverpool Bay SPA, Severn Estuary SPA/SAC/Ramsar Site, the Dee Estuary SPA/SAC/Ramsar Site, Great Orme's Head SAC, Kenfig SAC, Menai Strait and Conwy Bay SAC and Dunraven Bay SAC) and it is in relative close proximity to a number of other European sites. Due to the potential for significant effects on these and more distant European sites, an appropriate assessment of the tidal lagoon aspects of Policy ELC_01 has been undertaken as part of the HRA of the Draft WNMP and this is supported by three technical assessments concerning birds⁴³, marine mammals⁴⁴ and fish and marine habitats⁴⁵. The HRA concludes that the nature of tidal lagoons are such that adverse effects on European sites or interest features, particularly habitats, fish and birds, cannot clearly be avoided at the project level for some projects that may come forward, regardless of the policy controls or known project-level measures.

Marine SACs and SPAs around Anglesey, St David's peninsular and the Bristol Channel are likely to be particularly sensitive to effects from development within the tidal stream SRAs. Tidal stream schemes can (depending on scale) affect water quality, hydrodynamics and sediment patterns, with impacts potentially beyond the marine plan area which could be significant. Changes to hydrodynamics can also affect other receptors that rely on the high velocities (foraging, decreased vertical mixing, increased stratification) and could also affect other sectors included in the Marine Plan such as

⁴³ Institute of Estuarine and Coastal Studies University of Hull (2017) Plan Level HRA of the Welsh National Marine Plan Tidal Lagoon Policy: Bird Features. Report to the Welsh Government.

⁴⁴ Royal HaskoningDHV (2017) Draft Welsh National Marine Plan - Plan level Habitats Regulation Assessment for Tidal Lagoon Policy – Marine Mammals.

⁴⁵ ABPMer and THA Aquatic (2017) *Plan Level HRA of Welsh National Marine Plan Tidal Lagoon Policy: Fish and Supporting Environs.*

aggregates. In this regard, the HRA of the Draft WNMP uses a precautionary 50km marine Zol for tidal stream (and wave) proposals based on tidal stream modelling for the Bristol Channel (e.g. Neill, 2013⁴⁶) which suggests that sediment dynamics may be influenced up to 50km from the point of energy extraction. There is also the potential for impacts on mobile species such as marine mammals over a wider area due to, for example:

- ▶ changes in habitat or prey distributions due to physical and physio-chemical changes;
- ▶ underwater noise and vibration due to operation, particularly for fish and marine mammals;
- ▶ electromagnetic changes associated with the generation and transfer of electricity, particularly for fish (some marine mammals may also be sensitive in certain situations, although this is thought to be less notable);
- ▶ collisions with moving structures or entanglement, particularly for marine mammals;
- ▶ the introduction of new structures creating new habitat or reef effects (particularly for fish, which often aggregate around structures, but conceivably for birds and other features).

Overall, the low carbon sector policies have been assessed as having a cumulative significant negative effect on biodiversity (SA Criteria 1). The significant negative effects identified reflect in particular the possible magnitude and range of impacts associated with the tidal lagoon aspect of Policy ELC_01. However, there are a large number of inherent uncertainties associated with the scale and location of tidal lagoon activities, the proposed technologies to be deployed, the baseline ecology of development locations and the efficacy of project-level mitigation. It should also be noted that potential adverse impacts associated with renewable energy developments more broadly on ecology would be assessed at the project stage as part of any marine licence or DCO determination and associated EIA and HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 to ENV_03) such that any significant adverse effects would be minimised and mitigated where possible.

In the longer term, the generation of low carbon energy and associated reductions in greenhouse gas emissions would support climate change mitigation and contribute to related biodiversity benefits (although in the context of UK and global greenhouse gas emissions, any positive effects in this regard are likely to be minor and uncertain). The presence of renewable energy infrastructure can also act to restrict/preclude other activities such as fishing, aggregate extraction or navigation thereby creating exclusion (no take) zones in some areas. This has the potential to benefit marine ecology (particularly fish and benthic communities). Renewable energy development and associated fixed structures can additionally serve to create new habitat, attracting key species and enhancing biodiversity⁴⁷. In consequence, a minor positive effect has also been identified in respect of SA Criteria 1.

⁴⁶ Neil S.P. (2013) *Impact of tidal energy arrays located in regions of tidal asymmetry. Presentation notes from 2nd Oxford Tidal Energy Workshop 18-19 March 2013.*

⁴⁷ Marine Institute Plymouth University and Friends of the Earth (2013) *Marine Renewables, Biodiversity and Fisheries.* Available from https://www.foe.co.uk/sites/default/files/downloads/marine_renewables_biodiver.pdf [Accessed January 2017].

Renewable energy development can adversely affect water quality as a result of, for example, the mobilisation of sediment during construction, the release of chemicals associated with maintenance, accidental release of hydraulic fluids and the release of antifouling coatings. However, it is uncertain whether these various releases would take place as they are dependent on the type of technology used and it is also assumed that construction, operation and decommissioning activities would be undertaken in accordance with relevant regulation and guidance on pollution prevention and control. Tidal stream, wave and tidal lagoon schemes can also cause permanent changes to the physical nature and associated ecology of the estuary/river basin where they are located⁴⁸. In this regard, the HRA of the Draft WNMP highlights that the operation of tidal lagoon schemes can result in changes to temperature, salinity, dissolved oxygen and suspended sediment concentrations. Where these impacts affect designated nature conservation sites, effects could be significant and overall, the low carbon sector policies have therefore been assessed as having a cumulative significant negative effect on water (SA Criteria 2), although some uncertainty remains. It should, however, be noted that the potential adverse effects of renewable energy development on water quality would be assessed at the project stage as part of any EIA and proposals would be determined in accordance with those policies of the Draft WNMP that seek to protect water quality (Policy ENV_06) such that any significant adverse effects would be minimised and mitigated where possible.

The low carbon sector policies have also been assessed as having a cumulative significant negative effect on the physical environment (SA Criteria 3). This primarily reflects the likely changes to hydrodynamics, wave conditions and sediment transport related to some types of renewable energy development and in particular tidal lagoon schemes, although again some uncertainty remains and it is expected that potential adverse effects in this regard would be assessed at the project stage with proposals determined in accordance with those policies of the Draft WNMP that seek to minimise impacts on coastal processes (Policy SOC_09).

No further significant negative effects have been identified during the appraisal of the low carbon sector policies.

Renewable energy development could have adverse impacts on landscape and seascape character and visual amenity due to the introduction of built form into landscapes and seascapes and views (it is noted that the SRAs for this sector are close to the Heritage Coast, Anglesey Area of Outstanding Natural Beauty (AONB), Gower AONB and the Pembrokeshire Coast National Park) and a negative effects against landscape and seascape (SA Criteria 5) has been identified accordingly.

Renewable energy development can also have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on cultural heritage assets and therefore the low carbon sector policies have been assessed as having cumulative negative effects on heritage (SA Criteria 7). However, the potential for adverse impacts on landscape and seascape and the historic environment would be considered during the consenting process and as part of any EIA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also need to comply with other plan policies (which include policies relating to the protection and enhancement of landscape and seascape and heritage assets). Despite this, there remains some residual uncertainty with respect to the

⁴⁸ Marine Institute Plymouth University and Friends of the Earth (2013) *Marine Renewables, Biodiversity and Fisheries*. Available from https://www.foe.co.uk/sites/default/files/downloads/marine_renewables_biodiver.pdf [Accessed January 2017].

probability of adverse effects occurring and their magnitude (i.e. whether effects are significant or minor) which will be in part dependent on the exact type, scale and location of future development in the context of the sensitivity/capacity of the receiving environment.

Cumulative mixed positive and negative effects have been identified in respect of air quality (SA Criteria 4) and health (SA Criteria 13). Whilst there is the potential for adverse air quality impacts (and related human health effects) associated with the construction of renewable energy schemes in the short term, they are likely to be mitigated and air quality benefits may be derived from a long term transition away from the combustion of fossil fuels to low carbon energy sources.

It is possible that adverse landscape, seascape and visual impacts alongside obstruction to recreational activities such as sailing could result in a decline in tourism, particularly in the Pembrokeshire and Anglesey coastal areas near tidal stream SRAs, although there is no evidence that current windfarm developments off the North Wales coast have had an adverse impact upon tourism and recreation. Further, it should be noted that tidal lagoon schemes in particular can provide new opportunities for tourism and recreation such as walking, open water swimming and sailing. Overall, the low carbon sector policies have therefore been assessed as having a cumulative mixed positive and negative effect on tourism and recreation (SA Criteria 9), although some uncertainty remains.

Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage)

Policies O&G_01 to O&G_04 support proposals related to oil and gas exploration and production in existing and future blocks licensed by the UK Government, and safeguard consented and proposed oil and gas infrastructure/potential activity in licensed blocks already awarded under the 28th Oil and Gas Licensing Round. Together, the implementation of these sector policies could support the production of indigenous offshore oil and gas, making an important contribution to meeting Wales', and the UK's, energy demand and contributing to energy security. The extraction of hydrocarbon reserves would result in the direct loss of a primary natural resource that is non-renewable and resources including energy, water and aggregates would be required during the construction, operation and decommissioning of oil and gas facilities. However, this needs to be considered in the context of the Welsh Government's commitment to moving to a low carbon energy system which acknowledges that this will be a gradual transition. During this transition, fossil fuel resources (including oil and gas) and exploring options for the capture and storage of waste carbon dioxide (CO₂) in geological formations will continue to play an important role in the energy mix. When managed prudently within the context of the transition, oil and gas exploration and production and the revenues that they generate can support achievement of sustainable development goals and contribute significantly to the well-being of current and future generations. Key considerations in the continued reliance on fossil fuels include climate change, energy security, cost of energy to businesses and consumers and environmental impact. Gas, as a transition fuel, will also support progress towards the decarbonisation of Welsh energy. Overall, the oil and gas sector policies have been assessed as having a cumulative mixed significant positive and significant negative effect on resources (SA Criteria 10), although some uncertainty remains as the magnitude of effect will depend upon the extent of future oil and gas activity in the plan area which is at present unknown.

Supporting the long term supply of indigenous oil and gas will help to secure energy supplies which are necessary for economic growth and could help reduce energy costs to consumers. Further, the development of the oil and gas sector including carbon capture and storage (CCS) in Wales, would itself generate significant investment in the economy during the construction, operation and decommissioning of facilities (total offshore oil and gas expenditure in the UK Continental Shelf (UKCS) was £21.7 billion in 2015 with approximately £30 billion spent in the supply chain, for example⁴⁹ whilst the Draft WNMP estimates that the sector generated £172M GVA in 2014). In this context, the oil and gas sector policies have been assessed as having a cumulative significant positive effect on the economy (SA Criteria 11).

No further significant positive effects have been identified during the appraisal of the oil and gas sector policies.

Growth of the oil and gas sector in Wales would be expected to contribute towards employment creation which could benefit coastal communities including more deprived areas along the North Wales coast which are in relatively close proximity to provisional blocks awarded under the 28th Licensing Round. As noted above, indigenous oil and gas production could also help to maintain secure, affordable energy prices which could benefit the local population of Wales and particularly those on low incomes. Overall, the oil and gas sector policies have been assessed as having a cumulative positive effect on well-being (SA Criteria 12).

CCS is an emerging technology and by supporting proposals for such schemes, Policy O&G_02 could facilitate research and development in this field. Allied with the requirement to consider the compatibility of proposals with oil and gas infrastructure (which could help to promote engagement on marine planning issues), the oil and gas sector policies have been assessed as having a cumulative positive effect on governance (SA Criteria 14).

No significant negative effects have been identified during the appraisal of the oil and gas sector policies, beyond those associated with resources (SA Criteria 10) noted above.

Oil and gas exploration and production can result in a wide range of adverse environmental impacts. In this regard, the oil and gas sector policies have been assessed as having a cumulative negative effect on biodiversity (SA Criteria 1) due to the potential for activities to result in loss of habitats and disturbance to ecology arising from (inter alia): the introduction of non-native species; the installation of infrastructure on the seabed; noise and vibration associated with seismic and geophysical surveys, drilling and construction; and behavioural disturbance from the presence of infrastructure and barriers to movement. Effects on biodiversity could be significant where there are impacts on designated nature conservation sites and in this regard, it is noted that provisional awards under the 28th Licensing Round are located within/in close proximity to a number of European sites, although the HRA of the Licensing Round concluded that, taking into account the mitigation measures that can be imposed through existing permitting mechanisms on the planning and conduct of activities, there would be no adverse effects on the integrity of European designated sites⁵⁰. Cumulative negative effects are also

⁴⁹ Oil and Gas UK (2016) *Economic Report 2016*. Available from <http://oilandgasuk.co.uk/wp-content/uploads/2016/09/Economic-Report-2016-Oil-Gas-UK.pdf> [Accessed November 2016].

⁵⁰ The HRA (Appropriate Assessment) of the 28th Licensing Round considered the potential for blocks in Welsh waters to result in likely significant effects on European designated nature conservation sites and concluded that, taking into account the mitigation measures that can be imposed through existing permitting mechanisms on the planning and conduct of activities, there would be no adverse effects on the integrity of European designated sites. This conclusion is supported by the HRA of the Draft WNMP.

expected to arise on: water (SA Criteria 2), principally due to the risk of water pollution from discharges; the physical environment (SA Criteria 3), due to impacts associated with infrastructure construction and decommissioning on the seabed; and air quality (SA Criteria 4), due to emissions to air during construction, operation and decommissioning. However, it is important to recognise that the oil and gas sector is heavily regulated and the potential for adverse environmental effects would be considered during the award of licences (any application for new licences must be supported by an Environmental Sensitivity Assessment whilst the blocks applied for are subject to HRA) and also during the consenting process (including as part of any EIA/HRA). Oil and gas proposals also have relatively small development footprints. It can therefore be reasonably assumed that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance the marine environment.

Oil and gas development will introduce new built form into seascapes (a rig/platform) and landfall works could affect coastal landscapes. The magnitude of resulting landscape, seascape and visual effects will be dependent on the scale and location of development, the sensitivity of the receiving landscape and seascape and the proximity of sensitive receptors. In this regard, it is noted that some awarded blocks under the 28th Licensing Round are in close proximity to the Heritage Coast and Pembrokeshire Coast National Park. However, associated impacts are unlikely to be significant given the distance of operations from the shore. Further, the potential for negative landscape, seascape and visual effects would be considered during the licensing and consenting processes (with proposals determined in accordance with those policies of the Draft WNMP that concern landscape and seascape and coastal character) and as part of any EIA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Overall, the oil and gas sector policies have been assessed as having a cumulative negative effect on landscape and seascape (SA Criteria 5).

Physical damage may occur to underwater cultural heritage assets from seabed construction and the anchoring of rigs and vessels. The oil and gas sector policies have therefore been assessed as having a cumulative negative effect on heritage (SA Criteria 7).

Policy O&G_02 of the Draft WNMP specifically concerns CCS. CCS has the potential to contribute to reducing UK greenhouse gas emissions by removing and storing CO₂ created by the combustion of fossil fuels in power stations and in a variety of industrial processes. Oil and gas exploration and production activity will, however, generate greenhouse gas emissions at all stages of the lifecycle with CO₂ accounting for the greatest proportion of emissions to air from offshore oil and gas installations. Indirectly, the combustion of extracted hydrocarbons would also generate greenhouse gas emissions. On balance, a mixed cumulative positive and negative effect has been identified in respect of SA Criteria 6.

Fisheries

Policies FIS_01 to FIS_03 encourage proposals that support and enhance sustainable fishing activities and seek to safeguard existing commercial fishing activities and important feeding, breeding (including spawning and nursery) and migration areas/ or habitats for key commercial species and associated species of ecological importance.

No significant positive effects have been identified during the appraisal of the fisheries sector policies. Cumulative positive effects have, however, been identified across several of the SA criteria including landscape and seascape (SA Criteria 5), heritage (SA Criteria 7) and Welsh language (SA Criteria 8). This reflects the cultural importance of fisheries (including cockle fisheries in particular) to many coastal communities in Wales and which would be protected and enhanced through the implementation of the fisheries sector policies.

Despite the small contribution of Wales' fisheries to the UK sector as a whole, small scale fisheries in Wales comprise a large number of businesses (and contribute most to the value of this sector nationally). The Welsh Government's (2013) Marine and Fisheries Strategic Action Plan aims to drive economic blue growth to ensure that the Welsh fishing sector receives the level of support it needs in order to grow and become more competitive (although over the plan period, the potential for growth in this sector is limited as, due to the long history of fishing, the availability of new unfished areas is low). In this context, the protection of existing, and promotion of new, sustainable fishing activities will help to sustain the fisheries sector in Wales and associated jobs and increase the economic value of the sector. Whilst significant growth of the sector is not anticipated over the plan period, the fisheries sector policies have been assessed as having cumulative positive effects on tourism and recreation (SA Criteria 9), the economy (SA Criteria 11) and well-being (SA Criteria 12).

Further cumulative positive effects have been identified in respect of health (SA Criteria 13), given the linkages between the fisheries sector and food production, and governance (SA Criteria 14), as Policy FIS_01 promotes liaison with the sector and other interested parties to support the refinement of SRAs for the sector.

No significant negative effects have been identified during the appraisal of the fisheries sector policies.

Fisheries can have a range of impacts on marine ecosystems. In particular, the removal of target species at inappropriate levels can harm the ability of fish populations to reproduce and stocks to recover and may in-turn can have wider impacts on the food-chain. These impacts, if not properly managed, can affect the future productivity of the resource for future generations by undermining ecosystem resilience. Fishing activities can also result in the removal and discarding of non-target fish and cause detrimental physical impacts on habitats from fishing gear. Marine mammals may also be caught incidentally. Where these impacts affect designated sites in particular, effects could be significant. However, Policy FIS_01 places specific emphasis on the promotion of sustainable fishing activities which is expected to help ensure that fish stocks and breeding grounds are protected to allow for growth in fish numbers and over-exploitation of stock managed. In this regard, the supporting text to the policy states "*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.*" It is also important to note that fishery management restrictions apply including the use of quota to prevent over exploitation and in this regard, the Draft WNMP notes that the 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. Achieving Maximum Sustainable Yield of some Welsh stocks is also part of achieving the Good Environmental Status of Welsh seas under the Marine Strategy Framework Directive. Many of the potential measures identified in the supporting text to Policy FIS_01, meanwhile, may help to conserve and enhance fish stocks and other marine

ecology. Overall, the fisheries policies have been assessed as having a mixed positive and negative effect on biodiversity (SA Criteria 1).

Ports and Shipping

Ports are a vital economic driver and a key component of Welsh transportation infrastructure. Ports, together with associated shipping activities, enable international trade, generate foreign direct investment and can deliver agglomeration benefits, supporting a wide range of sectors including oil and gas, renewable energy, manufacturing and tourism. The WMER highlights that in 2012, total freight traffic through Welsh ports was 54.6 million tonnes (Mt); of this, 36.5 Mt were goods inwards and 18.1 Mt were goods outwards. Welsh ports accounted for 11% of the total UK port traffic of 500.9 Mt. The Draft WNMP estimates that in 2014 the sector generated £219M GVA and the WMER estimates that this is likely to increase in the future (the importance of ports to the Welsh economy is reflected in the inclusion of Holyhead Port and Milford Haven within Enterprise Zones). In addition to the value generated by the operation of ports, the development of existing/construction of new ports and marinas can generate significant economic benefits. The protection of existing port infrastructure in Wales and shipping activities and support for the development of new infrastructure and activities through the implementation of Policies P&S_01 to P&S_03 will help to ensure that Welsh ports remain competitive, meet growing demand for the import and export of goods and support a wide range of sectors in the Welsh economy. The ports and shipping sector policies have therefore been assessed as having a significant positive effect on the economy (SA Criteria 11), although as the type, scale and location of development that could come forward under this policy is unknown, some uncertainty remains.

The ports and shipping sector policies have also been assessed as having a cumulative significant positive effect on well-being (SA Criteria 12). Ports and shipping provide both direct and indirect employment opportunities and in this regard, the Draft WNMP estimates that Welsh ports support almost 11,000 jobs. Ports, harbours and marinas can also be a catalyst for regeneration and enhanced service provision. By supporting the protection and development of this sector, Policies P&S_01 to P&S_03 are therefore expected to help protect existing jobs and generate further employment opportunities (during construction and operation) whilst potentially delivering wider regeneration benefits.

No further significant positive effects have been identified during the appraisal of the ports and shipping sector policies.

Wales' ports, harbours and shipping activities have an important role in supporting tourism and recreation. In particular, ports that include a passenger or cruise terminal can increase the accessibility of an area to international markets and in this regard, several Welsh ports provide passenger ferry services including Pembroke and Fishguard (which offer services to Rosslare in Ireland) and Holyhead (which offers services to Dublin) and a number also provide cruise ship terminals. Harbours also offer a range of leisure and recreational opportunities such as sailing and fishing and are often a visitor attraction in their own right. By helping to protect existing and support new infrastructure and activities in this sector, Policies P&S_01 to P&S_03 have been assessed as having a cumulative positive effect in respect of tourism and recreation (SA Criteria 9).

Cumulative positive effects have also been identified in respect of governance (SA Criteria 14). This reflects the expectation that Policies P&S_01 to P&S_03 will together help to promote engagement, integrated decision making and research in marine planning

through both the policy direction that 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 SRAs and the requirement to consider the compatibility of proposals with current or proposed ports and shipping activities.

No significant negative effects have been identified during the appraisal of the ports and shipping sector policies.

Ports-related development (including capital dredging) and shipping activities can result in a wide range of adverse environmental impacts. In this regard, Policies P&S_01 to P&S_03 have been assessed as having negative effects on biodiversity (SA Criteria 1), due to potential direct and indirect impacts associated with port construction and shipping activities on marine and terrestrial ecology, water quality (SA Criteria 2), reflecting risks associated with the accidental spillage or leakage of pollutants and the mobilisation of sediment, and the physical environment (SA Criteria 3), as port construction and capital dredging can have direct and indirect impacts on the seabed and coastline. These impacts could potentially be significant where they affect sensitive sites or receptors and in this regard, it is noted that a number of ports that comprise the SRA for this sector are within/in close proximity to European and nationally designated nature conservation sites. The HRA of the Draft WNMP also notes that more distant sites with mobile species such as marine mammals could be affected (a total of 79 European sites are identified within the Zol used for port development). However, the environmental impacts of proposals would be considered during the award of licences/planning consents (including as part of any EIA/HRA, as required) and through the Environmental Permitting regime, whilst discharges will also be subject to pollution prevention control such that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance the marine environment and in this regard, the supporting text sets out that, 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”* and that *“Proposals should seek to minimise adverse environmental impacts and to support ecosystem resilience where appropriate.”* In consequence, significant negative effects on these SA criteria are considered to be unlikely (the HRA concludes that the policies will not result in adverse effects on any European site based on the mitigation measures that are in place).

Further cumulative negative effects have been identified in respect of landscape and seascape (SA Criteria 5), given the potential for port and harbour development to result in changes to landscape and seascape, and heritage (SA Criteria 7), as the construction and operation of ports could have both direct adverse impacts (e.g. loss of, or damage to an asset) and indirect adverse impacts (e.g. impacts on setting) on heritage assets such as listed buildings, scheduled monuments and sections of Heritage Coast. The magnitude of resulting effects will be dependent on the type, scale and location of development, the sensitivity of the receiving landscape and seascape and the proximity of sensitive receptors. In this regard, it is noted that the Port of Milford Haven, the largest in Wales, is located adjacent to the Pembrokeshire Coast National Park whilst Holyhead Port is situated next to an AONB and contribute to the current character of the area. However, any expansion of existing port infrastructure would be within the context of the existing built form of port development and impacts would be fully assessed at the project stage (including as part of any EIA, as required) with decisions made in accordance with those

policies of the Draft WNMP that seek to conserve and enhance landscape and seascape character and heritage assets.

The construction and operation of ports and shipping activities would require land and resources and result in energy consumption which, depending on the nature of proposals, could be significant. Development and shipping activities would also generate waste including construction/demolition wastes, spoil from capital and maintenance dredging, commercial/industrial wastes and operational (shipping) wastes such as sewage and litter. The ports and shipping sector policies have therefore been assessed as having a cumulative negative effect on resources (SA Criteria 10), although the exact magnitude of effect is uncertain.

The ports and shipping sector policies have been assessed as having mixed positive and negative effects on air quality (SA Criteria 4) and climate change (SA Criteria 6). The construction and operation of port infrastructure and shipping would result in emissions to air including greenhouse gas emissions and there would also be greenhouse gas emissions associated with the embodied carbon in construction materials and in the energy used once schemes are operational. However, the development of port infrastructure and facilities could generate positive effects on air quality and climate change where, for example, proposals would involve the replacement of existing facilities with more energy efficient development, would facilitate a modal shift away from the transportation of goods by road to shipping or where proposals would support the construction of offshore renewable energy schemes.

The ports and shipping sector policies have also been assessed as having a mixed positive and negative effect on health (SA Criteria 13). This reflects the important role Wales' harbours have in supporting recreation (which in-turn help to promote healthy lifestyles) but also the potential for the construction and operation of ports, harbours and marinas to have both direct and indirect adverse impacts on human health.

Subsea Cabling

Policies CAB_01 and CAB_02 safeguard existing and planned subsea cables/landfall sites and encourage proposals that facilitate the growth of digital communications networks and/or the optimal distribution of electricity. Optimisation of the electricity distribution network (and the protection of existing/proposed infrastructure) would be expected to help facilitate the delivery of renewable energy schemes in the Welsh marine area and could support the importation of renewable electricity from, for example, offshore renewable energy schemes in the Republic of Ireland. In this context, the subsea cabling sector policies have been assessed as having cumulative indirect, significant positive effects on climate change (SA Criteria 6) and resources (SA Criteria 10) (although it is recognised that developing distribution infrastructure will result in energy and resource use (including the embedded carbon in materials)).

Digital communications are of significant importance to the Welsh economy and communities whilst the installation, maintenance and decommissioning of subsea cables themselves generate positive economic impacts including investment and job opportunities. Subsea cabling for electrical transmission, meanwhile, creates an offshore power grid connecting energy installations both to the shore and linking electricity to other countries through interconnectors. Alongside direct investment associated with installation, maintenance and decommissioning, subsea cabling for electrical transmission can also deliver potential benefits related to the securing of electricity supplies at

competitive rates that optimisation of the network could bring. These benefits would include enhanced energy security and, potentially, lower commercial and domestic electricity bills. Further, the provision of transmission cabling could support and encourage investment in the renewables sector, generating further indirect economic benefits. In protecting existing/proposed infrastructure and supporting proposals for digital communications and electricity distribution infrastructure, Policies CAB_01 and CAB_02 have together been assessed as having a cumulative significant positive effect on the economy (SA Criteria 11) and well-being (SA Criteria 12).

No further significant positive effects have been identified during the appraisal of the subsea cabling sector policies.

The requirement under Policy CAB_02 to consider the compatibility of proposals with subsea cabling could help to promote engagement on marine planning issues. This has been assessed as having a cumulative positive effect on governance (SA Criteria 14).

No significant negative effects have been identified during the appraisal of the subsea cabling sector policies.

The laying, maintenance and decommissioning of cables can have various adverse environmental effects and, in particular, disturbance can occur to the seabed, marine habitats and undersea heritage assets. During operation, meanwhile, subsea power cables can create electromagnetic fields (EMFs) that affect navigation and migration in sensitive species.⁵¹ There is also the potential for landfall works to result in adverse impacts on terrestrial ecology, the physical environment and heritage assets. However, the impacts from cable laying and operation are limited and there is good scope to route cables to avoid the most sensitive areas. In this regard, the supporting text sets out that *“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”*. Overall, the subsea cabling sector policies have been assessed as having cumulative negative effects on biodiversity (SA Criteria 1), the physical environment (SA Criteria 3) and heritage (SA Criteria 7).

Surface Water and Wastewater Treatment and Disposal

The WMER highlights that Welsh Water’s sewer network has to deal with increasing flows of surface water and that occasionally, the capacity of the network is exceeded in some areas resulting in incidents of sewage flooding homes, gardens and roadways which can cause pollution incidents in streams and rivers. SoNaRR, meanwhile, highlights that failures to achieve Good Ecological Status are primarily due to elevated concentrations of nutrients derived from diffuse and point sources including wastewater discharges. By safeguarding existing and planned wastewater management and treatment infrastructure, Policy SWW_01 will help to ensure that water quality is maintained and enhanced and in consequence, it has been assessed as having a significant positive effect on water (SA Criteria 2). The promotion of the management and treatment of wastewater has also been assessed as having a significant positive effect on resources (SA Criteria 10).

⁵¹ OSPAR Commission (2009) *Assessment of the Environmental Impact of Cables*. Available from http://qsr2010.ospar.org/media/assessments/p00437_Cables.pdf [Accessed August 2016].

No further significant positive effects have been identified during the appraisal of Policy SWW_01.

Safeguarding existing and planned wastewater treatment infrastructure is expected to deliver positive effects across a number of the remaining SA criteria including: biodiversity (SA Criteria 1); climate change (SA Criteria 6); tourism and recreation (SA Criteria 9); the economy (SA Criteria 11); well-being (SA Criteria 12); and health (SA Criteria 13). This principally reflects the importance of good water quality to ecosystem resilience in coastal and offshore areas and which in-turn supports marine ecology, human health, safe and attractive local communities and marine related economic sectors including fishing, aquaculture and tourism and recreation. The protection of wastewater management and treatment infrastructure will also help to ensure that there is effective drainage of storm water and runoff to the sea, supporting resilience to the effects of climate change, such as flooding.

No significant negative or negative effects have been identified during the appraisal of Policy SWW_01.

Tourism and Recreation

The WMER identifies that the Welsh marine area has a strong tradition of coastal tourism. The implementation of Policies T&R_01 and T&R_02 is expected to help support the protection and growth of this sector by encouraging proposals that demonstrate a positive contribution to tourism and recreation opportunities, supporting opportunities to improve understanding of current and potential tourism and recreation activities in Wales and by safeguarding existing and planned tourism and recreation activities. The sector policies will therefore complement existing plans, programmes and initiatives in the tourism sector (the Welsh Government's target is to grow tourism earnings by at least 10% by 2020). Overall, Policies T&R_01 and T&R_02 have been assessed as having a cumulative significant positive effect on tourism and recreation (SA Criteria 9).

The Draft WNMP highlights that 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 GVA in the overall Welsh economy. Based on a Great Britain Visitor Survey (2013), the WMER highlights that coastal tourism was estimated to be worth £602 million for Wales in 2013 and generated 3.6 million trips. Reflecting the importance of the sector to the Welsh economy and jobs, Policies T&R_01 and T&R_02 are therefore expected to have a cumulative significant positive effect on the economy (SA Criteria 11) and well-being (SA Criteria 12). Given the relationship between recreation and the promotion of healthy lifestyles, Policies T&R_01 and T&R_02 have also been assessed as having a significant positive effect on health (SA Criteria 13).

No further significant positive effects have been identified during the appraisal of the tourism and recreation sector policies.

Cumulative positive effects have been identified in respect of Welsh language (SA Criteria 8), reflecting in particular the contribution seafaring traditions, past industrial and maritime features and literary and spiritual connections make to tourism and recreational activity in Wales, and governance (SA Criteria 14), given the expectation that the provisions of Policies T&R_01 and T&R_02 will help to address knowledge gaps in respect of tourism and recreation in Wales and promote engagement on marine planning issues.

No significant negative effects have been identified during the appraisal of the tourism and recreation sector policies.

Cumulative negative effects have been identified in respect of those SA criteria relating to air quality (SA Criteria 4), climate change (SA Criteria 6) and resources (SA Criteria 10). This principally reflects the potential for tourism development to result in both direct and indirect emissions to air including greenhouse gases associated with, for example, construction activity, the energy required for new facilities and increased transport.

Coastal tourism and recreation in Wales is heavily reliant upon the natural environment and built heritage of the marine area. By helping to safeguard existing tourism and recreation activities, Policies T&R_01 and T&R_02 may therefore indirectly help support the conservation and enhancement of Wales' natural and built assets. However, tourism and recreation can also generate adverse impacts on coastal environments and ecosystems. These adverse impacts can arise due to, for example, damage and disturbance to habitats and species or heritage assets during the construction of facilities or as a result of the presence of new facilities once development is complete (which could impact on landscapes/seascape or the setting of heritage assets). Indirect impacts may also arise as a result of increased visitor pressure and associated traffic with related effects including disturbance to habitats and species, loss of tranquillity, marine litter, a decline in local air quality and coastal erosion. Where these impacts affect sensitive areas including designated sites or the connectivity of coastal habitats, effects could be significant (the WMER highlights that 70% of Wales' coastline is designated for its environmental quality). However, the implementation of other policies contained in the Draft WNMP which seek to conserve and enhance the plan area's natural and built environments would help to avoid or mitigate the potential for significant negative effects in this regard. On balance, the tourism and recreation sector policies have been assessed as having a mixed positive and negative effect on biodiversity (SA Criteria 1), water (SA Criteria 2), the physical environment (SA Criteria 3), landscape and seascape (SA Criteria 5) and heritage (SA Criteria 7).

4.6 Secondary, Cumulative and Synergistic Effects

In determining the significance of effects of a plan or programme, the SEA Directive requires that consideration is given to the cumulative nature of the effects. This section considers the potential for the policies contained within the Draft WNMP to act in-combination both with each other and with other plans and programmes to generate cumulative (including synergistic and secondary) effects.

Cumulative Effects Arising from the Draft WNMP

Table 4.5 presents the appraisal of the cumulative effects of the Draft WNMP by summarising the cumulative effects of the general cross-cutting policies (by theme) and sector policies (by sector) identified in Tables 4.3 and 4.4 on the SA criteria. The effects identified are based on an overall judgement of how the plan, when taken as a whole, performs against the SA criteria and reflect the range of effects identified through the appraisal (i.e. whether significant or minor, positive or negative).

Table 4.5 Cumulative Effects Arising from the Draft WNMP

SA Criteria	General Cross-cutting Policies						Sector Policies												Cumulative Effects of the Draft WNMP Policies (i.e. the combined effects of all the Draft WNMP policies)
	Overarching Planning Policy	Achieving a Sustainable Marine Economy	Ensuring a Strong, Healthy and Just Society	Living Within Environmental Limits	Promoting Good Governance	Using Sound Science Responsibly	Aggregates	Aquaculture	Defence	Dredging and Disposal	Energy – Low Carbon	Energy – Oil and Gas (incl Gas Unloading/ Storage and CCS)	Fisheries	Ports and Shipping	Subsea Cabling	Surface Water and Wastewater Treatment and Disposal	Tourism and Recreation		
1. Biodiversity	+	+/?	+/-	++	+	+	-/?	+/-/?	+	-/?	+/-/?	-/?	+/-	-/?	-/?	+	+/-/?	++/-/?	
2. Water	+	+/?	+	++	+	+	-/?	+/?	+	-/?	-/?	-/?	?	-/?	0	++	+/-/?	++/-/?	
3. Physical Environment	+	+/?	++	++	+	+	-/?	-/?	0	-/?	-/?	-/?	?	-/?	-/?	0	+/-/?	++/-/?	
4. Air Quality	+	?	+	+	+	+	+/-	+/-/?	0	-	+/-/?	-/?	?	+/-/?	0	0	-/?	+/-/?	
5. Landscape and Seascape	+	+/?	++/-	+	+	+	0	-/?	0	0	-/?	-/?	+/?	-/?	0	0	+/-/?	++/-/?	
6. Climate Change	+	+/?	++	+	+	+	+/-	+/-/?	0	+/-/?	++/?	++/-/?	?	+/-/?	++/-	+	-/?	++/-/?	
7. Heritage	+	+/?	++/-	+	+	+	-/?	-/?	0	-/?	-/?	-/?	+/?	-/?	-/?	0	+/-/?	++/-/?	

SA Criteria	General Cross-cutting Policies						Sector Policies											Cumulative Effects of the Draft WNMP Policies (i.e. the combined effects of all the Draft WNMP policies)
	Overarching Planning Policy	Achieving a Sustainable Marine Economy	Ensuring a Strong, Healthy and Just Society	Living Within Environmental Limits	Promoting Good Governance	Using Sound Science Responsibly	Aggregates	Aquaculture	Defence	Dredging and Disposal	Energy – Low Carbon	Energy – Oil and Gas (incl Gas Unloading/ Storage and CCS)	Fisheries	Ports and Shipping	Subsea Cabling	Surface Water and Wastewater Treatment and Disposal	Tourism and Recreation	
8. Welsh Language	+	+/?	+	0	+	+	?	0	0	0	?	?	+	?	0	0	+/?	+
9. Tourism and Recreation	+	++/?	++	+	+	+	0	+/-/?	0	+	+/-/?	0	+	+/?	0	+	++	++
10. Resources (incl Waste)	+	+/?	+/-	+	+	+	++/- -	0	0	-	++	++/-- /?	?	-/?	++/-	++	-/?	++/--/?
11. Economy	+	++	+	+/-/?	+	+	++	++/?	+/?	++	++/?	++/?	+	++/?	++	+	++/?	++
12. Well-being	+	++	++	+	+	+	+/?	+/?	+/?	+	+/?	+/?	+	++/?	++	+	++/?	++
13. Health	+	+/?	+	+	+	+	0	+/?	+	-	+/-/?	-/?	+/?	+/-/?	0	+	++/?	++/--/?
14. Governance	++	++	+	+	++	++	+	+	+	+	++	+	+	+	0	+	++	

Cumulative Significant Positive Effects

The appraisal of cumulative effects presented in **Table 4.5** highlights that the majority of the SA criteria will experience positive effects as a result of the implementation of the policies contained in the Draft WNMP. Cumulative significant positive effects are expected in respect of all the SA criteria with the exception of air quality (SA Criteria 4) and Welsh language (SA Criteria 8), for which effects have been assessed as positive. This broadly reflects the likely socio-economic benefits that supporting economic activity in the marine area is likely to deliver and the strong framework provided by the plan policies that will help to conserve and enhance Wales' marine environment and support the sustainable management of natural resources. It is also consistent with the overall vision for the Welsh inshore and offshore marine area set out in the Draft WNMP (to deliver clean, healthy, safe, productive and biologically diverse seas).

The appraisal of cumulative effects demonstrates that the Draft WNMP policies are, in particular, likely to deliver significant benefits in respect of: climate change (SA Criteria 6); resources (SA Criteria 10); tourism and recreation (SA Criteria 9); the economy (SA Criteria 11); well-being (SA Criteria 12); and governance (SA Criteria 14), as evidenced by the large number of policies that are expected to generate significant positive effects on these SA criteria.

The WMER sets out that Wales is ideally suited for the establishment of a successful and competitive marine energy industry. In this regard, the Welsh Government's Marine Renewable Energy Strategic Framework has identified a scenario to secure 6.4GW through marine tidal stream and wave energy development and there is also significant potential for tidal range. The generation of renewable energy is strongly supported by the general cross-cutting policies and, through their support for growth in the low carbon sector, CCS and electricity distribution, by the sector policies.

The Welsh coastline and seas support a wide range of economic activities across a number of sectors. The WMER estimates the total value of economic activity within the plan area to be approximately £2.1bn of GVA. In this context, the Draft WNMP promotes blue growth (including tourism) and identifies significant scope for future growth in certain sectors over the plan period. Reflecting the intent of the sector policies to safeguard existing economic activity in the marine area whilst encouraging sector productivity and growth, the Draft WNMP is therefore expected to help maintain and enhance Wales' marine economy (including the visitor economy) and its contribution to national GVA. Allocating space for certain sectors through the identification of SRAs will also support growth in these sectors by providing spatial direction in terms of the availability of resources, ensuring that resources within SRAs are safeguarded and by providing greater confidence to investors through the implementation of a positive framework for development. Whilst it is not possible to quantify the effect of the Draft WNMP upon sector growth in SRAs, the scale of potential future growth of some sectors is significant, in particular the low carbon sector.

According to the WMER, an estimated 31,000 people are directly employed and a further 56,000 are indirectly employed in marine-related sectors in Wales. However, the WMER highlights that, whilst the overall employment rate in coastal areas is higher than across the whole of Wales, many jobs are seasonal and part time and in some coastal communities over a third of all those employed are part time workers. Further, the 2014 Welsh Index of Multiple Deprivation highlights that there are pockets of deprivation in some coastal areas and in particular in some northern coastal towns. Job creation and

addressing economic social issues such as a dependence on seasonal work is therefore critical. Linked to the strong policy support for blue growth, the Draft WNMP policies are expected to encourage proposals for economic development that generate local employment opportunities and wealth, tackle deprivation and increase skills, delivering potentially substantial benefits to Wales' coastal communities.

The strong performance of the Draft WNMP in terms of governance reflects in particular the emphasis of the general cross-cutting policies on the consideration of cumulative effects, adaptive management and the application of an evidence-based analysis in decision making. It also reflects the expectation that the implementation of the sector policies will promote research and engagement on marine planning issues and help further understanding of future development opportunities and constraints to growth. This is particularly pertinent given that the WNMP is the first marine plan for Wales and represents the start of a systematic process of shaping Wales' seas through marine planning to support economic, social and environmental objectives.

Cumulative Significant Negative Effects

Wales' marine environment is biologically diverse with marine habitats and species providing a range of ecosystem services and benefits of significant value to UK society. This is reflected in the large number of MPAs in Welsh inshore waters and which cover 75% of the coastline and 35% of territorial seas. Coastal landscapes and seascapes are also highly valued and in this regard, the WMER notes that over 70% of the coastline of Wales is covered by designations that reflect landscape importance. However, Wales' marine environment and the ecosystems it supports are sensitive to change. For example, the WMER highlights that the marine environment around Wales has suffered significant habitat loss, with key examples being coastal habitat (particularly saltmarsh) and subtidal native oyster beds. There are also issues associated with the need to improve water quality, resilience to coastal change and flooding and the need to protect heritage assets.

In this context, the sector policies of the Draft WNMP have been assessed (in-combination) as having cumulative negative effects across several of the SA criteria and particularly those relating to the built and natural environment, including: biodiversity (SA Criteria 1); water (SA Criteria 2); the physical environment (SA Criteria 3); air quality (SA Criteria 4); landscape and seascape (SA Criteria 5); climate change (SA Criteria 6); heritage (SA Criteria 7); and resources (SA Criteria 10). This reflects both the sensitivity of the marine environment to change and the likely direct and indirect adverse environmental effects of new development or activity supported by the sector policies. The range of adverse effects are broad and include, for example:

- ▶ disturbance to, or loss of, habitats and species;
- ▶ reduced water quality due to the mobilisation of sediment or pollution;
- ▶ changes in bathymetry / seabed topography;
- ▶ impacts on landscape and seascape character;
- ▶ disturbance to, or loss of, heritage assets;
- ▶ increased emissions to air and energy use; and
- ▶ resource use and waste generation.

Adverse environmental impacts could potentially be significant where they affect sensitive sites or receptors. The likelihood of adverse effects occurring and their magnitude may also be increased in areas where multiple activities are concentrated. In this regard, **Figure 4.1** shows all of the SRAs identified in the Draft WNMP and serves to highlight that a number overlap or are in close proximity to one another, particularly around the Bristol Channel, Pembrokeshire Coast, Liverpool Bay and Anglesey. These areas also include, or are within close proximity to, a number of European and nationally designated nature conservation sites (including, for example, Pembrokeshire Marine SAC; Severn Estuary SAC (and Ramsar Site), Liverpool Bay SPA and Skokholm and Skomer SPA) (**Figure 4.2** shows MPAs in Wales) and landscapes (including Pembrokeshire Coast National Park, AONBs and Heritage Coast) and heritage assets (see **Figure 4.3**). The potential therefore exists for cumulative effects on these receptors. There may also be cumulative effects on more distant MPAs and their features including mobile species such as marine mammals. Effects in this regard may include:

- ▶ changes in habitat or prey distributions due to physical and physio-chemical changes;
- ▶ underwater noise and vibration, particularly for fish and marine mammals;
- ▶ collisions with vessels and structures, particularly for marine mammals;
- ▶ introduction of lighting (although generally not likely to be substantial); and
- ▶ changes in foraging success / predation risk as a result of effects on prey distributions.

Figure 4.1 Draft WNMP Strategic Resource Areas

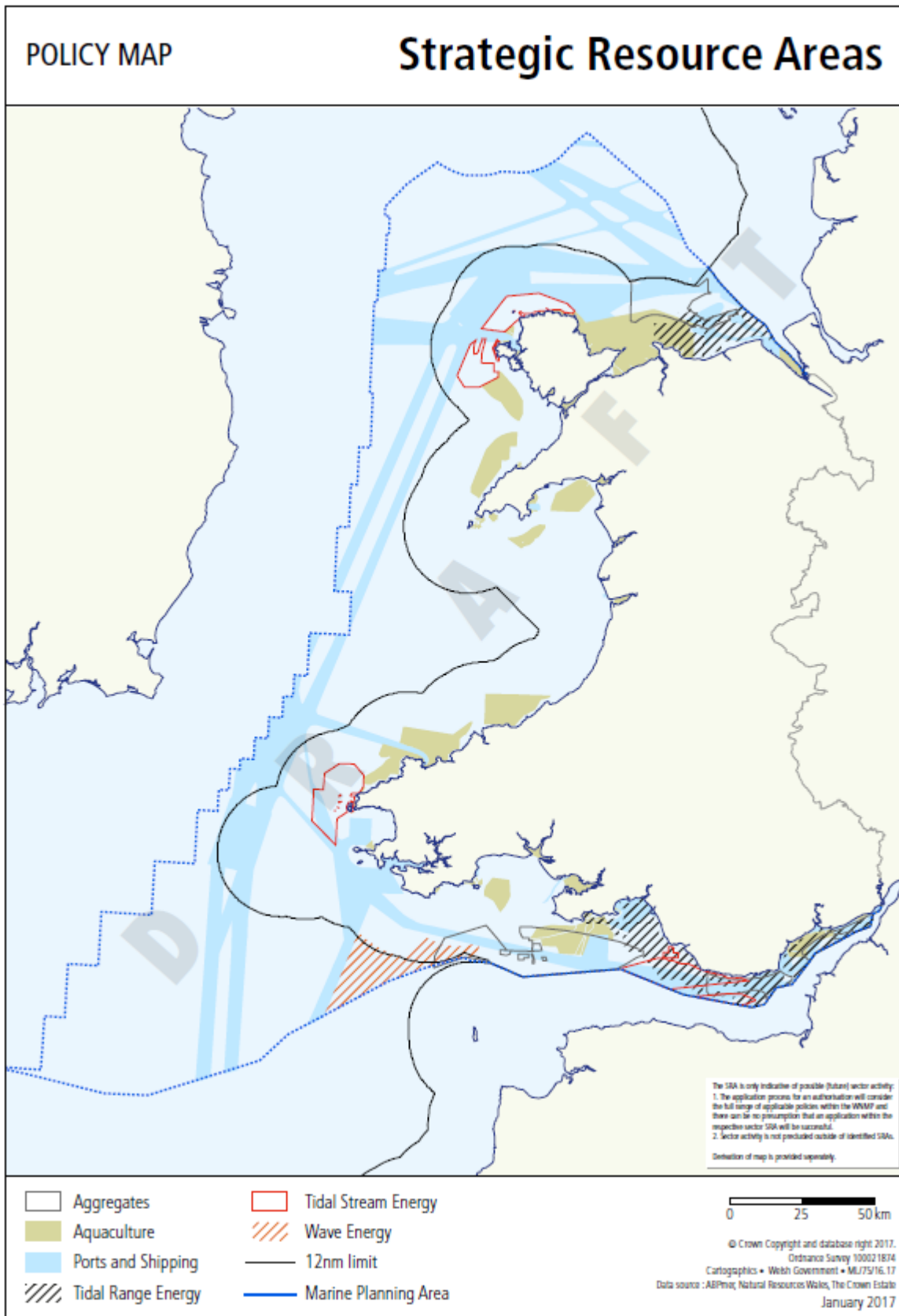


Figure 4.2 Marine Protected Areas

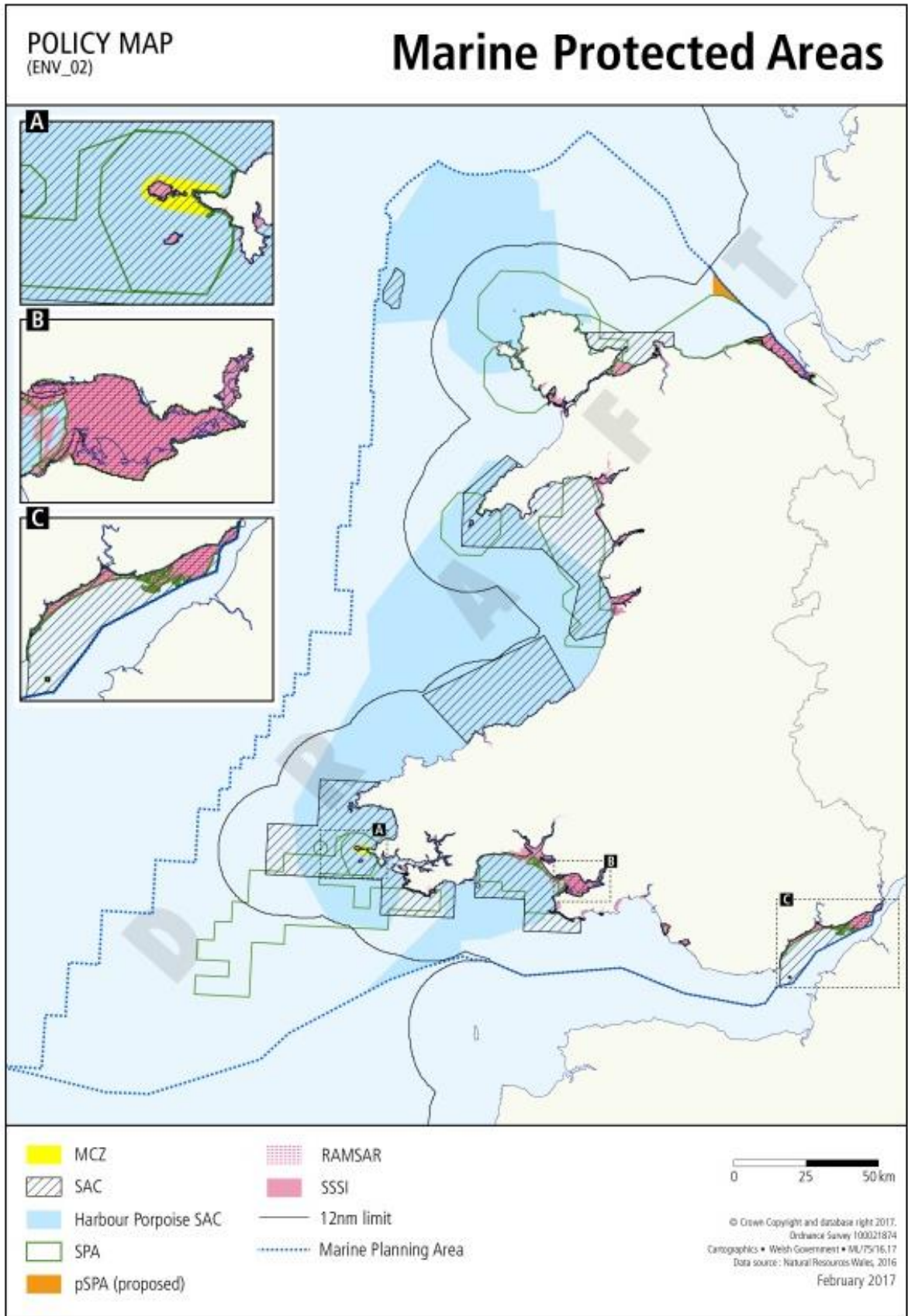
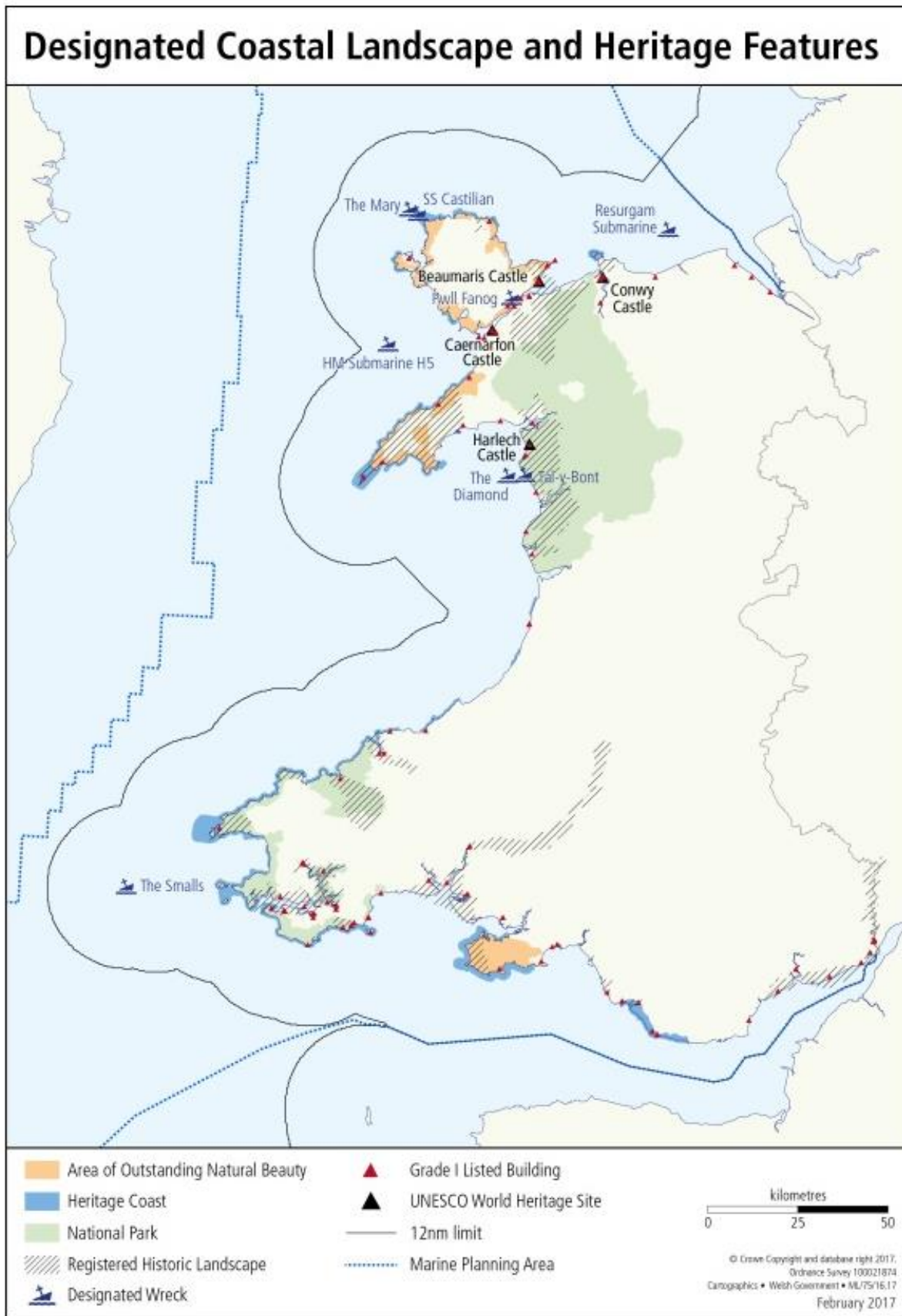


Figure 4.3 Designated Coastal Landscape and Heritage Features



A detailed assessment of in-combination effects and the capacity of the receiving environment/ecosystem resilience may therefore be required at the project stage. Such an assessment could also usefully support any future review of the WNMP (see also **Section 5.3**). However, the SRAs identified in the Draft WNMP are necessarily broad in terms of their geographic area and it is therefore likely that adverse effects could be largely avoided through siting at the project stage. Further, activities in the marine environment are heavily regulated and the environmental impacts of proposals would be considered during the award of licences (where relevant) and be assessed at the project stage (including as part of any EIA, HRA or CIS and through the Environmental Permitting regime). Proposals related to the implementation of the Draft WNMP would also be determined in accordance with the relevant general cross-cutting policies of the plan which provide a strong framework to support the conservation and enhancement of the marine environment. Importantly, policies such as Policy GOV_01 explicitly require that proposals assess cumulative effects and that adverse effects are avoided, minimised and/or mitigated. There may also be potential environmental benefits associated with focusing growth within SRAs (where they are identified) and leaving areas outwith SRAs unaffected by sector activity (although as the SRAs do not necessarily preclude development elsewhere, benefits in this regard are likely to be minor). Nevertheless, the appraisal of cumulative effects presented in **Table 4.5** highlights that, notwithstanding the existing regulatory framework and policy provisions of the Draft WNMP, there remains some residual uncertainty with respect to the probability of adverse effects occurring and their magnitude (i.e. whether effects are significant or minor) which will be in part dependent on the exact type, scale and location of future development in the context of the sensitivity/capacity of the receiving environment.

Despite the provisions of the general cross-cutting policies, in-combination, Policies AGG_01 and O&G_01 have been assessed as having a cumulative significant negative effect in respect of resources (SA Criteria 10). The winning of marine aggregates (Policy AGG_01) and oil and gas production (Policy O&G_01) will together unavoidably result in the depletion of non-renewable resources. With specific regard to aggregates, however, it is noted that the supporting text to Policy AGG_01 states: *“Decision makers should support the extraction of marine dredged aggregate where this is consistent with the other policies in this plan, whilst at the same time recognising that marine aggregates are a finite resource and that their extraction (and rate of use) needs to be sustainably managed”*. Marine aggregates form an important component of the national and local supply of aggregates and in this regard, the provisions of Policy AGG_01 and the SRAs identified reflect proximity to markets and the presence of infrastructure as well as the availability of reserves to meet known demand over the plan period and beyond. This is consistent with the requirements of the UK MPS which sets out that marine planning authorities *“should as a minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates ... contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses.”* Further, marine aggregate production is likely to result in fewer adverse impacts relative to land-won supplies. Reflecting the importance of marine dredged sand and gravel to Wales, and taking into account the potential for the identified SRAs to meet demand for aggregates over the plan period, Policy AGG_01 has also been assessed as having a significant positive effect on SA Criteria 10.

Whilst Policy O&G_01 has been assessed as having a potential significant negative effect in respect of resources due to the sector’s reliance on a non-renewable resource (in this case, oil and gas), this significant negative effect needs to be considered in the context of

the Welsh Government's commitment to moving to a low carbon energy system which acknowledges that this will be a gradual transition. During this transition, fossil fuel resources (including oil and gas) and 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 within the context of the transition, oil and gas exploration and production and the revenues that they generate can support achievement of sustainable development goals and contribute significantly to the well-being of current and future generations. Key considerations in the continued reliance on fossil fuels include climate change, energy security, cost of energy to businesses and consumers and environmental impact. Gas, as a transition fuel, will also support progress towards the decarbonisation of Welsh energy. Given the potential for Policy O&G_01 to support the production of indigenous offshore oil and gas to contribute to energy security, the policy has also been assessed as having significant positive effect on SA Criteria 10.

Policy ELC_01 has been assessed as having a cumulative significant negative effect on biodiversity (SA Criteria 1), water (SA Criteria 2) and the physical environment (SA Criteria 3) at the plan level. This reflects the potential range and magnitude of environmental effects associated with the deployment and operation of tidal lagoon schemes which in particular are likely to be of greater significance relative to other types of development/marine activity supported by the Draft WNMP and could affect designated sites including European sites in and beyond the plan area. However, a large number of inherent uncertainties remain associated with the scale and location of tidal lagoon activities, the proposed technologies to be deployed, the baseline environmental characteristics of development locations and the efficacy of project-level mitigation.

In addition to the adverse effects highlighted above, the appraisal contained in **Appendix E** has identified the potential for new development and activities supported by the sector policies to cause disruption to, or displace, other economic activities in the marine area and which, if not managed, could result in adverse economic effects. In this regard, compatibility mapping produced as part of the WNMP Economic Impact Assessment highlights that sector growth within the SRAs (and more broadly where SRAs aren't identified) has the potential to affect existing marine activities and uses. Potential incompatibilities also exist between the SRAs themselves where they overlap and particularly with regard to the aggregates and low carbon sectors and ports and shipping sectors.

However, sector interactions are complex and the presence of a SRA does not necessarily preclude other activities. Further, the SRAs identified in the Draft WNMP are necessarily broad in terms of their geographic area and in many cases it is therefore possible for siting considerations at the project level to avoid conflicts. It is also important to note that the general cross-cutting policies of the Draft WNMP promote co-existence (see Policy ECON_02) which, together with those sector policies that seek to safeguard activities, can be reasonably expected to manage potential conflicts between sectors, helping to ensure that adverse economic impacts are avoided, minimised or mitigated, unless in exceptional circumstances.

Cumulative Effects Arising From Other Plans and Programmes

The Draft WNMP policies sit within the context of a number of other plans and programmes. These plans and programmes are identified in the WMER. In accordance with the approach detailed in **Section 3.5**, those plans and programmes at the UK, national (Wales) and regional/local level that are considered to be particularly relevant to,

and have the potential to interact with, the Draft WNMP have been subject to an initial screening assessment. The purpose of this assessment is to highlight where the Draft WNMP could have a significant in-combination effect and what the nature of that effect would be (i.e. whether significant positive or significant negative). The results of this screening exercise are presented in **Appendix F**.

The effects of the Draft WNMP in-combination with other plans and programmes are difficult to meaningfully or accurately assess. However, the screening assessment indicates that implementation of the Draft WNMP in-combination with the plans and programmes listed in **Appendix F** would generate cumulative significant positive effects on the SA criteria in most cases. This reflects the aim of the Draft WNMP to deliver sustainable development of Wales' marine area and the expectation that the policies of the plan will complement, reinforce and support the delivery of the other plans' and programmes' objectives, particularly in terms of environmental conservation and enhancement, climate change mitigation and adaptation and economic growth.

It is not predicted that the Draft WNMP would create conflict with the objectives of the other plans and programmes identified. New development or activity in the marine area supported by the sector policies of the Draft WNMP could, however, have cumulative negative effects in-combination with those plans and programmes that also promote development in the coastal area (such as local development plans). Cumulative negative effects in this regard could relate to, for example:

- ▶ biodiversity, due to increased visitor pressure and marine litter;
- ▶ landscape and seascape, as a result of development both offshore and at the coast;
- ▶ climate change, as a result of increased greenhouse gas emissions associated with new development;
- ▶ air quality, principally due to increased vehicle/vessel movements and construction activity; and
- ▶ waste and resource use, due to an anticipated cumulative increase in waste arisings associated with new development and the requirement for materials in the construction of new development.

However, effects in this regard will be avoided/minimised through the policy measures contained within the Draft WNMP (including, in particular, Policy GOV_01 concerning the assessment, avoidance, minimisation and mitigation of cumulative adverse effects arising from proposals) and across the other plans and programmes listed in **Appendix F**. In this context, no significant negative cumulative effects have been identified. The exception to this is the effect of the Draft WNMP in-combination with offshore licensing rounds administered by the UK Oil and Gas Authority on resources (SA Criteria 10) and in particular oil and gas. However, as policies O&G_01 to O&G_04 of the Draft WNMP relate specifically to proposals for oil and gas exploration and production in existing and future blocks licensed by the UK Government, these effects have already been considered above and are therefore not repeated here.

It should be noted that there does remain some residual uncertainty with respect to the probability of adverse cumulative effects occurring and their magnitude (i.e. whether effects are significant or minor) which will be in part dependent on the exact type, scale and location of future development supported by the WNMP and other plans and

programmes in the context of the sensitivity/capacity of the receiving environment and ecosystem resilience.

4.7 Cross-border Effects

Several of the proposed SRAs including those in the Severn Estuary and Liverpool Bay are located within close proximity/adjacent to Wales' border with England and in consequence, there is the potential for impacts to affect receptors in the English marine area and beyond.

The construction, operation and decommissioning of renewable energy development in the proposed SRAs especially could give rise to cross-boundary impacts, particularly in respect of biodiversity (SA Criteria 1), due to (inter alia) effects on mobile species and loss of habitat (for example, associated with the operation of tidal stream and tidal lagoon schemes) and water (SA Criteria 2) and the physical environment (SA Criteria 3), due to changes to hydrodynamics and sediment transport and discharges. These effects could be significant where they affect designated nature conservation sites and in this regard, the HRA of the Draft WNMP has identified that the tidal lagoon element of Policy ELC_01 could have adverse effects on European sites in England and, where birds are an interest feature, more distant sites. There is also the potential for cross-border effects on landscape and seascape (SA Criteria 5), due to the introduction of built form into landscapes/seascapes and views. However, these effects are considered unlikely to be significant.

Notwithstanding the potential adverse cross-boundary effects identified, the existing regulatory regime and the provisions of the general cross-cutting policies of the Draft WNMP will help to avoid, minimise or mitigate significant negative effects where possible. As the WNMP is implemented and its effects monitored, it will be possible to consider further any cross-border effects, including the effects of the plan in-combination with marine plans prepared by surrounding administrations (see also **Section 5.3**).

4.8 Contribution of the Draft WNMP to Wales' Well-being Goals and the Objective for SMNR

The Well-being of Future Generations (Wales) Act 2015 places a duty on public bodies to carry out sustainable development aimed at achieving the seven well-being goals for Wales. The well-being goals established by the Act are as follows:

- ▶ A prosperous Wales;
- ▶ A resilient Wales;
- ▶ A healthier Wales;
- ▶ A more equal Wales;
- ▶ A Wales of cohesive communities;
- ▶ A Wales of vibrant culture and thriving Welsh language; and
- ▶ A globally responsible Wales.

The Environment (Wales) Act 2016, meanwhile, has established an objective for SMNR “to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing—

- (a) meet the needs of present generations of people without compromising the ability of future generations to meet their needs, and
- (b) contribute to the achievement of the well-being goals in section 4 of the Well-being of Future Generations (Wales) Act 2015”.

The well-being goals and SMNR objective have been mapped to the SA criteria that comprise the SA Framework. Through the appraisal of the Draft WNMP policies against the SA criteria, it is therefore possible to assess the contribution that the implementation of the plan would make to the achievement of the goals and objective.

A matrix has been used to record this assessment. This is presented in **Table 4.6**. Informed by the appraisal of the general cross-cutting policies and sector policies against the SA criteria (as summarised in the preceding sections), a judgement has been made regarding whether, and the extent to which, the Draft WNMP would support or detract from the achievement of each well-being goal (and by extension, the SMNR objective) in-turn with commentary provided to justify the conclusions reached.

Table 4.6 Assessment of the Contribution of the Draft WNMP to the Well-being Goals for Wales

Well-being Goals	Related SA Criteria	Contribution to the Well-being Goal	Commentary
<p>A prosperous Wales: 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.</p>	<p>SA Criteria 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 14</p>	<p>++/-/?</p>	<p>Through the sector policies, the Draft WNMP safeguards existing activity and promotes blue growth across several key sectors. This will help maintain and enhance Wales’ marine economy and its contribution to national GVA, in-turn generating benefits for coastal communities. In this regard, Policies ECON_01 and SOC_02 specifically encourage proposals that contribute to the well-being of coastal communities and that: create local employment opportunities; generate wealth; allow people to take advantage of the wealth; protect and create employment at all skill levels; and tackle poverty by supporting deprived coastal communities.</p> <p>Through both the general cross-cutting policies and sector policies, the Draft WNMP promotes climate change mitigation and adaptation and supports growth in the low carbon sector. The policies of the plan are therefore likely to help ensure the sustainable management of resources in the marine environment.</p> <p>The appraisal of the sector policies against the SA criteria has highlighted the potential for direct and indirect adverse environmental effects associated with new development and activity. It is also anticipated that economic growth in the marine area will result in an increase in both the extraction of non-renewable resources (such as aggregates and oil and gas) and resource use (associated with the construction, operation and decommissioning of development). However, the general cross-cutting policies of the Draft WNMP seek to manage these effects and in consequence, it is expected that significant adverse effects will be largely avoided/minimised, although some uncertainty remains.</p>

Well-being Goals	Related SA Criteria	Contribution to the Well-being Goal	Commentary
			<p>Overall, the Draft WNMP has been assessed as making a mixed significant positive and minor negative contribution to the well-being goal 'A prosperous Wales'.</p>
<p>A resilient Wales: A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).</p>	<p>SA Criteria 1, 2, 3, 4, 5, 6, 9, 10, 11, 14</p>	<p>++/--/?</p>	<p>The general cross-cutting policies of the Draft WNMP, and particularly those under the theme of 'Living Within Environmental Limits', support the conservation and enhancement of the marine environment and the biodiversity it supports. Policy ENV_01 specifically requires that proposals demonstrate how they contribute to the protection, restoration and/or enhancement of marine ecosystems. Policies SOC_08, SOC_09, SOC_11 and SOC_12, meanwhile, support climate change adaptation.</p> <p>The appraisal of the sector policies against the SA criteria has identified the potential for direct and indirect adverse environmental effects associated with new development and activity. This includes negative effects on biodiversity, water quality and the physical environment which together support healthy ecosystems. Whilst the general cross-cutting policies of the Draft WNMP are expected to help avoid, minimise or mitigate significant adverse effects associated with new development or activity across the majority of the sectors supported by the plan, there is the potential for significant negative effects on these assets associated with the tidal lagoon element of Policy ELC_01, although some uncertainty remains.</p> <p>Overall, the Draft WNMP has been assessed as making a mixed significant positive and potentially significant negative contribution to the well-being goal 'A resilient Wales'.</p>
<p>A healthier Wales: A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.</p>	<p>SA Criteria 1, 2, 3, 4, 5, 6, 9, 12, 12, 14</p>	<p>++/--/?</p>	<p>The general cross-cutting policies of the Draft WNMP seek to conserve and enhance water and air quality, minimise noise and promote climate change adaptation which is expected to help protect human health.</p> <p>Policy SOC_02 stipulates that proposals that contribute to the well-being of coastal communities are encouraged. Alongside policies which seek to improve access to the marine environment (see Policy SOC_01, for example) and promote recreation and tourism opportunities (Policies T&R_01 and T&R_02), this is expected to help promote healthy lifestyles.</p> <p>Wales' seas provide an important source of food and in consequence, those sector policies relating to aquaculture and fisheries are likely to promote human health.</p> <p>The appraisal of the sector policies has highlighted the potential for development in the marine area to result in adverse impacts on human health due to, for example, noise, disturbance and emissions to air caused by construction activity at the coast. However, the general cross-cutting policies of the Draft WNMP seek to manage these effects and in consequence, it is expected that significant adverse effects will be largely avoided/minimised, although some uncertainty remains.</p> <p>Overall, the Draft WNMP has been assessed as making a mixed significant positive and negative contribution to the well-being goal 'A healthier Wales'.</p>
<p>A more equal Wales: A society that enables people to fulfil their potential no matter what their background or circumstances</p>	<p>SA Criteria 8, 9, 12, 13, 14</p>	<p>++</p>	<p>Blue growth in the sectors supported by the Draft WNMP has the potential to provide employment and training opportunities that benefit Wales' coastal communities (which include pockets of deprivation, particularly in some northern coastal towns). Policies ECON_01 and SOC_02 specifically encourage proposals that contribute to the well-being of coastal communities and that: create</p>

Well-being Goals	Related SA Criteria	Contribution to the Well-being Goal	Commentary
(including their socio economic background and circumstances).			<p>local employment opportunities; generate wealth; allow people to take advantage of the wealth; protect and create employment at all skill levels; and tackle poverty by supporting deprived coastal communities.</p> <p>Overall, the Draft WNMP has been assessed as making a significant positive contribution to the well-being goal 'A more equal Wales'.</p>
<p>A Wales of cohesive communities: Attractive, viable, safe and well-connected communities.</p>	<p>SA Criteria 5, 7, 8, 9, 12, 13, 14</p>	<p>++</p>	<p>As highlighted above, Policy SOC_02 of the Draft WNMP specifically encourages proposals that contribute to the well-being of coastal communities. Those general cross-cutting policies of the Draft WNMP that seek to conserve and enhance heritage (Policy SOC_05) and seascapes (Policy SCO/07), meanwhile, are expected to help maintain and enhance the attractiveness of coastal areas.</p> <p>The Draft WNMP sector policies protect existing, and support proposals for new, digital communications infrastructure and ports and harbours that will help to maintain and enhance the connectivity of both Wales' coastal communities and the nation as a whole.</p> <p>Overall, the Draft WNMP has been assessed as making a significant positive contribution to the well-being goal 'A Wales of cohesive communities Wales'.</p>
<p>A Wales of vibrant culture and thriving Welsh language: A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.</p>	<p>SA Criteria 1, 5, 7, 8, 9, 14</p>	<p>++/-/?</p>	<p>The general cross-cutting policies of the Draft WNMP seek to conserve and enhance heritage assets that make an important contribution to Welsh culture (Policy SOC_05) and encourage proposals that contribute to the conservation and promotion of Welsh language and culture (Policy SOC_04).</p> <p>The protection/promotion of the fisheries sector through Policies FIS_01 to FIS_03 of the Draft WNMP is likely to make a positive contribution to the conservation and enhancement of the cultural identity of Wales' coastal communities.</p> <p>Economic development and associated job creation in the marine area has the potential to help retain populations of local, Welsh speakers and to attract Welsh speakers back to coastal communities. Whilst there is the potential that economic growth in the marine area could result in an influx of non-Welsh speakers to Welsh speaking communities (which could adversely affect Welsh language and culture), on balance the policies of the Draft WNMP are considered likely to make a positive contribution to Welsh language and culture in this regard, although some uncertainty remains. This conclusion reflects the findings of the Welsh Language Impact Assessment prepared in support of the Draft WNMP which states that "support for proposals for economically sustainable activities where they contribute to maintaining communities with a high density of Welsh speakers should have a positive effect in terms of retaining Welsh speakers in their home communities."</p> <p>Policy SOC_01 seeks to improve access to the marine environment whilst Policies T&R_01 and T&R_02 concern the protection and development of tourism and recreation opportunities. This is expected to help encourage participation in marine-related sports and recreation such as walking, canoeing and sailing.</p> <p>The general cross-cutting policies of the Draft WNMP, and particularly those under the theme of 'Living Within Environmental Limits', support the conservation and enhancement of the marine environment and the biodiversity it supports. The marine</p>

Well-being Goals	Related SA Criteria	Contribution to the Well-being Goal	Commentary
		+	<p>environment, including its biodiversity and seascape, are important elements of Wales' culture and supports recreation.</p> <p>The construction, operation and decommissioning of development in the marine area could have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on cultural heritage and the natural marine environment. However, the general cross-cutting policies of the Draft WNMP seek to manage these effects and in consequence, it is expected that significant adverse effects will be largely avoided/minimised, although some uncertainty remains.</p> <p>Overall, the Draft WNMP has been assessed as making a mixed significant positive and minor negative contribution to the well-being goal 'A Wales of vibrant culture and thriving Welsh language'.</p>
<p>A globally responsible Wales: A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.</p>	<p>SA Criteria 1, 4, 6, 10, 11, 12, 14</p>	+	<p>As demonstrated in the commentary above, the policies of the Draft WNMP are expected to help conserve and enhance marine ecosystems and contribute to climate change mitigation and adaptation, although any contribution to global well-being in this regard is expected to be limited given the geographic and functional scope of the Draft WNMP.</p> <p>Overall, the Draft WNMP has been assessed as making a positive contribution to the well-being goal 'A globally responsible Wales'.</p>

Key

Symbol	Effect
++	The Draft WNMP is likely to make a significant positive contribution to the achievement of the well-being goal.
+	The Draft WNMP is likely to make a minor positive contribution to the achievement of the well-being goal.
0	The Draft WNMP will not make a positive or negative contribution to the achievement of the well-being goal.
-	The Draft WNMP is likely to have a minor negative impact on the achievement of the well-being goal.
--	The Draft WNMP is likely to have a significant negative impact on the achievement of the well-being goal.
?	The relationship between the Draft WNMP and the well-being goals is uncertain.

*Note: where more than one symbol is presented in a box it indicates that the assessment has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

The overarching plan objective of the Draft WNMP is to “*support the sustainable development of the Welsh marine area by contributing across Wales’ well-being goals, ensuring the sustainable management of natural resources by taking account of the cumulative effects of all uses of the marine environment.*” Reflecting this objective, the assessment presented in **Table 4.6** demonstrates that the Draft WNMP policies are likely to make a significant positive contribution to the achievement of the seven well-being goals for Wales, supporting the objective for SMNR. Policy GOV_02 reinforces this expectation by setting out that 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.

The Draft WNMP seeks to deliver blue growth which is underpinned by the principles of sustainable development. Development and use of the marine area will unavoidably require the use of natural resources and could result in some adverse environmental effects that would need to be considered carefully in the context of the well-being goal ‘A resilient Wales’. However, the general cross-cutting policies of the Draft WNMP seek to avoid, minimise or mitigate significant adverse effects associated with new development or activity and will help to ensure the sustainable management of natural resources.

As highlighted in **Section 1.5**, the Environment (Wales) Act 2016 introduces a number of principles (as shown in **Figure 1.3**) that underpin the achievement of SMNR. These principles, which are to be applied equally, have guided the development of the Draft WNMP. It is outside the scope of this SA to consider exactly how the plan has been developed in accordance with these principles and it is recommended that the Welsh Government gives further consideration with regard to how best to ensure and demonstrate the integration of SMNR principles in the process of plan development and future marine spatial planning decisions (see also **Section 5.3**).

4.9 Mitigation and Enhancement

As highlighted in **Section 1.4**, the SA has been undertaken iteratively alongside the development of the Draft WNMP in order to enhance its sustainability performance. Based on the appraisal of the Draft WNMP (as proposed), amendments to policy wording and/or supporting text have been suggested in order to further enhance the performance of the Draft WNMP against the SA criteria and by extension, the seven well-being goals for Wales. These measures are identified within the detailed policy appraisal matrices contained at **Appendix D** and **Appendix E** and are summarised in **Table 4.7**; they will be considered by Welsh Government in preparing the final WNMP prior to its adoption.

Table 4.7 Summary of Recommendations

Policy	Recommendation(s)
General Policies	
GEN_01	<ul style="list-style-type: none"> Specific reference could be made within the policy to ensuring that marine spatial planning decisions are consistent with the SMNR principles (although it is recognised that this is covered in the supporting text).

Policy	Recommendation(s)
ECON_01	<ul style="list-style-type: none"> The wording of Policy ECON_01 could be revised to refer specifically to the creation of high quality employment opportunities. The policy and/or supporting text could require the use of Local Labour Agreements for certain types/scales of development in order to encourage local employment and training and development.
ECON_02	<ul style="list-style-type: none"> Reference to 'consider' in the policy could be replaced with 'demonstrate' in order to strengthen the wording. Specific reference to avoiding conflict with other existing or proposed uses/displacement could be included within the policy wording (although it is recognised that this is captured within the supporting text). Specific reference could be made to terrestrial activities/uses in the supporting text to the policy.
SOC_01	<ul style="list-style-type: none"> The policy wording could make specific reference to health and well-being and enhanced appreciation of the marine environment.
SOC_02	<ul style="list-style-type: none"> The policy could make specific reference to the identity of coastal communities. The policy could make specific reference to environmental protection as part of the well-being of communities. The policy could make explicit reference to the avoidance/minimisation of adverse impacts on the well-being of coastal communities. The policy could make specific reference to health and tackling deprivation. The policy could make reference to sustainable communities.
SOC_04	<ul style="list-style-type: none"> The supporting text to Policy SOC_04 could usefully highlight the range of positive and negative effects development could have on Welsh language and culture and identify the types or examples of measures that could be implemented to conserve and enhance Welsh language and culture. Consideration could be given to the inclusion of a requirement for proposals for certain forms of development to be accompanied by a Welsh Language Impact Assessment or Welsh Language Statement.
SOC_05	<ul style="list-style-type: none"> Reference could be made to access to the historic environment in the policy and/or its supporting text. Reference could be made to unknown archaeological assets in the supporting text. Reference could be made to the Heritage Coast in the supporting text to the policy.
SOC_06	<ul style="list-style-type: none"> Whilst it is noted that the supporting text to Policy SOC_06 states that activities, management and development proposals should take into consideration available best practice, evidence and policies set out in the relevant management plans to inform decision-making, and proposals should support the delivery of purposes of the designated landscapes and agreed management plan actions, the policy wording could require that proposals consider opportunities to enhance the special qualities of National Parks and AONBs. Policy SOC_06 could make explicit reference to the avoidance/minimisation of adverse impacts on the purposes and special qualities of National Parks and AONBs. The policy wording could make specific reference to Heritage Coasts and Registered Historic Landscapes (although it is noted that these non-statutory designation are referred to in the supporting text to the policy).
SOC_09	<ul style="list-style-type: none"> The supporting text to Policy SOC_09 could stipulate that adaptation measures requiring construction or engineering should seek to avoid adverse effects on local communities and the natural environment.
SOC_11	<ul style="list-style-type: none"> The supporting text to Policy SOC_11 could stipulate that adaptation measures requiring construction or engineering should seek to avoid adverse effects on local communities and the natural environment.
SOC_12	<ul style="list-style-type: none"> The supporting text to Policy SOC_12 could stipulate that proposals involving climate change mitigation and adaptation measures should seek to avoid disruption to local communities and the natural environment.
ENV_02	<ul style="list-style-type: none"> The policy wording could be revised to refer to the enhancement of MPAs. The policy wording could refer specifically to the objectives of MPAs.
ENV_05	<ul style="list-style-type: none"> Reference could usefully be included in the supporting text to the policy to mitigation measures such as spatial and timing controls, noise barriers (e.g. bubble curtains), pile sleeves and pingers. The policy could include reference to effects arising from vibration and sonar which would capture percussive effects associated with, for example, wind farm piling or defence training (although it is noted that reference is made to vibration in the supporting text to the policy).
ENV_06	<ul style="list-style-type: none"> The policy could set out that, where possible, proposals should contribute to the enhancement of air quality and water quality in estuaries, coastal waters and the open sea (although it is noted that this is addressed in the supporting text).

Policy	Recommendation(s)
	<ul style="list-style-type: none"> Consideration could be given to the identification of example mitigation measures in the supporting text to the policy.
SCI_01	<ul style="list-style-type: none"> The policy wording could be revised to refer specifically to the principle of sustainable development (although it is recognised that this is captured in the supporting text to the policy).
Sector Policies	
AQU_02	<ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and aquaculture activity.
D&D_01	<ul style="list-style-type: none"> Although referenced in the supporting text, the policy wording itself could usefully make reference to the waste hierarchy.
ELC_01	<ul style="list-style-type: none"> The policy wording could make specific reference to encouraging research and development in addition to collaboration in order to understand further the opportunities for renewable energy development including environmental constraints and opportunities as well as the efficacy of mitigation. This may help to refine the extent of the SRAs identified for this sector in future marine plans and resolve the uncertainties identified in the assessment of Policy ELC_01 (see also Section 5.3).
ELC_02	<ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and renewable/low-carbon schemes.
O&G_03	<ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and oil and gas exploration and production activity.
FIS_02	<ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and fishing activities.
CAB_02	<ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and renewable/low-carbon schemes.
T&R_01	<ul style="list-style-type: none"> Policy wording or supporting text could be included relating to the promotion of opportunities for the sharing of infrastructure and facilities with other sectors.

Through the SA of the Draft WNMP, a number of recommendations have also been identified which could be considered by the Welsh Government in working towards the preparation of future marine plans. These recommendations are set out in **Section 5.3**.

4.10 Appraisal of Reasonable Alternatives to the Draft WNMP

As set out in **Section 2.5**, one alternative to the Draft WNMP (as proposed) has been identified as reasonable and taken forward for appraisal as part of this SA, namely a 'High level strategic Draft WNMP'. A high level strategic marine plan would provide a lower level of spatial specificity relative to the Draft WNMP as proposed. For the purposes of this SA, it is assumed that the high level strategic Draft WNMP would still provide sector-specific policy but would not identify SRAs.

The appraisal of this reasonable alternative against the criteria that comprise the SA Framework is presented in **Table 4.8**.

Table 4.8 Appraisal of a High Level Strategic Draft WNMP Alternative

SA Criteria	Score	Commentary
<p>1. To protect and enhance biodiversity (habitats, species and ecosystems).</p>	<p>++/--/?</p>	<p>A high level strategic Draft WNMP would include the same general cross-cutting policies as those contained in the Draft WNMP as proposed and in consequence, the effects of this alternative on SA Criteria 1 would be similar. In particular, those policies under the theme of 'Living Within Environmental Limits' would be expected to support the conservation and enhancement of the marine environment and the biodiversity it supports. As with the Draft WNMP, there would also be the potential for indirect biodiversity benefits associated with policy support for some sectors including, for example, aquaculture, defence, fisheries, low carbon, tourism and recreation and surface water management and wastewater.</p> <p>Under this alternative, sector-specific SRAs would not be identified and in consequence, any benefits associated with focusing growth within SRAs and leaving areas outwith them unaffected by sector activity (as per the Draft WNMP as proposed) would not be realised. However, there may be potential benefits associated with not identifying SRAs in terms of the additional flexibility this could provide to decisions on the location of future development/activity and the avoidance of adverse effects on biodiversity.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects on biodiversity associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here, although in the absence of SRAs for specific sectors, there may be greater uncertainty with respect to the location of development and, therefore, the receptors that could be affected.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and significant negative effect on biodiversity (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>2. To protect and enhance the quality of surface, ground, estuarine and coastal water.</p>	<p>++/--/?</p>	<p>Under this alternative, the same general cross-cutting policies as those contained in the Draft WNMP as proposed would apply and in consequence, the effects of this alternative on SA Criteria 2 would be similar. In particular, those policies under the theme of 'Living Within Environmental Limits' would be expected to help maintain and enhance water quality. As with the Draft WNMP as proposed, there would also be the potential for indirect benefits associated with policy support for some sectors including, for example, aquaculture, fisheries and surface water management and wastewater.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects on water associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and significant negative effect on water, although some uncertainty remains.</p>
<p>3. To protect and enhance the physical features of the marine environment.</p>	<p>++/--/?</p>	<p>As highlighted above, a high level strategic Draft WNMP would include the same general cross-cutting policies as those contained in the Draft WNMP as proposed and in consequence, the effects of this alternative on SA Criteria 3 would be similar. In particular, those policies under the themes of 'Ensuring a Strong, Healthy and Just Society' and 'Living Within Environmental Limits' would be expected to help conserve and enhance coastal features and sites such as geological SSSIs, ensure that proposals do not have unacceptable adverse impacts on coastal change and protect the seabed in designated or sensitive areas.</p> <p>Under this alternative, sector-specific SRAs would not be identified and in consequence, any benefits associated with focusing growth within SRAs and leaving areas outwith them unaffected by sector activity (as per the Draft WNMP as proposed) would not be realised. However, there may be potential benefits associated with not identifying SRAs</p>

SA Criteria	Score	Commentary
		<p>in terms of the additional flexibility this could provide to decisions on the location of future development/activity and the avoidance of adverse effects on the physical environment.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects on the physical environment associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here, although in the absence of SRAs for specific sectors, there may be greater uncertainty with respect to the location of development and, therefore, the receptors that could be affected.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and significant negative effect on the physical environment (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>4. To protect and enhance air quality.</p>	<p>+/-/?</p>	<p>A high level strategic Draft WNMP would include policies that seek to minimise air quality impacts, support climate change mitigation and promote the low carbon sector. In consequence, the positive effects on SA Criteria 4 associated with this alternative would be similar to those identified in respect of the Draft WNMP as proposed. However, there may be greater uncertainty (relative to the Draft WNMP as proposed) regarding the air quality benefits that the implementation of the sector policies could generate. In particular, the absence of SRAs for the low carbon sector could, relative to the Draft WNMP as proposed:</p> <ul style="list-style-type: none"> • reduce investor confidence and the commercial support for the deployment of renewable energy schemes; • result in a lack of spatial direction to ensure that schemes are delivered in those areas with the greatest potential for renewable energy generation; • increase the risk of other activities sterilising renewable energy resources (as the resources would not benefit from the same level of safeguarding). <p>This could mean that the air quality benefits associated with the transition away from fossil fuels to low carbon energy sources are not fully realised. A lack of spatial direction in terms of the aggregates sector, meanwhile, could result in future extraction activity being located further from the point of use thereby resulting in a relative increase in emissions to air when compared to the Draft WNMP as proposed (although based on current spatial patterns of activity, this would seem unlikely).</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development and which would be likely to result in increased emissions to air, generating a negative effect on SA Criteria 4.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed positive and negative effect on air quality (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>5. To protect and enhance landscape and seascape character and other protected features.</p>	<p>++/-/?</p>	<p>Under this alternative, the same general cross-cutting policies as those contained in the Draft WNMP as proposed would apply and in consequence, the effects of this alternative on SA Criteria 5 would be similar. In particular, those policies under the theme of 'Ensuring a Strong, Healthy and Just Society' would be expected to help conserve and enhance landscape and seascape character and protect designated landscapes such as AONBs and National Parks.</p> <p>Under this alternative, sector-specific SRAs would not be identified and in consequence, any benefits associated with focusing growth within SRAs and leaving areas outwith them unaffected by sector activity (as per the Draft WNMP as proposed) would not be realised. However, there may be potential benefits associated with not identifying SRAs in terms of the additional flexibility this could provide to decisions on the location of future development/activity and the avoidance of adverse effects on landscape and seascape.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects</p>

SA Criteria	Score	Commentary
		<p>on landscape and seascape associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here, although in the absence of SRAs for specific sectors, there may be greater uncertainty with respect to the location of development and, therefore, the receptors that could be affected.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and negative effect on landscape and seascape but with a higher degree of uncertainty relative to the Draft WNMP as proposed.</p>
<p>6. To limit the causes and effects of climate change and promote adaptation.</p>	<p>++/-/?</p>	<p>A high level strategic Draft WNMP would include policy that supports climate change mitigation and adaptation and promotes the low carbon sector, CCS and electricity distribution infrastructure. In consequence, the positive effects on SA Criteria 6 associated with this alternative would be similar to those identified in respect of the Draft WNMP as proposed. However, there may be greater uncertainty (relative to the Draft WNMP as proposed) regarding the benefits that the implementation of the sector policies are expected to generate in terms of reductions in greenhouse gas emissions. In particular, the absence of SRAs for the low carbon sector could, relative to the Draft WNMP as proposed:</p> <ul style="list-style-type: none"> • reduce investor confidence and the commercial support for the deployment of renewable energy schemes; • result in a lack of spatial direction to ensure that schemes are delivered in those areas with the greatest potential for renewable energy generation; • increase the risk of other activities sterilising renewable energy resources (as the resources would not benefit from the same level of safeguarding). <p>This could mean that the climate change benefits associated with the transition away from fossil fuels to low carbon energy sources are not fully realised. A lack of spatial direction in terms of the aggregates sector, meanwhile, could result in future extraction activity being located further from the point of use and resulting in a relative increase in greenhouse gas emissions when compared to the Draft WNMP as proposed (although based on current spatial patterns of activity, this would seem unlikely).</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development and which would be likely to result in increased emissions of greenhouse gasses, generating a negative effect on SA Criteria 6.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and negative effect on climate change (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>7. To protect and enhance cultural, historic and industrial heritage resources.</p>	<p>++/-/?</p>	<p>Under this alternative, the same general cross-cutting policies as those contained in the Draft WNMP as proposed would apply and in consequence, the effects of this alternative on SA Criteria 7 would be similar. In particular, those policies under the theme of 'Ensuring a Strong, Healthy and Just Society' would be expected to help conserve and enhance Wales' cultural heritage assets.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects on heritage associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and negative effect on heritage (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>8. To support and enhance the Welsh language and culture.</p>	<p>+</p>	<p>Under this alternative, the same general cross-cutting and sector policies as those contained in the Draft WNMP as proposed would apply and in consequence, the effects of this alternative on SA Criteria 8 would be similar. In particular, those policies under the theme of 'Ensuring a Strong, Healthy and Just Society' would be expected to encourage proposals that contribute to the conservation and promotion of Welsh</p>

SA Criteria	Score	Commentary
		<p>language and culture and that conserve and enhance cultural heritage assets.</p> <p>Economic development and associated job creation in the marine area would also have the potential to help retain populations of local, Welsh speakers and to attract Welsh speakers back to coastal communities. Whilst there is the potential that economic growth in the marine area could result in an influx of non-Welsh speakers to Welsh speaking communities (which could adversely affect Welsh language and culture), on balance the policies of the Draft WNMP under this alternative would be likely to make a positive contribution to Welsh language and culture in this regard.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a positive effect on Welsh language.</p>
<p>9. To support appropriate tourism in Wales and protect and enhance opportunities for recreation.</p>	<p>++</p>	<p>As noted above, a high level strategic Draft WNMP would continue to provide support for the protection and growth of specific sectors. This would include tourism and recreation.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a significant positive effect on tourism and recreation.</p>
<p>10. To promote the sustainable use of natural resources.</p>	<p>++/--/?</p>	<p>In accordance with the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016, the sustainable management of natural resources would be a principal organising objective of a high level strategic Draft WNMP. Through both the general cross-cutting policies and sector policies, the plan would also be expected to promote low carbon energy generation. In this context, this alternative would be expected to have a significant positive effect on SA Criteria 10.</p> <p>Economic growth in the marine area supported by a high level strategic Draft WNMP would result in an increase in both the extraction of non-renewable resources (such as aggregates and oil and gas) and resource use (associated with the construction, operation and decommissioning of development). In consequence, a significant negative effect has also been identified in respect of SA Criteria 10. This is similar to the Draft WNMP as proposed. However, under this alternative there would be less policy guidance over the location of future development and activity in the plan area which could result in the sterilisation of resources such as aggregates and undermine the sustainable management of resource extraction. A lesser level of prescription may not support sector growth as much as the approach of identifying SRAs for certain sectors.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive effect and significant negative effect on resources (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>11. To support sustainable development of marine and coastal economy.</p>	<p>++/?</p>	<p>As already noted above, a high level strategic Draft WNMP would continue to provide support for the protection and growth of specific sectors, generating a significant positive effect on SA Criteria 11. However, the absence of sector-specific SRAs would mean that, relative to the Draft WNMP as proposed, there would be less spatial direction in terms of the availability of resources and the safeguarding of existing and future activities which could result in conflicts between sectors, reduced productivity and lower levels of investor confidence. A lesser level of prescription may not, therefore, support sector growth as much as the approach of identifying SRAs for certain sectors</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a significant positive effect on the economy (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>12. To maintain and enhance the well-being of local communities.</p>	<p>++</p>	<p>A high level strategic Draft WNMP would include general cross-cutting policies that encourage proposals that contribute to the well-being of coastal communities and that: create local employment opportunities; generate wealth; allow people to take advantage of the wealth; protect and create employment at all skill levels; and tackle poverty by supporting deprived coastal communities. .</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a significant positive effect on well-being.</p>

SA Criteria	Score	Commentary
<p>13. To protect and enhance human health with special regard to vulnerable groups in society.</p>	<p>++/-/?</p>	<p>Under this alternative, the general cross-cutting policies of the Draft WNMP that seek to conserve and enhance water and air quality, minimise noise, promote climate change adaptation and increase access to the marine environment would continue to apply, helping to protect and enhance human health. There would also continue to be support for the tourism and recreation sector, helping to promote healthy lifestyles.</p> <p>Whilst a high level strategic Draft WNMP would not identify SRAs, it is assumed that the plan would still make policy provision for specific sectors that seeks to safeguard existing activity and support future development. The range and type of potential adverse effects on human health associated with new development and activity in the marine area supported by the sector policies would likely be similar to the Draft WNMP as proposed and are therefore not repeated here.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a mixed significant positive and negative effect on health (but with a higher degree of uncertainty relative to the Draft WNMP as proposed).</p>
<p>14. To promote good governance.</p>	<p>++</p>	<p>A high level strategic Draft WNMP would seek to promote good governance through, for example, the consideration of cumulative effects, adaptive management and the application of an evidence-based analysis in decision making. The absence of SRAs and clear policy direction to encourage collaborative working to identify/refine SRAs may mean, however, that positive effects on SA Criteria 14, whilst significant, would not be of the same magnitude as those identified in respect of the Draft WNMP as proposed.</p> <p>Overall, the high level strategic Draft WNMP alternative has been assessed as having a significant positive effect on governance.</p>

The appraisal of the high level strategic Draft WNMP alternative suggests that, overall, the range and type of effects on the SA criteria associated with its implementation would be very similar to those identified in respect of the Draft WNMP as proposed. This reflects the expectation that a high level strategic Draft WNMP would contain the same general cross-cutting policies. However, the appraisal has highlighted that the absence of sector-specific SRAs would, relative to the Draft WNMP as proposed, result in a higher level of uncertainty with regard to the magnitude of effects across the majority of the SA criteria. This alternative would also likely reduce the value and utility of the WNMP as it is more likely to describe (as opposed to manage) sustainable development.

5. Conclusions, Monitoring and Next Steps

5.1 Conclusions

This SA Report presents the findings of the appraisal of the Draft WNMP which has been undertaken in accordance with Schedule 6 (Part 10) of the MCAA and in compliance with the requirements of SEA Directive (2001/42/EC) and relevant implementing regulations. It also aims to support the Welsh Government in complying with the requirements of Sections 3, 4 and 5 of the Well-being of Future Generations (Wales) Act 2015 to carry out sustainable development and contribute to the achievement of the well-being goals for Wales.

Specifically, the SA has considered the following key components of the Draft WNMP:

- ▶ vision;
- ▶ plan objectives;
- ▶ sector objectives;
- ▶ general cross-cutting policies; and
- ▶ sector policies (including mapping).

The principal conclusions of the appraisal are presented below.

The Likely Significant Effects of the Draft WNMP

Significant Positive Effects

Overall, the appraisal has found that the implementation of the Draft WNMP policies will have positive effects on the majority of the SA criteria. Reflecting the breadth of the Draft WNMP policies, significant positive effects are expected in respect of all the SA criteria with the exception of air quality (SA Criteria 4) and Welsh language (SA Criteria 8), for which effects have been assessed as positive. This broadly reflects the likely socio-economic benefits that supporting economic activity in the marine area is likely to deliver and the strong framework provided by the plan policies that will help to conserve and enhance Wales' marine environment and support the sustainable management of natural resources.

The Draft WNMP policies are, in particular, likely to deliver significant benefits in respect of: climate change (SA Criteria 6); tourism and recreation (SA Criteria 9); resources (SA Criteria 10); the economy (SA Criteria 11); well-being (SA Criteria 12); and governance (SA Criteria 14).

Wales is ideally suited for the establishment of a successful and competitive marine energy industry. In this regard, the Welsh Government's Marine Renewable Energy Strategic Framework has identified a scenario to secure 6.4GW through marine tidal stream and wave energy development and there is also significant potential for tidal range. The generation of renewable energy is strongly supported by the general cross-cutting

policies and, through their support for growth in the low carbon sector, carbon capture and storage and electricity distribution, by the sector policies. This is reflected in the significant positive effects identified for climate change (SA Criteria 6) and resources (SA Criteria 10).

The Welsh coastline and seas support a wide range of economic activities across a number of sectors. The Draft WNMP promotes blue growth (including tourism) and identifies significant scope for future growth in certain sectors over the plan period. Reflecting the intent of the sector policies to safeguard existing economic activity in the marine area whilst encouraging sector productivity and growth, the Draft WNMP is therefore expected to help maintain and enhance Wales' marine economy (including the visitor economy) and its contribution to national GVA. Whilst it is not possible to quantify the effect of the Draft WNMP upon sector growth, the scale of potential future growth of some sectors is significant, in particular the low carbon sector. This is reflected in the significant positive effects identified for tourism and recreation (SA Criteria 9) and the economy (SA Criteria 11).

Linked to the strong policy support for blue growth, the Draft WNMP policies are expected to encourage proposals for economic development that generate local employment opportunities and wealth, tackle deprivation and increase skills, delivering potentially substantial benefits to Wales' coastal communities. In this regard, the plan may contribute towards addressing the issues highlighted in the 2014 Welsh Index of Multiple Deprivation regarding deprivation in some coastal areas and in particular in some northern coastal towns. This is reflected in the significant positive effects identified for well-being (SA Criteria 12).

The strong performance of the Draft WNMP in terms of governance (SA Criteria 14) reflects in particular the emphasis of the general cross-cutting policies on the consideration of cumulative effects, adaptive management and the application of an evidence-based analysis in decision making. It also reflects the expectation that the implementation of the sector policies will promote research and engagement on marine planning issues and help further understanding of future development opportunities and constraints to growth. This is particularly pertinent given that the WNMP is the first marine plan for Wales and represents the start of a systematic process of shaping Wales' seas through marine planning to support economic, social and environmental objectives.

Significant Negative Effects

Wales' marine environment is biologically diverse with marine habitats and species providing a range of ecosystem services and benefits of significant value to Welsh and the wider UK society. It is also sensitive to pressures resulting from new developments and activities, including from impacts associated with the development and use of the marine area that may be supported through the implementation of the Draft WNMP and in particular the sector policies. Negative effects have therefore been identified across several of the SA criteria. However, the general cross-cutting policies of the Draft WNMP provide a strong framework to manage such impacts and it is against the provisions of these policies that proposals will be determined (as appropriate) under statutory regulatory processes. Further, activities in the marine environment are heavily regulated and the environmental impacts of proposals would be assessed and appropriately addressed at the individual project stage.

Despite the provisions of the general cross-cutting policies, in-combination, Policies AGG_01 and O&G_01 have been assessed as having a cumulative significant negative

effect in respect of resources (SA Criteria 10). The winning of marine aggregates (Policy AGG_01) and oil and gas production (Policy O&G_01) will together unavoidably result in the depletion of non-renewable resources. However, marine aggregates form an important component of the national and local supply of aggregates and in this regard, the provisions of Policy AGG_01 and the SRAs identified reflect proximity to markets and the presence of infrastructure as well as the availability of reserves to meet known demand over the plan period and beyond. This is consistent with the requirements of the UK MPS which sets out that marine planning authorities “*should as a minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates ... contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses.*” Further, marine aggregate production is likely to result in fewer adverse impacts relative to land-won supplies. Reflecting the importance of marine dredged sand and gravel to Wales, and taking into account the potential for the identified SRAs to meet demand for aggregates over the plan period, Policy AGG_01 has also been assessed as having a significant positive effect on SA Criteria 10.

Whilst Policy O&G_01 has been assessed as having a potential significant negative effect in respect of resources due to the sector’s reliance on a non-renewable resource (in this case, oil and gas), this significant negative effect needs to be considered in the context of the Welsh Government’s commitment to moving to a low carbon energy system which acknowledges that this will be a gradual transition. During this transition, fossil fuel resources (including oil and gas) and 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 within the context of the transition, oil and gas exploration and production and the revenues that they generate can support achievement of sustainable development goals and contribute significantly to the well-being of current and future generations. Key considerations in the continued reliance on fossil fuels include climate change, energy security, cost of energy to businesses and consumers and environmental impact. Gas, as a transition fuel, will also support progress towards the decarbonisation of Welsh energy. Given the potential for Policy O&G_01 to support the production of indigenous offshore oil and gas to contribute to energy security, the policy has also been assessed as having significant positive effect on SA Criteria 10.

Policy ELC_01 has been assessed as having a cumulative significant negative effect on biodiversity (SA Criteria 1), water (SA Criteria 2) and the physical environment (SA Criteria 3) at the plan level. This reflects the potential range and magnitude of environmental effects associated with the deployment and operation of tidal lagoon schemes which in particular are likely to be of greater significance relative to other types of development/marine activity supported by the Draft WNMP and could affect designated sites including European sites in and beyond the plan area. However, a large number of inherent uncertainties remain associated with the scale and location of tidal lagoon activities, the proposed technologies to be deployed, the baseline environmental characteristics of development locations and the efficacy of project-level mitigation.

Contribution of the Draft WNMP to the Well-being Goals for Wales and Objective for SMNR

In addition to considering the effects of the Draft WNMP on the SA criteria, an assessment has been undertaken of the contribution that the plan is likely to make to the achievement

of the well-being goals established in the Well-being of Future Generations (Wales) Act 2015 and the objective for SMNR set out in the Environment (Wales) Act 2016.

The overarching plan objective of the Draft WNMP is to “*support the sustainable development of the Welsh marine area by contributing across Wales’ well-being goals, ensuring the sustainable management of natural resources by taking account of the cumulative effects of all uses of the marine environment.*” Reflecting this objective, the assessment demonstrates that the Draft WNMP policies are likely to make a significant positive contribution to the achievement of the seven well-being goals for Wales, supporting the objective for SMNR. Policy GOV_02 reinforces this expectation by setting out that 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.

The Draft WNMP seeks to deliver blue growth which is underpinned by the principles of sustainable development. Development and use of the marine area will unavoidably require the use of natural resources and could result in some adverse environmental effects that would need to be considered carefully in the context of the well-being goal ‘A resilient Wales’. However, the general cross-cutting policies of the Draft WNMP seek to avoid, minimise or mitigate significant adverse effects associated with new development or activity and will help to ensure the sustainable management of natural resources.

Comparison of the Draft WNMP and the Reasonable Alternative ‘a High Level Strategic Draft WNMP’

One alternative to the Draft WNMP (as proposed) has been identified as reasonable and taken forward for appraisal as part of this SA, namely a ‘High level strategic Draft WNMP’. A high level strategic marine plan would provide a lower level of spatial specificity relative to the Draft WNMP as proposed. For the purposes of this SA, it is assumed that the high level strategic Draft WNMP would still provide sector-specific policy but would not identify SRAs.

The appraisal of this alternative has demonstrated that, overall, the range and type of effects on the SA criteria associated with its implementation would be very similar to those identified in respect of the Draft WNMP as proposed. This reflects the expectation that a high level strategic Draft WNMP would contain the same general cross-cutting policies as the proposed plan and would still provide some indicative support for the safeguarding and expansion of specific sectors.

However, the appraisal has highlighted that the absence of sector-specific SRAs would, relative to the Draft WNMP as proposed, result in a higher level of uncertainty with regard to the magnitude of effects across the majority of the SA criteria. This is because there would be less policy guidance over the location of future development and activity in the plan area which could (inter alia):

- ▶ reduce investor confidence and commercial support for some sectors;
- ▶ result in a lack of spatial direction to ensure that proposals are delivered in those areas with the greatest potential resource to support the growth of a particular sector;
- ▶ increase the risk of conflicts between activities in the plan area and the sterilisation of resources;

- ▶ mean greater uncertainty with respect to the receptors that may be affected by proposals; and
- ▶ undermine the sustainable management of natural resources.

5.2 Reasons for Selecting the Draft WNMP and Rejecting the Reasonable Alternative

Overall, the benefits provided in taking forward the Draft WNMP (as proposed) are considered to outweigh those which are less easy to identify through adopting a high-level approach.

Section 1.3 of the UK MPS sets out the expectation that, together, the MPS and marine plans will “*provide for greater coherence in policy and a forward-looking, proactive and spatial planning approach to the management of the marine area, its resources, and the activities and interactions that take place within it.*” It is the Welsh Government’s view that the introduction of a new, statutory policy framework for the Welsh marine area should be done in a measured way, recognising the significance of transitioning from the current system to a plan-led system. Stakeholders have cautioned the Welsh Government to not step too far too quickly but at the same time to introduce a plan which adds value through adequate spatial specificity.

A high strategic level Draft WNMP would provide some benefits through bringing together and expressing strategic policy in one place. However, there are clear opportunities to facilitate blue growth through spatial policy as set out in the Draft WNMP (as proposed). Identification of areas of higher potential for future use and safeguarding these resources provides a clear statement of intent and support for the sustainable growth of certain sectors. Identification of these areas is expected to help focus further collaborative work to better understand future opportunities and constraints thereby supporting the sustainable development of Welsh seas through a plan-led approach.

The reasonable alternative presented here was rejected because it does not adequately deliver opportunities provided by the legislative framework set out above nor is it considered to add significant value to the policy set out in the UK MPS relative to the effort of undertaking the marine planning process.

5.3 Recommendations

The SA has been undertaken iteratively alongside the development of the Draft WNMP in order to enhance its sustainability performance. Based on the appraisal of the Draft WNMP, amendments to policy wording and/or supporting text have been suggested in order to further enhance the performance of the Draft WNMP against the SA criteria and, by extension, the seven well-being goals for Wales (**Section 4.9**). The mitigation and enhancement measures identified through the policy appraisal will be considered by the Welsh Government in preparing the final WNMP prior to its adoption.

The Draft WNMP is the first marine plan for Wales and represents the start of an ongoing process of shaping Wales’ seas through marine planning to support economic, social and environmental objectives. Under the MCAA, the Welsh Government must keep the WNMP under review once it is adopted. The marine planning process is therefore a continuous one and in accordance with the MCAA, future plans will be developed using

the experience and understanding gained during the preparation of the first marine plan and its implementation.

Through the SA of the Draft WNMP, a number of recommendations have been identified in addition to the mitigation and enhancement measures which could be considered by the Welsh Government in working towards the preparation of the future plans. These recommendations are listed below:

- ▶ **Resolving uncertainties:** The appraisal of the Draft WNMP has highlighted that, despite the existing regulatory framework and policy provisions of the plan, there remains some residual uncertainty with respect to the probability of effects occurring and their magnitude which will be in part dependent on the exact type, scale and location of future development in the context of the sensitivity/capacity of the receiving environment. The development of future marine plans presents an opportunity to resolve these uncertainties through the development of the evidence base and ongoing monitoring (see also **Section 5.4**) and in this regard, it is noted that the Draft WNMP includes a number of policies that concern the development of the marine evidence base. It is recommended that the Welsh Government develops a programme for further research which may focus on, for example:
 - ▶ the environmental capacity of the proposed SRAs to accommodate development for different sectors;
 - ▶ the value of marine ecosystems and the goods and services they provide;
 - ▶ the quantity, quality and distribution of natural resources in the marine area and their capacity to support the sustainable development;
 - ▶ the potential environmental impacts of new development and activity in the marine area with particular emphasis on renewable energy development;
 - ▶ the opportunities to avoid, manage and mitigate significant adverse impacts associated with new development and activity in the marine area;
 - ▶ the potential conflicts and synergies that exist between marine users, activities and the environment and how these relate to Wales' wellbeing goals?;
 - ▶ the cumulative effects of implementing the WNMP both alone and in-combination with other plans and programmes including the marine plans of surrounding administrations;
 - ▶ the opportunities for delivering social, economic and environmental benefits and to support the achievement of Wales' wellbeing goals through development and use of the marine environment.

Any research programme should be developed in liaison with key stakeholders and be delivered through collaboration and engagement including across borders. Research should draw upon experience gained through the consenting, development, operation and decommissioning of proposals in order to inform future decision making and policy.

- ▶ **Refining existing and identifying new SRAs:** Greater understanding of the capacity of SRAs, of sector compatibility and of the distribution/capacity of

natural resources may enable future marine plans to provide a greater level of spatial specificity than is currently possible (proportionate to the level of evidence available). This would provide greater certainty with respect to future development/activity in the marine area, helping to support economic development (for example, by affording greater confidence to investors) and providing positive protection for the marine environment (for example, by excluding sensitive features of designated nature conservation sites from SRAs). In this regard, it is noted that the policies of the Draft WNMP encourage collaboration between relevant authorities, sectors and other interested parties in support of the refinement/identification of SRAs.

- ▶ **Identifying targets:** Evidence on capacity may permit the identification of targets in future marine plans. Such targets may relate to, for example, the number of jobs to be created over the plan period, the volume of aggregates to be produced or the amount of low carbon energy to be generated. This could help provide greater clarity in terms of the intended outcomes of future plans, support future monitoring and prevent the over-exploitation of resources.
- ▶ **Providing supplementary guidance:** As new evidence becomes available relating to SRAs and specific sectors (particularly in the interim period between plan adoption and review), this could be presented in a series of supplementary guidance notes that are linked to the Wales Marine Planning Portal. Guidance notes could usefully detail, and provide direction on, the priorities, constraints and opportunities within each SRA. Alternatively, this guidance could be set out in Area Statements to be developed by Natural Resources Wales in accordance with the Environment (Wales) Act 2016. The Welsh Government may also wish to consider whether additional supplementary guidance on specific topics or sectors could be developed in order to provide further detail in respect of the policies of the WNMP and ensure that they are understood and applied effectively.
- ▶ **Reviewing policy effectiveness:** Ongoing monitoring of the WNMP's implementation should be used to review the effectiveness of the plan policies in delivering sustainable development of the Welsh seas. In evaluating the effectiveness of plan policies, it will be important for the Welsh Government to consult the Marine Licensing Team and other plan users.
- ▶ **Ensuring that marine spatial planning decisions are consistent with the SMNR principles and contribute to Wales' well-being goals:** As set out in **Section 4.8**, the Well-being of Future Generations (Wales) Act 2015 places a duty on public bodies to carry out sustainable development aimed at achieving the seven well-being goals for Wales. The Environment (Wales) Act 2016, meanwhile, introduces a number of principles (as shown in **Figure 1.3**) that underpin the achievement of SMNR. It is recommended that the Welsh Government gives further consideration with regard to how best to ensure and demonstrate the integration of SMNR principles and Wales' well-being goals in the process of future plan development and marine spatial planning decisions in order to ensure that it meets its duty to carry out sustainable development. This could be achieved through the preparation of a checklist(s) and associated guidance, for example.

5.4 Proposals for Monitoring

It is a requirement of the SEA Directive to establish how the significant effects of implementing the WNMP will be monitored. As set out in UK Government Guidance⁵², “*it is not necessary to monitor everything or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects.*”

Monitoring the WNMP for sustainability effects can help to answer questions such as:

- ▶ Were the SA’s predictions of sustainability effects accurate?
- ▶ Is the WNMP contributing to the achievement of desired SA objectives?
- ▶ Are mitigation measures performing as well as expected?
- ▶ Are there any unforeseen adverse effects? Are these within acceptable limits, or is remedial action desirable?

This is particularly important given the uncertainties identified through the appraisal of the plan policies and the fact that the WNMP is the first marine plan for Wales. In this context, monitoring should therefore be focused on:

- ▶ significant sustainability effects that may give rise to irreversible adverse effects, with a view to identifying trends before significant adverse effects occur;
- ▶ significant effects where there was uncertainty in the SA and where monitoring may enable preventative or mitigation measures to be undertaken; and
- ▶ where there is the potential for effects to occur on sensitive receptors.

Appendix G identifies a number of potential indicators that could be used for monitoring the sustainability effects of the WNMP. This list is provisional and indicative only and it should be noted that Article 10(2) of the SEA Directive specifically states that, where appropriate, existing monitoring arrangements may be used to assess the success of the appropriate plan in achieving its objectives. Section 61(4) of the MCAA places a duty on marine planning authorities to prepare and publish a report on the following matters which are to be kept under review:

- ▶ the effects of the policies in the marine plan;
- ▶ the effectiveness of those policies in securing that the objectives for which the marine plan was prepared and adopted are met;
- ▶ the progress being made towards securing those objectives;

In this context, the Welsh Government will develop a monitoring plan for the WNMP which can be used to monitor the effects of the plan’s implementation against the SA criteria. Additionally, the WMER and SoNaRR (and subsequent updates) will also provide invaluable evidence to support monitoring of the effect of marine planning going forward.

Monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Directive and MCAA will be presented in the Post Adoption Statement.

⁵² ODPM (2005) *Practical Guide to the Strategic Environmental Assessment Directive*. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf.

5.5 Next Steps

This SA Report is being published alongside the Draft WNMP for formal consultation until **XXX**. Feedback received from consultees will be documented and considered in reviewing the proposals for the Draft WNMP. A Post Adoption Statement will summarise how the SA and the consultation responses have been taken into account and how socio-economic and environmental considerations have been integrated into the final decisions regarding the WNMP.

Appendix A

Quality Assurance Checklist

The Government's Guidance on SEA contains a quality assurance checklist to help ensure that the requirements of the SEA Directive are met. These requirements have been highlighted below and a signpost provided to where the requirements are met in this SA Report.

Objectives and Context	
The plan's purpose and objectives are made clear.	Presented in Section 2 .
Environmental issues, including international and EC objectives, are considered in developing objectives and targets.	<p>The WMER and Appendix B identify the sustainability baseline issues and set out the environmental protection objectives and targets and how these are linked to the SA criteria.</p> <p>SA criteria are clearly set out and linked to indicators and targets where appropriate.</p> <p>Section 3 presents the SA criteria and guide questions.</p> <p>Links to other related plans, programmes and policies are identified and explained.</p> <p>The WMER and Appendix B identify relevant plans and programmes.</p>
Scoping	
The environmental consultation bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Scoping Report.	Consultation on the draft SSE (including the proposed scope of the SA) took place between 13th August and 10th November 2014.
The SEA focuses on significant issues.	Key sustainability issues that could arise from the implementation of the Draft WNMP have been identified in this SA Report (see Appendix B).
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	Section 3 describes the key difficulties encountered during the preparation of this SA Report.
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	Potential alternatives are identified in Section 2 and have been assessed in Section 4 . The reasons for the selection of the Draft WNMP (as proposed) and for the rejection of alternatives are set out in Section 5 .
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	The reasonable alternatives to the Draft WNMP have been assessed in Section 4 .
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	The reasonable alternatives to the Draft WNMP have been assessed in Section 4 .
Reasons are given for selection or elimination of alternatives.	Potential alternatives are identified in Section 2 . The reasons for the selection of the Draft WNMP (as proposed) and for the rejection of

	reasonable alternatives are set out in Section 5 .
Baseline Information	
Relevant aspects of the current state of the environment and their likely evolution without the plan are described.	Refer to the WMER and Appendix B .
Characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan where practical.	Refer to the WMER and Appendix B .
Difficulties such as deficiencies in information or methods are explained.	These are stated throughout the report where appropriate and Section 3 .
Prediction and Evaluation of Significant Environmental Effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage and landscape) as relevant; other likely environmental effects are also covered as appropriate.	These are set out in Appendix D and Appendix E and summarised in Section 4 .
Both positive and negative effects are considered, and the duration of effects (short, medium, or long term) is addressed.	These are set out in Appendix D and Appendix E and summarised in Section 4 .
Likely secondary, cumulative and synergistic effects are identified where practicable.	These are set out in Appendix D and Appendix E and summarised in Section 4 .
Inter-relationships between effects are considered where practicable.	These are set out in Appendix D and Appendix E and summarised in Section 4 .
The prediction and evaluation of effects makes use of relevant accepted standards, regulations and thresholds.	See Section 3 .
Methods used to evaluate the effects are described.	These are described in Section 3 .
Mitigation Measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	These are set out in Appendix D and Appendix E and summarised in Section 5 .
Issues to be taken into account in project consents are identified.	If relevant, these are set out in Appendix D and Appendix E .
Environmental Report	
Is clear and concise in its layout and presentation.	The layout of the SA Report is set out in Section 1 . The structure was subject to early consultation and review as part of scoping.
Uses simple, clear language and avoids or explains technical terms.	The SA Report has been written in plain English as far as the technical nature of the report allows.
Uses maps and other illustrations where appropriate.	Figures and tables have been used throughout the SA Report and in the appendices where appropriate.

Explains the methodology used.	This is presented in Section 3 .
Explains who was consulted and what methods of consultation were used.	This is covered in Section 1 .
Identifies sources of information, including expert judgement and matters of opinion.	References to information sources are provided throughout the report and appendices where appropriate.
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	A NTS has been provided.
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	This SA Report will be published for consultation alongside the Draft WNMP.
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate timeframes to express their opinions on the draft plan and Environmental Report.	This SA Report will be published for consultation alongside the Draft WNMP.
Decision-making and Information on the Decision	
The Environmental Report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	This will be included in the Post Adoption Statement (to be issued following consultation on this SA Report).
An explanation is given of how they have been taken into account.	This will be included in the Post Adoption Statement (to be issued following consultation on this SA Report).
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	This will be included in the Post Adoption Statement (to be issued following consultation on this SA Report).
Monitoring Measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Measures are presented in Appendix G .
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	Details of this are provided in Section 5 and Appendix G .
Monitoring enables unforeseen adverse effects to be identified at an early stage (these effects may include predictions which prove to be incorrect).	Details of this are provided in Section 5 and Appendix G .
Proposals are made for action in response to significant adverse effects.	This will be set out in the Post Adoption Statement (to be published following consultation).

Appendix B

Context and Baseline

Introduction

The UK MPS requires plan-making authorities to use the best available evidence in plan making. The Welsh Government prepared a SSE to assess the spatial distribution of natural resources and human activities within Wales’s marine area and to understand, at a strategic level, the key issues that marine planning should take account of. Following consultation on the draft SSE, the baseline information and review of the policy context was updated to take into account consultation responses and new information/data and presented in the WMER which is available on the Welsh Government’s website via the following link: <http://gov.wales/topics/environmentcountryside/marineandfisheries/marine-planning/other-supporting-evidence/wales-marine-evidence-report/?lang=en>.

In addition to establishing the evidence base for the WNMP, the draft SSE and, subsequently, the WMER also set out the relevant environmental information for the SA of the plan. Information on the state of the Welsh marine environment (including the current situation and future trends) and the relevant policy context contained in the draft SSE and WMER have provided an evidence base to support the decisions relating to the scope of the SA and the criteria and guide questions that comprise the SA Framework (see **Section 3**). In this context, the WMER presents information across a range of topics and sectors. For each topic/sector, the following information is provided:

- ▶ an overview and background to the topic/sector;
- ▶ identification of key issues for marine planning;
- ▶ the current policy framework;
- ▶ the current baseline (status); and
- ▶ the evolution of the baseline (future status).

Annex I of the SEA Directive (and Schedule 2 of the SEA Regulations) requires that the appraisal of the Draft WNMP should include information on the “*likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to*”. **Table B.1** demonstrates how these SEA topics have been considered within the WMER topics.

Table B.1 Coverage of the SEA Topics in the WMER

Annex I SEA Directive Effects	Topics Considered in the WMER*
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Annex I SEA Directive Effects	Topics Considered in the WMER*
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> Nature Conservation, Biodiversity and Geodiversity Noise Water Quality
Population	<ul style="list-style-type: none"> Social Considerations Economic Considerations Recreation and Tourism
Human Health	<ul style="list-style-type: none"> Social Considerations Noise
Soil	<ul style="list-style-type: none"> Aggregates Water Quality
Water	<ul style="list-style-type: none"> Water Quality Surface Water Management and Wastewater Treatment and Disposal
Air	<ul style="list-style-type: none"> Air Quality
Climatic Factors	<ul style="list-style-type: none"> Climate Change Coastal Change and Flooding
Material Assets	<ul style="list-style-type: none"> Defence Oil and Gas (including Carbon Capture and Storage) Low Carbon Power Stations Coal Gasification Fisheries Telecommunication Cabling Ports and Shipping Aggregates Navigation Dredging and Disposal Aquaculture
Cultural Heritage, including architectural and archaeological heritage	<ul style="list-style-type: none"> Historic Environment
Landscape	<ul style="list-style-type: none"> Seascape

* In order to demonstrate how WMER topics relate to the SEA topics, some WMER topics appear more than once.

In addition, the appraisal of the Draft WNMP has been informed by the baseline information contained in the State of Natural Resources Report (SoNaRR) developed by Natural Resources Wales⁵³.

The remainder of this appendix provides a summary and overview of the context and baseline information presented in the WMER and which has informed the development of the SA Framework used to assess the Draft WNMP and reasonable alternatives. It includes details of the review of other relevant plans and programmes and baseline data and culminates in the identification of key issues to be considered by the Draft WNMP and SA.

Review of Plans and Programmes

One of the first steps in undertaking the SA (and to meet the requirements of the SEA Directive) is to identify and review other relevant plans, programmes, policies and strategies (hereafter referred to as 'plans and programmes') that could influence, or be

⁵³ Natural Resources Wales (2016) *State of Natural Resources Report*. Available from <https://naturalresources.wales/our-evidence-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en> [Accessed January 2017].

influenced by, the WNMP. These may be plans and programmes at an international/ European, UK or national (Wales) level, as relevant to the scope of the plan. The review of relevant plans and programmes aims to identify the relationships between the WNMP and these other documents i.e. how the WNMP could be affected by the other plans' and programmes' aims, objectives and/or targets, or how it could contribute to the achievement of their sustainability objectives. The review also ensures that the relevant environmental protection and sustainability objectives are integrated into the SA. Additionally, reviewing plans and programmes can provide appropriate information on the baseline for the plan area and help identify the key sustainability issues.

The WMER includes a review of over 300 plans and programmes. From the review of these plans and programmes, a number of key objectives and policy messages have been identified and which have informed the SA Framework (see **Section 3**). These objectives and messages are summarised in **Table B.2** along with an indication of where the policy objectives are reflected in the SA criteria that comprise the SA Framework.

Table B.2 Key Policy Objectives included in Other Plans and Programmes relevant to the SA of the Draft WNMP

Topic	Key Objectives and Policy Messages	SA Criteria Link
Integrated Natural Resource Management	<ul style="list-style-type: none"> Embedding a process of integrated natural resource management to achieve the sustainable management of natural resources. 	1, 2, 3, 4, 5, 6, 10
Biodiversity, Fauna and Flora	<ul style="list-style-type: none"> Protection and enhancement of the levels and variety of biodiversity, including designated sites, priority species and habitats in the marine and coastal environments. Maintain and enhance the resilience of ecosystems. 	1, 2, 3
Soil, Geology and Land Use	<ul style="list-style-type: none"> Protection and enhancement of soil quality, designated geological sites and coastal communities and the sustainable use of land. 	3, 10, 14
Water	<ul style="list-style-type: none"> Protection and enhancement of all water supplies and resources. Promoting the efficient use of water. Protecting and enhancing water quality. Managing flood risk and protecting natural assets such as intertidal areas and dunes. 	2, 6, 10
Air and Climate	<ul style="list-style-type: none"> Ensuring air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. Minimising the effects of climate change on natural resources, inhabitants and the economy and encouraging adaptation. Minimising emissions of greenhouse gases that may cause climate change. Encouraging sustainable transport and reduce the need to travel. 	4, 6, 10
Material Assets and Resource Use	<ul style="list-style-type: none"> Minimising waste production, promoting re- use and recycling. Promoting the most effective and efficient use of natural resources. Promoting the use of sustainable/renewable energy. Promoting the use of sustainable design and construction and encouraging energy efficiency. 	6, 10
Archaeology and Cultural Heritage	<ul style="list-style-type: none"> Protecting and enhancing cultural heritage, historic landscapes and archaeological sites. 	5, 7, 8
Landscape, Seascape and Amenity	<ul style="list-style-type: none"> Protecting and enhancing the quality and distinctiveness of natural landscapes and seascapes and environmental resources. 	5, 7
Population and Health	<ul style="list-style-type: none"> Addressing deprivation and reducing inequality through regeneration. Promoting improvements to health and wellbeing for members of the community. 	8, 9, 11, 12, 13

Topic	Key Objectives and Policy Messages	SA Criteria Link
	<ul style="list-style-type: none"> Ensuring social equality and prosperity for all. Providing high quality services, community facilities and social infrastructure that is accessible to all. Minimising noise pollution. 	
Economic	<ul style="list-style-type: none"> Improving economic competitiveness and promoting productivity. Achieving sustainable economic growth and promoting key sectors in the local economy which conserve and enhance the environment. Providing training and development opportunities for all. Maximising job opportunities for all and enhancing the quality of employment opportunities. Improving and expanding the tourism economy. Promoting sustainable transport which supports regeneration and economic growth. 	9, 11, 12

Key Issues Relevant to the SA of the Draft WNNP

The key issues relevant to the WNMP have been highlighted in each of the topic sections contained in WMER. These key issues are summarised in **Table B.3**. Against each topic, the reference to the SA criteria indicates how the issues have been reflected within the SA Framework (see **Section 3**).

Table B.3 Key Economic, Social and Environmental Issues Relevant to the SA of the Draft WNMP

WMER Topic	Key Issues	SA Criteria Link
Climate Change	<ul style="list-style-type: none"> The need to reduce the emission of greenhouse gases. The need to ensure the resilience of marine and coastal environments to the potential effects of climate change. The need to support the ability of habitats, species and human activities to anticipate and adapt to the effects of sea level rise, temperature change and changes in the frequency, duration and intensity of rainfall. 	3, 5, 6, 10
Coastal Change and Flooding	<ul style="list-style-type: none"> The need to ensure that there is no increased risk of flooding and coastal erosion through inappropriate development. The need to manage flood and coastal erosion risk. The need to support local communities in becoming more resilient to flood risk. 	2, 3, 6
Water Quality, Marine Litter, Sediment Quality and Contaminants in Biota	<ul style="list-style-type: none"> The need to maintain and improve transitional, coastal and marine water quality. The need to ensure that inland and coastal development and land management do not cumulatively affect the water environment. The need to ensure that water quality is protected and enhanced to support the range of human activities which are reliant upon it 	2, 10
Geodiversity, Biodiversity and Nature Conservation	<ul style="list-style-type: none"> The need to protect and enhance biodiversity generally and designated sites and priority species in particular. The need to maintain and enhance ecosystem resilience. The need to achieve favourable conservation status for European designated sites. The need to continue to improve the condition of priority habitats to support increases in biodiversity. The need to take account of the influence of climate change on habitat and species distribution and health, and their capacity for adaptation. The need to achieve good ecological status and potential in surface freshwater, groundwaters, estuaries and coastal waters and achieve good environmental status for marine waters. The need to take account of the impacts of infrastructure development on coastal processes and marine and coastal ecology. 	1, 2, 3



WMER Topic	Key Issues	SA Criteria Link
Historic Environment	<ul style="list-style-type: none"> The need to protect and enhance features, landscapes, assets and sites of archaeological importance and cultural heritage interest in the coastal, intertidal, and marine environment. The need to take particular account of the potential impacts of infrastructure development on the historic environment, providing appropriate mitigation. 	5, 7, 8
Landscape & Seascape	<ul style="list-style-type: none"> The need to protect and enhance areas designated for their landscape and seascape importance. The need to maintain the character and quality of the coastal zone, including particular regard to its visual, recreational and cultural heritage significance. The need to take account of the potential impacts of both off-shore and on-shore development on seascape character and quality and its perception by residents and visitors. 	5, 7
Air Quality	<ul style="list-style-type: none"> The need to maintain and improve air quality in the coastal zone and out at sea, and in so doing meet national and international air quality targets. The need to limit and reduce the emission of pollutants from key contributory sectors such as shipping and industrial activity. 	4, 6, 10
Noise	<ul style="list-style-type: none"> The need to limit noise generation (including underwater noise) and its potential impacts on biodiversity and coastal zone character. 	1, 5, 13
Aggregates	<ul style="list-style-type: none"> The need to ensure a sustainable, secure and long term supply of marine aggregates whilst protecting biodiversity interests and archaeological interests and taking account of cumulative effects of extraction on the marine environment. The need to maximise the use of recycled aggregates and the efficient use of aggregate material. The need to ensure that impacts on marine and coastal processes are avoided or minimised. 	All SA Criteria
Aquaculture	<ul style="list-style-type: none"> The need to support the sustainable growth of aquaculture. The need to avoid/minimise/mitigate environmental impacts associated with aquaculture (e.g. waste products). 	All SA Criteria
Defence	<ul style="list-style-type: none"> The need to take account of the individual and cumulative impacts of marine infrastructure on both marine and land-based defence interests. The need to ensure that defence operations minimise their impacts on environmental and community interests. 	All SA Criteria
Dredging and Disposal	<ul style="list-style-type: none"> The need to minimise the direct impacts of dredging on marine ecology through changes in water quality, noise and disturbance, as well as wider potential impacts on heritage assets and coastal processes. The need to recognise the importance of dredging for navigational safety, in terms of both commercial shipping and recreational boating. 	All SA Criteria
Energy - Oil and Gas (including Gas Unloading and Storage and Carbon Capture and Storage)	<ul style="list-style-type: none"> The need to contribute to the provision of a secure and sustainable supply of energy through the provision of infrastructure, pipelines, connections and storage facilities, including for carbon capture and storage. The need to minimise the environmental impacts of oil and gas exploration and production on the marine and coastal environment. 	All SA Criteria
Energy - Low Carbon (Wind, Wave and Tidal)	<ul style="list-style-type: none"> The need to support the generation of renewable energy as a contribution to national renewable energy targets. The need to take account of the potential direct, indirect and cumulative impacts on environmental and community interests associated with construction and operation. The need to minimise the environmental impacts of low carbon development on the marine and coastal environment. 	All SA Criteria
Energy - Power Stations	<ul style="list-style-type: none"> The need to take account of the range of receptors and impacts associated with construction, operation and decommissioning, including flood risk, water quality and resources, coastal change, biodiversity, geodiversity, landscape and socio-economic interests. The need to minimise the environmental impacts of power stations on the marine and coastal environment. 	All SA Criteria



WMER Topic	Key Issues	SA Criteria Link
Energy - Coal Gasification	<ul style="list-style-type: none"> The need to protect the coastal environment, including community interests, from the impacts and risks associated with the development of underground coal gasification infrastructure and activity. 	All SA Criteria
Fisheries	<ul style="list-style-type: none"> The need to support a sustainable fishing industry which balances environmental, social and economic considerations. The need to protect fish health and welfare as part of achieving good environmental status of marine waters. The need to develop the capacity and retain the added value associated with fish processing and retailing. The need to minimise by-catch. The need to protect life stage habitats for fish species. 	All SA Criteria
Tourism and Recreation	<ul style="list-style-type: none"> The need to promote sustainable recreation and tourism activity which supports socioeconomic development, but protects and where possible enhances the natural and cultural assets on which it depends. The need to balance the differing needs of recreation and tourism which can compete for marine and coastal space. The need to account for the likely impacts of climate change on the demand for recreation and tourism activities and the ability to fulfil that demand. 	All SA Criteria
Subsea Cabling	<ul style="list-style-type: none"> The need to balance the requirements of cabling with potential impacts on marine habitats, and interference with other activities. 	All SA Criteria
Ports and Shipping	<ul style="list-style-type: none"> The need to balance environmental interests with the impacts associated with fulfilling the demand and potential for port expansion and intensification. The need to reduce pollution associated with shipping activities. The need to promote the sustainable co-existence of shipping with other demands on marine space. 	All SA Criteria
Surface Water Runoff and Wastewater Management	<ul style="list-style-type: none"> The need to reduce the volume and proportion of untreated waste water entering the environment. The need to reduce the number and frequency of pollution incidents 	All SA Criteria
Social Considerations	<ul style="list-style-type: none"> The need to encourage employment opportunities for local residents, and achieve a balance of part time and full time work (i.e. move the dependence away from seasonal work). The need to ensure the retention and development of high skill levels in coastal areas. The need to protect and support Welsh language and culture. 	8, 11, 12
Economic Considerations	<ul style="list-style-type: none"> The need to support sustainable economic growth within environmental capacities. The need to balance the potential for growth of key economic sectors with the interests of those industries which directly and indirectly depend upon the natural and cultural environment. The need to minimise the environmental impacts of economic development on the marine and coastal environment. 	11, 12



Appendix C

Definitions of Significance

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
1. To protect and enhance biodiversity (habitats, species and ecosystems).	<ul style="list-style-type: none"> Protect and enhance designated nature conservation sites (e.g. SACs, SPAs, Ramsar and SSSIs), habitats and species? Protect and enhance the structure and function of marine and coastal ecosystems? Avoid adverse impacts on marine ecology from underwater noise? Provide opportunities for people to come in to contact with and appreciate wildlife and wild places? Maintain and restore key ecological processes, and in particular coastal and marine processes? 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would have a significant and sustained positive impact on European or national designated sites and/or priority species (e.g. fully supports all conservation objectives on site, long term increase in population of priority species). Plan or policies would have a strong positive effect on local biodiversity (e.g. creation of new habitats leading to long term improvement to ecosystem structure and function).
		+	Positive	<ul style="list-style-type: none"> Plan or policies would have a minor positive effect on European or national designated sites and/or priority species (e.g. supports one of the conservation objectives on site, short term increase in population of priority species). Plan or policies may have a positive net effect on local biodiversity (e.g. through reduction in disturbance or some habitat creation leading to temporary improvement to ecosystem structure and function).
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any effects on European or national designated sites and/or any species.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would have minor short-term negative effects on non-designated conservation sites and species (e.g. through some loss of habitat leading to temporary loss of ecosystem structure and function).
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would have a negative effect on European or national designated sites and/or priority species (i.e. on the interest features and integrity of the site, by preventing any of the conservation objectives from being achieved or resulting in a long term decrease in the population of a priority species). These effects could not be reasonably mitigated. Plan or policies would have significant negative effects on local biodiversity (e.g. through considerable loss of habitat leading to long term loss of ecosystem structure and function).
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
2. To protect and enhance the quality of surface, ground, estuarine and coastal water.	<ul style="list-style-type: none"> Affect demand for water resources and the availability of water to meet the demand? Affect groundwater or freshwater, estuarine or 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would lead to a major reduction in water use in coastal communities compared to prior to development such that the risk of water shortages in the area is significantly decreased and abstraction is at a sustainable level in the long term. Plan or policies would significantly decrease the amount of waste water, surface runoff and pollutant discharges so that the quality of water receptors (including groundwater, surface water and sea water) will be significantly improved and sustained.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
	<i>marine water quality?</i> <ul style="list-style-type: none"> <i>Promote high quality surface water management and waste water treatment and disposal?</i> 	+	Positive	<ul style="list-style-type: none"> Plan or policies would lead to a minor reduction in water use in coastal communities compared to prior to development such that the risk of water shortages in the area is decreased in the short term and abstraction is closer to sustainable levels than prior to development. Plan or policies would lead to minor decreases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water and sea water) may be improved to some level temporarily.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on water demand and abstraction levels. Plan or policies would not have any net effects on waste water, surface runoff and/or pollutant discharges so that the quality of water receptors will not be affected.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would lead to a minor increase in water use in coastal communities compared to prior to development such that the risk of water shortages in the area is increased to some level in the short term, particularly in periods of low flow and abstraction is considered beyond sustainable levels. Plan or policies would lead to minor increases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water and sea water) may be decreased to some level temporarily.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would lead to major increases in water use in coastal communities compared to prior to development such that the risk of water shortages in the area is significantly increased and abstraction is significantly beyond sustainable levels. Plan or policies would lead to an exceedence of an abstraction licence limit for coastal WRZs. Plan or policies would lead to major increases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water and sea water) will be considerably decreased.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the option would have on this criteria is uncertain.
3. To protect and enhance the physical features of the marine environment.	<ul style="list-style-type: none"> <i>Affect marine and coastal processes and/or erosion rates?</i> <i>Protect and enhance designated coastal features</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would result in significant decreases in pressures on the marine environment, coastal processes, marine processes and their impact on designated areas, features or sites such as geological SSSIs. Plan or policies would protect the seabed in designated or sensitive areas from adverse impacts arising from development and/or resource exploitation.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
	<p><i>or sites e.g. geological SSSIs?</i></p> <ul style="list-style-type: none"> <i>Ensure the protection of the seabed in designated or sensitive areas?</i> <i>Support the policies and actions of Shoreline Management Plans?</i> 	+	Positive	<ul style="list-style-type: none"> Plan or policies would result in decreases in pressures on the marine environment, coastal processes and their impact on designated areas, features or sites such as geological SSSIs. Plan or policies would help to limit adverse impacts arising from development and/or resource exploitation.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would result in no overall changes to pressures on the marine environment, coastal processes and their impact on designated areas, features or sites such as geological SSSIs. Plan or policies would result in no overall changes to the seabed arising from development and/or resource exploitation.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in minor increases in pressures on the marine environment, coastal processes and their impact on designated areas, features or sites such as geological SSSIs. Plan or policies would result in minor increases in adverse impacts arising from development and/or resource exploitation.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in significant increases in pressures on the marine environment, coastal processes and their impact on designated areas, features or sites such as geological SSSIs. Plan or policies would result in significant increases in adverse impacts arising from development and/or resource exploitation.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
4. To protect and enhance air quality.	<ul style="list-style-type: none"> <i>Help to reduce emissions of air pollutants associated with marine or coastal activities and developments?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would help to significantly improve local and national air quality through a sustained reduction in concentrations of pollutants identified in national air quality objectives from marine and coastal sources.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would help lead to minor improvements in local and national air quality from a reduction in concentrations of pollutants identified in national air quality objectives from marine and coastal sources.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on local or national air quality.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in minor decreases in local or national air quality from marine and coastal sources.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would cause a significant decrease in local or national air quality through a sustained increase in concentrations of pollutants from marine and coastal sources.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
5. To protect and enhance landscape and seascape character and other protected features.	<ul style="list-style-type: none"> <i>Recognise and respect non-designated landscape and seascape character?</i> <i>Help to protect designated coastal landscapes and/or townscapes, such as National Parks, AONBs, Heritage Coast or conservation areas?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would make a significant positive contribution to the protection and enhancement of statutorily-designated landscapes and other protected features. Plan or policies would have a significant positive effect on the setting and attractiveness of local landscapes and seascapes.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would serve to enhance statutorily-designated landscapes and other protected features. Plan or policies would have a positive effect on the setting and attractiveness of local landscapes and seascapes.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on landscapes or seascapes.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would have minor, short-term negative effects on statutorily-designated landscapes and other protected features. Plan or policies would have a negative effect on the setting and attractiveness of landscapes and seascapes.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would have major, long-term negative effects on statutorily-designated landscapes and other protected features. Plan or policies would severely affect the setting and attractiveness of local landscapes and seascapes.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
6. To limit the causes and effects of climate change and promote adaptation.	<ul style="list-style-type: none"> <i>Contribute to a reduction, directly or indirectly, in greenhouse gas emissions?</i> <i>Contribute positively to resilience and/or adaptation</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would help to significantly reduce carbon and other greenhouse gas emissions from marine and coastal sources. Plan or policies would significantly increase resilience/decrease vulnerability to climate change such as fewer people or properties at risk or affected by flooding, coastal inundation or sea level rise.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
	<i>to climate change, helping to ensure that forecast changes are considered over the lifetime of any proposed development or activity?</i>	+	Positive	<ul style="list-style-type: none"> Plan or policies would help to reduce carbon and other greenhouse gas emissions from marine and coastal sources. Plan or policies would increase resilience/decrease vulnerability to climate change such as people or property at risk or affected by flooding, coastal inundation or sea level rise.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not lead to an overall change in carbon and other greenhouse gas emissions or a change in the resilience to climate change.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would increase carbon and other greenhouse gas emissions from marine and coastal sources. Plan or policies would decrease resilience/increase vulnerability to climate change in the wider environment.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would significantly increase carbon and other greenhouse gas emissions from marine and coastal sources. Plan or policies would significantly decrease resilience/increase vulnerability to climate change such as people or property put at greater risk or affected by flooding, coastal inundation or sea level rise.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
7. To protect and enhance cultural, historic and industrial heritage resources.	<ul style="list-style-type: none"> <i>Help to protect the site and setting of marine and coastal historic sites and assets including scheduled monuments and protected wrecks, landscapes and seascapes?</i> <i>Help to avoid or minimise damage to onshore and offshore archaeologically important sites?</i> <i>Help to protect and enhance culturally important sites?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would make a significant positive and long-term contribution to the setting and conservation of designated and locally important cultural heritage features.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would bring some improvements to the setting and conservation of designated cultural heritage features.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on cultural heritage sites or assets.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in some degradation to the setting and conservation of designated cultural heritage features.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would cause significant long-term degradation to the setting and conservation of designated and locally important cultural heritage features.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
8. To support and enhance the Welsh language and culture.	<ul style="list-style-type: none"> <i>Protect Welsh language and culture?</i> <i>Promote and enhance opportunities for the promotion and development of Welsh language and culture?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would have a significant and sustained positive impact on the protection and enhancement of the Welsh language and culture such as a sustained increase in the number of Welsh speakers living in coastal communities.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would have a positive impact on the protection and enhancement of the Welsh language and culture.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any effects on the Welsh language and culture.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in negative effects on the Welsh language and culture.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in significant negative effects on the Welsh language and culture such as a long term decline in Welsh speakers living in coastal communities.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
9. To support appropriate tourism in Wales and protect and enhance opportunities for recreation.	<ul style="list-style-type: none"> <i>Help to protect and promote the attractiveness of the coastal and marine environment for visitors?</i> <i>Help to protect and promote the distinctiveness of landscapes and seascapes?</i> <i>Help to protect and promote sustainable opportunities for recreation in the coastal and marine environment for residents and visitors?</i> <i>Help to promote the health and well-being of local communities through supporting appropriate opportunities for recreation?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would result in the protection and enhancement of the coastal and marine environment such that it can help to make a sustained and significant contribution to the tourism industry in Wales. Plan or policies would result in the promotion of the development of sustainable tourism and recreation opportunities, in doing so help to promote health and well-being.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would result in the protection and enhancement of the coastal and marine environment such that it can help to make a contribution to the tourism industry in Wales. Plan or policies would promote the development of sustainable tourism and recreation opportunities, in doing so help to promote health and well-being.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on tourism or recreational activity.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in negative effects on the coastal and marine environment to the extent that the capacity of the tourism industry is compromised, and recreational opportunities reduced.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in significant negative effects on the coastal and marine environment to the extent that the capacity of the tourism industry is seriously compromised and recreational opportunities restricted.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
10. To promote the sustainable use of natural resources.	<ul style="list-style-type: none"> <i>Promote the protection and accessibility of the seabed for the winning of marine aggregates?</i> <i>Promote the sustainable use of natural resources including oil and gas?</i> <i>Help to support the development of low carbon energy and thereby contribute towards meeting renewable energy targets?</i> <i>Promote the sustainable management of waste?"</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would result in significantly more sustainable resource extraction, use and waste management practices in accordance with national policies. Plan or policies would result in clear positive shifts towards the sustainable use of resources for energy generation and the development of low carbon energy.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would result in more sustainable resource extraction, use and waste management practices in accordance with national policies. Plan or policies would result in some movement toward the sustainable use of resources for energy generation and the development of low carbon energy.
		0	Neutral	<ul style="list-style-type: none"> Plan or policies would result in no net effects on the sustainable use of resources.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in more unsustainable resource extraction, use and waste management practices contrary to national policies. Plan or policies would result in a move away from the sustainable use of resources for energy generation and the development of low carbon energy.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in significantly more unsustainable resource extraction, use and waste management practices contrary to national policies. Plan or policies would result in a clear negative shift away from the sustainable use of resources for energy generation and the development of low carbon energy.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
11. To support sustainable development of marine and coastal economy.	<ul style="list-style-type: none"> <i>Contribute to the growth of any marine activity without detriment to another?</i> <i>Help to ensure that capacity is provided for shipping needs, including sea space, water depth and port facilities?</i> <i>Support the protection and conservation of marine fish stocks and ensure the continuation a sustainable</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policy would result in significant and sustainable growth of the marine economy. Plan or policies would result in a significant positive change in the provision made for shipping capacity including sea space, water depth and port facilities. Plan or policies would make a significant contribution towards the creation of sustainable fisheries in the seas around Wales, and the promotion of sustainable aquaculture.
		+	Positive	<ul style="list-style-type: none"> Plan or policy would result in minor and sustainable growth of the marine economy. Plan or policies would result in a positive change in the provision made for shipping capacity including sea space, water depth and port facilities. Plan or policies would make some contribution towards the creation of sustainable fisheries in the seas around Wales, and the promotion of sustainable aquaculture.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
	<ul style="list-style-type: none"> <i>fishing industry in Wales?</i> <i>Help to promote the sustainable growth of aquaculture in Wales?</i> <i>Help ensure appropriate defence activities can be undertaken in sustainable manner?</i> <i>Facilitate telecommunications including cable laying in appropriate areas?</i> 	0	Neutral	<ul style="list-style-type: none"> Plan or policies would not have any net effects on the development of marine and coastal economy.
		-	Negative	<ul style="list-style-type: none"> Plan or policy would result in minor and/or unsustainable change of the marine economy and negative effects on the growth of a maritime industry. Plan or policies would result in a negative change in the provision made for shipping capacity including sea space, water depth and port facilities. Plan or policies would hinder the creation of sustainable fisheries in the seas around Wales, and the promotion of sustainable aquaculture.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policy would result in significant unsustainable change of the marine economy and negative effects on the growth of several maritime industries. Plan or policies would result in a significant negative change in the provision made for shipping capacity including sea space, water depth and port facilities. Plan or policies would significantly hinder the creation of sustainable fisheries in the seas around Wales, and the promotion of sustainable aquaculture.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
12. To maintain and enhance the well-being of local communities	<ul style="list-style-type: none"> <i>Help to promote employment creation and thereby support the local and Welsh economy?</i> <i>Help to address social needs such as the retention of high skill levels and achieving a balance of full and part-time work, where appropriate?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would result in significant contributions to the economic and social vibrancy of communities in the vicinity of the coast.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would result in some contributions to the economic and social vibrancy of communities in the vicinity of the coast.
		0	Neutral	<ul style="list-style-type: none"> No net effects on the economic and social needs of local communities likely to result from the Plan or policies.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in the erosion of the economic and social vibrancy of communities in the vicinity of the coast.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in the significant decline of economic and social vibrancy of communities in the vicinity of the coast.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.

SA Criteria	Guide Questions <i>Will the proposed WNMP policies...</i>	Effect	Description	Illustrative Guidance
13. To protect and enhance human health with special regard to vulnerable groups in society.	<ul style="list-style-type: none"> <i>Promote the maintenance and enhancement of human health, and minimise the adverse effects on any vulnerable groups in particular?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would result in a strong and sustained positive effect on the health and wellbeing of local communities and particularly the health needs of specific groups in society (children, pregnant women and the elderly).
		+	Positive	<ul style="list-style-type: none"> Plan or policies would result in some beneficial effects on health and wellbeing of local communities and acknowledges the health needs of specific groups in society (children, pregnant women and the elderly).
		0	Neutral	<ul style="list-style-type: none"> No net effects likely to result from the Plan or policies.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in some negative effects on health and wellbeing of local communities generally and on specific groups in society (children, pregnant women and the elderly).
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would result in a strong and sustained negative effect on health and wellbeing of local communities and ignores the health needs of specific groups in society (children, pregnant women and the elderly).
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.
14. To promote good governance.	<ul style="list-style-type: none"> <i>Support integrated decision making and collaboration across marine and terrestrial interfaces and boundaries?</i> <i>Promote engagement in marine planning?</i> <i>Support continued research and policy development in marine planning?</i> 	++	Significant Positive	<ul style="list-style-type: none"> Plan or policies would strongly promote good governance of the marine area including integrated decision making, engagement and research and development.
		+	Positive	<ul style="list-style-type: none"> Plan or policies would make a positive contribution to good governance of the marine area.
		0	Neutral	<ul style="list-style-type: none"> No net effects likely to result from the Plan or policies.
		-	Negative	<ul style="list-style-type: none"> Plan or policies would result in adverse effects on the governance of the marine area.
		--	Significant Negative	<ul style="list-style-type: none"> Plan or policies would significantly undermine the governance of the marine area.
		?	Uncertain	<ul style="list-style-type: none"> From the level of information available the impact that the Plan or policies would have on this criteria is uncertain.



Appendix D

Appraisal of Draft WNMP General-cross Cutting Policies

Key to Appraisal

Symbol	Effect
++	The draft policy is likely to have a significant positive effect on the SA criteria.
+	The draft policy is likely to have a positive effect on the SA criteria.
0	The draft policy is likely to have a neutral effect on the SA criteria.
-	The draft policy is likely to have a negative effect on the SA criteria.
--	The draft policy is likely to have a significant negative effect on the SA criteria.
?	The effects of the draft policy on the SA criteria are uncertain at this stage.

*Note: where more than one symbol is presented in a box it indicates that the appraisal has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.



Overarching Planning Policy

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Significant Effects:

The presumption in favour of sustainable development contained within Policy GEN_01 will help to ensure that future development contributes to the improvement of the environmental, social and economic conditions of the marine area, and where there are any adverse effects, that these are given balanced consideration (and where possible, avoided, reduced or mitigated). The policy is linked explicitly to the seven well-being goals set out in the Well-being of Future Generations (Wales) Act 2015. In the Act, "sustainable development" means the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals. The seven well-being goals include aspirations to enhance the biodiverse natural environment, to act on climate change, provide employment opportunities, maximise well-being, protect cultural heritage, promote the Welsh language and encourage recreation, among others. It is therefore expected that actions taken to support these goals will result in broadly positive effects across the environmental SA criteria of biodiversity, water quality, the physical environment, air quality, landscapes/seascapes and climate change. Social and cultural positive effects are also expected to arise for cultural heritage, Welsh language, tourism and recreation, well-being and human health as a result of actions which contribute to the well-being goals, in addition to economic benefits related to the use of natural resources and economic improvements. The integration of marine planning with the Well-being of Future Generations (Wales) Act 2015 also contributes to good governance.

No significant positive effects, significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Specific reference could be made within the policy to ensuring that marine spatial planning decisions are consistent with the SMNR principles (although it is recognised that this is covered in the supporting text).

Assumptions:

- None identified.

Uncertainties:

- The exact nature, location and scale of activities as a result of this policy, and the associated positive or negative impacts of specific activities, are not known at this stage.
- Some marine development activities have the potential for positive and negative effects, particularly during the construction phase of a development. It is possible that in consequence, individual developments will not be able to support all the well-being goals concurrently; however, the extent of this will, depend on the nature, scale and location of the development activity.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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>Significant Effects: Policy GEN_02 requires that decisions are taken using a proportionate, risk-based approach to the application of the plan policies. The supporting text to the policy sets out that the general principles of risk management are:</p> <ul style="list-style-type: none"> • 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. <p>The adoption of a proportionate, risk-based approach is expected to generate positive effects across all the SA criteria by enabling appropriate decisions to be made whilst applying the appropriate level of precaution, particularly when applied in combination with Policy SCI_01 which seeks to ensure that decisions are made using sound evidence and applying the precautionary principle. On this basis, a significant positive effect has been identified in respect of governance (SA Criteria 14).</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> • None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> • It is assumed that a risk-based approach to decision making will seek to avoid environmental and socio-economic negative effects. <p>Uncertainties:</p> <ul style="list-style-type: none"> • The exact nature of the decisions being made is not known at this stage. It is possible that some decisions on development will not be able to promote all criteria in all locations, and some negative effects could occur as a result. 														

Achieving a Sustainable Marine Economy

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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. 	?	?	?	?	?	+/?	+/?	+/?	++/?	?	++	++	+/?	0
<p>Significant Effects: The Welsh coastline and seas support a wide range of economic activities across a number of sectors. The Draft WNMP estimates that the Gross Value Added (GVA) generated by the marine sector in Wales in 2014 was £317M. By promoting sustainable economic activity in the marine area, Policy ECON_01 is expected to help maintain and enhance Wales' marine economy and its contribution to national GVA. Development may also support the delivery of associated infrastructure such as port development and telecommunications which could generate wider economic and societal benefits. Overall, Policy ECON_01 has been assessed as having a significant positive effect on the economy (SA Criteria 11).</p> <p>According to the Draft WNMP, there were around 5,800 employee jobs in the marine sector in Wales in 2013. However, the WMER highlights that, whilst the overall employment rate in coastal areas is higher than across the whole of Wales (61.8% for coastal communities compared to 60.8% for non-coastal communities), many jobs are seasonal and part time and in some coastal communities over a third of all those employed are part time workers. Further, the 2014 Welsh Index of Multiple Deprivation highlights that there are pockets of deprivation in some coastal areas and in particular in some northern coastal towns. Job creation and addressing economic social issues such as a dependence on seasonal work is therefore critical. In this context, Policy ECON_01 explicitly seeks to encourage proposals for economic development that generate local employment opportunities and wealth for coastal communities, tackle deprivation and increase skills. The supporting text to the policy also sets out that development and use of the marine environment should be particularly supported where it leads to benefits for local communities and that decision makers should support proposals that provide 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. Overall, Policy ECON_01 has been assessed as having a significant positive effect on well-being (SA Criteria 12).</p>														



Based on the Great Britain Visitor Survey (2013), the WMER highlights that coastal tourism was estimated to be worth £602 million for Wales in 2013 and generated 3.6 million trips. By supporting economic activity including tourism in the marine area, Policy ECON_01 may help facilitate the expansion of existing, and development of new, tourism attractions and destinations which could help to attract visitors, grow visitor spend and increase the value of the tourism sector to Wales' economy. In consequence, the policy has been assessed as having a significant positive effect on SA Criteria 9. It is recognised that economic development in the marine area could have adverse effects on the existing tourism sector if it results in the loss of, or damage to, tourism assets (either directly or indirectly). Coastal tourism is also reliant on the natural environment and any increase in tourism and recreational activity could itself have adverse impacts on Wales' tourism assets due to, for example, the impact of tourism development on sensitive sites (e.g. loss of wildlife or landscape/seascape character) or increased visitor numbers (such as loss of tranquillity, increased traffic and increased visitor pressure on sensitive conservation sites). Notwithstanding these potential adverse impacts, the emphasis of Policy ECON_01 on the promotion of sustainable economic activities is expected to help reduce the potential for negative effects on SA Criteria 9, although some uncertainty remains.

Renewable energy generation is identified in the WMER as being of strategic importance to Wales, so this sector is expected to grow through the encouragement of economically sustainable activities under Policy ECON_01. The development of the low carbon sector and increased renewable and low carbon energy generation will help to reduce greenhouse gas emissions associated with energy generation in the long term. Whilst it is recognised that economic growth in the marine area more generally could generate additional greenhouse emissions (during the construction, operation and decommissioning of development), on balance Policy ECON_01 has been assessed as having a positive effect on climate change (SA Criteria 6), although some uncertainty remains.

Wales' cultural heritage is identified in the WMER as a 'powerful driver for economic growth' and in this regard, it is expected to benefit from the promotion of economic activities under Policy ECON_01. It is recognised that economic development in the marine area could have adverse effects on Wales' cultural heritage assets due to, for example, the loss of, or damage to, assets, or impacts on the setting of assets as a result of development or the intensification of activities. However, in view of its emphasis on economically sustainable activities, Policy ECON_01 has been assessed as having a positive effect on heritage (SA Criteria 7), although some uncertainty remains.

Economic development and associated job creation in the marine area has the potential to help retain populations of local, Welsh speakers and to attract Welsh speakers back to coastal communities. Whilst there is the potential that economic growth in the marine area could result in an influx of non-Welsh speakers to Welsh speaking communities (which could adversely affect Welsh language and culture), on balance Policy ECON_01 (which includes specific reference to maintaining communities with a high density of Welsh speakers) has been assessed as having a positive effect on Welsh language (SA Criteria 8). It is also noted that the supporting text to the policy requires that proposals identify potential positive and negative impacts of development on Welsh language.

A positive effect has also been identified in respect of human health (SA Criteria 13) due to the potential for economic growth to help address poverty and deprivation which are linked to poor health. However, some uncertainty remains given the potential for some coastal economic development to also have adverse health impacts (due to, for example, emissions to air during construction or operation), particularly if it is inappropriately sited/designed.

The effects of Policy ECON_01 on SA Criteria 1, 2, 3, 4, 5 and 10 have been assessed as uncertain. This reflects the potential that enhancing economic outputs from the marine environment could result in adverse social and environmental effects including the use of finite resources use (as a result of new development or activities, during construction, operation and decommissioning). Alternatively, positive effects may arise if, for example, Wales' tourism assets such as its coastline were enhanced to encourage tourism. It is, however, noted that the policy specifically supports proposals that contribute to the sustainable management of natural resources which is expected to help minimise the potential for adverse environmental effects associated with economic growth and ensure ecosystem resilience.

A neutral effect has been identified in respect of governance (SA Criteria 14).

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- The wording of Policy ECON_01 could be revised to refer specifically to the creation of high quality employment opportunities.
- The policy and/or supporting text could require the use of Local Labour Agreements for certain types/scales of development in order to encourage local employment and training and development.

Assumptions:

- It is assumed that economic growth encouraged by this policy will include the tourism sector and renewable energy generation.



Uncertainties:

- The numbers and types of jobs expected to be created as a result of the implementation of this policy is not certain.
- The location and skills required for generated employment opportunities will affect how far the development will help redress economic disadvantages in communities.
- The social, economic and environment effects of economic development in the marine area are to some extent uncertain and will depend on the exact type, scale and location of future economic activities and the characteristics/sensitivity of the receiving environment.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	+/?	+/?	+/?	0	+/?	+/?	+/?	0	+	+	++	+	+/?	++

Significant Effects:

Policy ECON_02 encourages proposals that consider opportunities for coexistence (i.e. where multiple developments, activities or uses can exist alongside or close to each other in the same place and/or at the same time) with other compatible sectors. The WMER identifies, for example, research into the coexistence of trawl fisheries alongside marine aggregate extraction and aquaculture production coexisting with offshore wind farms.

Encouraging the coexistence of uses will help to maximise GVA by making the most economic use of marine space. This policy could also help to minimise the potential for conflicts or incompatibilities between activities, and which could lead to adverse economic impacts. In this regard, the supporting text to Policy ECON_02 states: “Where conflict over space or resource exists or arises, initiatives between sectors are encouraged to resolve conflict.” Overall, Policy ECON_02 has been assessed as having a significant positive effect in respect of the economy (SA Criteria 11) and, due to associated potential employment generation benefits, a positive effect on well-being (SA Criteria 12).

The implementation of Policy ECON_02 and the implicit requirement that proposals consider conflicts/synergies with other uses will help to facilitate collaboration, engagement and integrated decision making (potentially across marine and terrestrial boundaries). The policy will also provide greater clarity to decision makers on proposals that may cause conflict with existing uses and on opportunities to resolve such issues. Overall, Policy ECON_02 has been assessed as having a significant positive effect on governance (SA Criteria 14).

Positive effects have been identified against the tourism and recreation and resources SA criteria. As key economic sectors, they may be both protected from incompatible development (which could harm existing activities or result in damage to marine resources) and enhanced through opportunities created by co-location. For example, certain infrastructure projects could offer significant amenity and leisure opportunities for local communities and / or coastal tourism. The co-location of activities will also help to promote the sustainable use of the Welsh sea as a natural resource. Albeit with a level of uncertainty, climate change (SA Criteria 6) may also experience a positive effect as a result of growth in low carbon energy and the associated reduction in greenhouse gas emissions.

The promotion of coexistence may help to manage pressures on the natural environment (including biodiversity, water, the physical environment and landscape and seascape), heritage assets and communities and could provide opportunities for enhancement. In this context, the supporting text to Policy ECON_02 is clear that environmental and social as well as economic conflicts and compatibilities should be considered. In consequence, the policy has been assessed as having a positive effect on biodiversity (SA Criteria 1), water (SA Criteria 2), the physical environment (SA Criteria 3), landscape and seascape (SA Criteria 5), heritage (SA Criteria 7) and health (SA Criteria 13), although there is considered to be a degree of uncertainty with regard to the extent to which positive effects in this regard may be realised.

The effects against the remaining SA criteria are assessed as neutral.

No significant negative effects or negative effects have been identified.



Mitigation/Enhancement:

- Reference to 'consider' in the policy could be replaced with 'demonstrate' in order to strengthen the wording.
- Specific reference to avoiding conflict with other existing or proposed uses/displacement could be included within the policy wording (although it is recognised that this is captured within the supporting text).
- Specific reference could be made to terrestrial activities/uses in the supporting text to the policy.

Assumptions:

- It is assumed that tourism, aggregates and low carbon energy are key activities that may be promoted and experience growth due to coexistence.

Uncertainties:

- How the principles of coexistence might be implemented and the extent of coexistence in projects are uncertain.
- The type and scale of marine activities which will take place and their associated potential effects are not yet certain.

Ensuring a Strong, Healthy and Just Society

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_01: Access to the Marine Environment Proposals should maintain or enhance access to the marine environment.	+/-/?	?	?	?	+/?	?	+/?	?	++	?	+	+	+	+
<p>Significant Effects: Policy SOC_01 seeks to enhance access to the marine environment. This has been assessed as having a significant positive effect on tourism and recreation (SA Criteria 9) due to the anticipated increase in opportunities for recreational marine activities and improved access for visitors and residents.</p> <p>Reflecting the importance of tourism to the Welsh economy (based on the Great Britain Visitor Survey (2013), the WMER highlights that coastal tourism was estimated to be worth £602 million for Wales in 2013 and generated 3.6 million trips), this policy has been assessed as having a positive effect on the economy (SA Criteria 11).</p> <p>The WMER states that over 60% of the population of Wales lives and works on the coast. Increasing access to the marine environment may therefore support the promotion of healthy lifestyles in these communities. It is also noted that the supporting text to Policy SOC_01 promotes equality of access, stating “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.” Overall, the policy has been assessed as having a positive effect on well-being (SA Criteria 12) and health (SA Criteria 13).</p> <p>The supporting text sets out that whilst Policy SOC_01 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”. This could help to support decision making and research and policy development which has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>There is the potential that enhancing access to the marine environment could have adverse effects on, in particular, biodiversity but also on landscape and seascape and heritage. However, it is noted that the supporting text to Policy SOC_01 requires that decision makers consider the risks and potential adverse impacts of enhanced access. On balance, effects associated with this policy are likely to be positive in light of the intent to encourage a greater understanding and enjoyment of the marine environment through increased contact. This is likely to lead to beneficial effects over the long term in respect of recognition of the need to protect and enhance the marine environment. Designated coastal landscapes, such as National Parks or Areas of Outstanding Natural Beauty (AONB), and marine heritage assets may also benefit from the greater access to, and appreciation of, the marine environment. As a result, Policy SOC_01 has been assessed as having a positive effect on biodiversity (SA Criteria 1), landscape and seascape (SA Criteria 5) and heritage (SA Criteria 7), although some uncertainty remains and in respect of biodiversity, effects are considered to be mixed.</p> <p>Effects on the remaining SA criteria have been assessed as uncertain as it is recognised that increased access to marine areas could generate adverse social and environmental impacts, although this is dependent on a wide range of factors which are presently unknown.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p>														



- The policy wording could make specific reference to health and well-being and enhanced appreciation of the marine environment.

Assumptions:

- It is assumed that increased access to marine and coastal habitats, landscapes and heritage features will result in greater appreciation and protection of the assets. It is assumed that this will outweigh any potential negative effects associated with increased visitor access.

Uncertainties:

- The scale of enhancement of biodiversity, landscapes and seascapes and heritage assets as a result of this policy is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_02: Well-being of Coastal Communities Proposals that contribute to the well-being of coastal communities are encouraged.	+/?	+/?	+/?	+/?	+/?	+/?	+	+	+	0	+	++	+	+

Significant Effects:

The WMER highlights that, whilst the overall employment rate in coastal areas is higher than across the whole of Wales (61.8% for coastal communities compared to 60.8% for non-coastal communities), many jobs are seasonal and part time and in some coastal communities over a third of all those employed are part time workers. Further, the 2014 Welsh Index of Multiple Deprivation highlights that there are pockets of deprivation in some coastal areas and in particular in some northern coastal towns. Development in the marine environment can have both positive effects (for example, job creation and increased access to recreational opportunities) and negative effects (for example, impacts on amenity and cultural identity) on coastal communities, which include all of the major cities and many important towns in Wales and over half of the Welsh population. In this context, Policy SOC_02 encourages proposals that contribute to the well-being of coastal communities and has therefore been assessed as having a significant positive effect on well-being (SA Criteria 12).

Policy SOC_02 has been assessed as having a positive effect on heritage (SA Criteria 7) and the Welsh language and culture (SA Criteria 8). This reflects the expectation that this policy will support the protection of culturally important sites and heritage assets. Further, by helping to minimise adverse effects on coastal communities and enhance benefits associated with development in the marine area, the policy is expected to help retain Welsh speakers and promote Welsh language as part of local community identity. In this regard, the supporting text to Policy SOC_02 makes reference to coastal typologies that may help to inform proposals and decisions to ensure appropriate development and use of the marine area. It states "*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.*" It also makes specific reference to the need to consider varying linguistic profiles and impacts on Welsh language.

Positive effects have also been identified in respect of tourism and recreation (SA Criteria 9) as it is expected that this policy will help promote recreation opportunities for local communities. In addition to the increased tourist numbers, proposals taken forward in accordance with this policy are also expected to address the economic needs of communities through the development of the marine and coastal economy. This has been assessed as having a positive effect on the economy (SA Criteria 11).

Environmental quality, including habitats, water and air quality, as well as landscape and seascape all contribute to culture and well-being. In this context, Policy SOC_02 may help to conserve and enhance the natural environment of the Welsh seas and it has therefore been assessed as having a positive effect on SA Criteria 1, 2, 3, 4 and 5. This policy may also help to promote the avoidance of coastal erosion in the physical environment and the contribution proposals make to climate change adaptation measures for communities near the shoreline. In consequence, the policy has also been assessed as having a positive effect on climate change (SA Criteria 6). For these SA criteria, the nature of effects associated with this policy will be dependent upon the balance struck between the socio-economic interests of coastal communities and environmental protection objectives. Overall, effects are likely to be positive, although some uncertainty is present over the exact nature and scale of the effects.

The supporting text to Policy SOC_02 sets out that proposals should demonstrate compliance with national and local planning policy and objectives and promotes engagement with relevant terrestrial public authorities to ensure that marine development supports and enhances the cultural identity and well-being of coastal communities. This has been assessed as having a positive effect on governance (SA Criteria 14).

Effects on the remaining SA criteria have been assessed as neutral.



No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- The policy could make specific reference to the identity of coastal communities.
- The policy could make specific reference to environmental protection as part of the well-being of communities.
- The policy could make explicit reference to the avoidance/minimisation of adverse impacts on the well-being of coastal communities.
- The policy could make specific reference to health and tackling deprivation.
- The policy could make reference to sustainable communities.

Assumptions:

- It is assumed that well-being will include social, cultural, economic and environmental factors.

Uncertainties:

- The exact nature and scale of proposals and their effects on coastal communities is uncertain at this stage.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_03: Marine Pollution Incidents Proposals should minimise their risk of marine pollution incidents.	++	++	+	++	+	0	+	0	+	+	+	++	++	0
<p>Significant Effects: Pollution incidents in the marine area could include, for example, discharges of oil, waste or sewage and emissions to air from ships or industry and may have adverse economic, social and environmental impacts. In this context, the requirement that proposals minimise the risk of pollution incidents and (as set out in the supporting text) demonstrate compliance with relevant regulation, is expected to help avoid such incidents and in consequence, Policy SOC_03 has been assessed as having a positive effect across the majority of the SA criteria.</p> <p>Attention to risk management will help to reduce avoidable accidents which can have a disproportionate impact on some aspects of the marine environment. In this regard, Policy SOC_03 has been assessed as having a significant positive effect on biodiversity (SA Criteria 1) due to the protection afforded to marine and coastal habitats and the functioning of ecosystems. The policy has also been assessed as having significant positive effects on water (SA Criteria 2) and air quality (SA Criteria 4) due to the potential for protection of/improvements in water quality and reduced emissions to air. Significant positive have also been identified in respect of well-being (SA Criteria 12) and health (SA Criteria 13) reflecting the potential reduction of risks to human health associated with marine pollution incidents.</p> <p>The effects against the remaining SA criteria are assessed as neutral.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that the level of pollution incidents will reduce as a result of the implementation of this policy. <p>Uncertainties:</p> <ul style="list-style-type: none"> The exact type and scale of avoided pollution incidents is not certain. 														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	0	0	0	0	0	0	++	++	+	0	0	+	0	0

Significant Effects:

According to the 2011 Census, 19% of the Welsh population aged three and over can speak Welsh. A slightly smaller proportion of the Welsh population (15%) can speak, read and write Welsh.⁵⁴ The WMER notes that the Welsh coast and marine area offer a rich historic, cultural and linguistic heritage that encompasses seafaring traditions, vocabulary, coastal historic sites and industrial features, and literary or creative connections. By encouraging proposals that contribute to the promotion of Welsh language and culture, Policy SOC_04 is expected to help maintain and enhance the Welsh language and cultural identity of coastal communities and it has therefore been assessed as having a significant positive effect on SA Criteria 8. This policy is also expected to have a significant positive effect on heritage (SA Criteria 7), due to the role that maritime and coastal heritage has in Welsh cultural identity.

Policy SOC_04 has been assessed as having a positive effect on tourism and recreation (SA Criteria 9), as the enhancement and promotion of coastal and marine cultural heritage assets is expected to enhance the desirability of these assets as tourist attractions. The promotion of Welsh culture is also considered to have a positive effect on well-being due to the enhancement of attractive communities with a strong cultural identity.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- The supporting text to Policy SOC_04 could usefully highlight the range of positive and negative effects development could have on Welsh language and culture and identify the types or examples of measures that could be implemented to conserve and enhance Welsh language and culture.
- Consideration could be given to the inclusion of a requirement for proposals for certain forms of development to be accompanied by a Welsh Language Impact Assessment or Welsh Language Statement.

Assumptions:

- It is assumed that promotion of Welsh culture will include protection and promotion of heritage assets, with subsequent effects on tourism.

Uncertainties:

- The exact magnitude of positive effects associated with this policy would be dependent on the nature of the development proposals, and is uncertain at this stage.

⁵⁴ Office for National Statistics (2012) *Statistical Bulletin: 2011 Census: Key Statistics for Wales, March 2011*

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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.</p> <p>Opportunities to enhance historic assets are encouraged.</p>	0	0	0	0	++	0	++	+	++	0	+	+	0	0
<p>Significant Effects: The Welsh coast and marine area has a wide diversity of historic assets which contribute to Welsh culture and are often tourist destinations. There are at least 150 scheduled monuments along the Welsh coast including medieval castles and fortifications, as well as a World Heritage Site (the Castles and Town Walls of Edward I in Gwynedd), Heritage Coast and Registered Historic Landscapes. Historic buildings such as lighthouses and piers are also located along the coast, as well as historic parks and archaeological sites. There are 1,400 known shipwreck sites around the Welsh coast, which are often popular tourist attractions and dive sites.</p> <p>Development and use of the marine area has the potential to have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on these assets and in this context, Policy SOC_05 seeks to protect and enhance the heritage resource of the marine area. The supporting text to the policy makes clear that relevant 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...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.” It is also noted that the supporting text to Policy SOC_05 places emphasis on promoting opportunities to better understand the significance of historic assets. Overall, the policy has been assessed as having a significant positive effect on heritage (SA Criteria 7).</p> <p>The protection and enhancement of historic assets and their setting is also expected to have a significant positive effect on landscape and seascape (SA Criteria 5), both in terms of protecting designated historic landscapes such as Heritage Coast and Registered Historic Landscapes, and in the preservation of non-designated landscapes surrounding heritage assets.</p>														



As noted above, the historic environment plays an important role in attracting tourists to Welsh coastal areas. Avoidance of damage to, and enhancement of, marine and coastal historic sites could therefore generate significant positive effects in respect of tourism and recreation (SA Criteria 9) and associated positive effects in terms of the economy (SA Criteria 11) (given the strong linkages between tourism and the coastal economy).

Wales' historic assets are an important component of Welsh culture and identity. In consequence, Policy SOC_05 has been assessed as having a positive effect on Welsh language (SA Criteria 8) and well-being (SA Criteria 12).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Reference could be made to access to the historic environment in the policy and/or its supporting text.
- Reference could be made to unknown archaeological assets in the supporting text.
- Reference could be made to the Heritage Coast in the supporting text to the policy.

Assumptions:

- It is assumed that the protection of heritage assets would result in increased visitor numbers and recreational opportunities.

Uncertainties:

- The scale and location of heritage asset enhancement is currently uncertain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascap	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	+	0	+	0	++	0	+	+	+	0	+	+	0	0
<p>Significant Effects: The WMER highlights that Wales has 4,067 km² of land on or near the coast designated as National Park (20% of total Welsh land area) and 844 km² as AONB (4%). The main purposes of National Parks and AONB are conserving and enhancing natural beauty, wildlife and cultural heritage, and the promotion of enjoyment of the protected areas. Further purposes include having regard for the interests of those who live and work there, and fostering the economic and social well-being of local communities.^{55, 56}</p> <p>Development and use of the marine environment can have adverse impacts on designated landscapes. These impacts may be direct (for example, where development introduces new built form that affects character) or indirect (for example, where development leads to increased visitor pressure on assets). In this context, Policy SOC_06 seeks to ensure that proposals are not in conflict with the purposes of these designated landscapes which is expected to support their conservation. In consequence, the policy has been assessed as having a significant positive effect on landscape and seascape (SA Criteria 5).</p> <p>Reflecting the purposes of National Parks and AONBs (as highlighted above), it is anticipated that Policy SOC_06 will support the protection of habitats and species and the physical environment through consideration of protected landscapes. The policy has therefore been assessed as having positive effects on SA Criteria 1 and SA Criteria 3.</p> <p>Numerous historic assets are situated within designated landscapes and so the setting of these assets is expected to be protected as a result of the implementation of Policy SOC_06. This has been assessed as having a positive effect on heritage (SA Criteria 7) and also Welsh language and culture (SA Criteria 8).</p> <p>Part of the purpose of National Parks and AONBs includes the enjoyment of such areas. Their protection is therefore likely to help promote tourism and recreation, well-being and, additionally, the economy. In consequence, positive effects have been identified in respect of SA Criteria 9, 11 and 12.</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> Whilst it is noted that the supporting text to Policy SOC_06 states that activities, management and development proposals should take into consideration available best practice, evidence and policies set out in the relevant management plans to inform decision-making, and proposals should support the delivery of purposes of the designated landscapes and agreed 														

⁵⁵ National Parks (2016) *The Aims and Purposes of National Parks*. Available from <http://www.nationalparks.gov.uk/students/whatisanationalpark/aimsandpurposesofnationalparks> [Accessed June 2016].

⁵⁶ The National Association Areas of Outstanding Natural Beauty (2016) *Further Information about AONBs*. Available from <http://www.landscapesforlife.org.uk/further-information-about-aonbs.html> [Accessed June 2016].



management plan actions, the policy wording could require that proposals consider opportunities to enhance the special qualities of National Parks and AONBs.

- Policy SOC_06 could make explicit reference to the avoidance/minimisation of adverse impacts on the purposes and special qualities of National Parks and AONBs.
- The policy wording could make specific reference to Heritage Coasts and Registered Historic Landscapes (although it is noted that these non-statutory designation are referred to in the supporting text to the policy).

Assumptions:

- None identified.

Uncertainties:

- None identified.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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.</p> <p>Opportunities to enhance seascapes are encouraged.</p>	0	0	+	0	++	0	++	+	++	0	+	+	+	0
<p>Significant Effects: The WMER highlights that over 70% of the coastline of Wales is covered by designations that reflect landscape importance and that there is a great variety of seascape along the Welsh coastline, often within a relatively short distance from coastal levels, from mud flats through to dramatic mountains, and from exposed cliffs and islands to sheltered sandy bays.</p> <p>Development and use of the marine environment can change the character and visual resources of an area. Adverse impacts may be direct (for example, where development introduces new built form that affects existing seascape character) or indirect (for example, where development leads to increased visitor pressure on seascape assets). There is also the potential for uses and activities to enhance seascape (for example, through the adoption of high quality design that improves seascape character). Policy SOC_07 seeks to ensure that proposals protect and enhance seascapes. It is also noted that the supporting text to the policy makes specific reference to landscape character assessment and National Marine Character Areas and states that “<i>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.</i>” Taken together, this is expected to have a significant positive effect on landscape and seascape (SA Criteria 5).</p> <p>Coastal landscapes and seascapes have substantial historic environment interest/value. The WMER notes that many registered historic landscapes have explicit maritime links, and registered parks and gardens often have views designed to encompass the sea. Avoidance of impacts on seascapes and views may therefore generate benefits in respect of the historic environment and Policy SOC_07 has therefore been assessed as having a significant positive effect on heritage (SA Criteria 7).</p> <p>Coastal landscapes and seascapes are also important tourism draws. In this regard, the WMER highlights that enjoying the scenery was ranked highly by visitors in reasons for visiting the outdoors in Wales. By supporting the conservation and enhancement of seascapes, Policy SOC_07 may therefore generate significant positive effects in respect of tourism and recreation (SA</p>														



Criteria 9) as well as positive effects on the economy (SA Criteria 11).

Preservation of seascapes is expected to include the protection of designated coastal features which contribute to the landscape. Policy SOC_07 has therefore been assessed as having a positive effect on the physical environment (SA Criteria 3). The coastline and seascape of Wales is also important in the nation's sense of identity and culture, having played an important role in its history and development. In this regard, the supporting text to Policy SOC_07 outlines the importance of engagement with local communities on proposals "*in order to understand the range of perceptions about who values what, where and why.*" A positive effect has therefore been identified in respect of Welsh language and culture (SA Criteria 8) and governance (SA Criteria 14).

The WMER notes that many of Wales' major settlements are on or close to the coastline and much of the population lives within 10 km of the coast, with seascapes contributing to the quality of life of people living near the coast. In this context, Policy SOC_07 has been assessed as having a positive effect on well-being (SA Criteria 12) and health (SA criteria 13).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that protection and enhancement of seascapes would result in greater recreational use of the marine area.

Uncertainties:

- The final effects and scale of enhancement on seascapes as a result of this policy is not certain at this stage.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_08: Resilience to Coastal Change and Flooding Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.	+	0	++	0	0	++	0	0	+/?	0	+/?	+/?	+/?	0

Significant Effects:

Increased flooding and coastal change are anticipated with the changing climate causing sea level rise and increased severity and frequency of storm events which could affect Wales' coastal communities and infrastructure. The WMER highlights that coastal erosion is occurring along 23% of the Welsh coastline. New development could be affected by coastal change and flooding and in this regard Policy SOC_08 seeks to ensure that proposals are resilient to coastal change and flooding. This is expected to generate a significant positive effect on the physical environment (SA Criteria 3) and climate change (SA Criteria 6).

The nature of specific proposals and the actions that may be taken to ensure their resilience are uncertain, but it is likely that tourism and recreation (SA Criteria 9) may experience positive effects as a result of the implementation of Policy SOC_08 through the avoidance of flooding. This reflects the fact that there are many tourist sites and recreational activities on the coast or in the marine area which could be disrupted by flooding. Resilience to coastal change and flooding is also important for the local economy to ensure that businesses can keep operating and avoid damage. In this context, Policy SOC_08 has also been assessed as having a positive effect on the economy (SA Criteria 11), albeit with some uncertainty. The promotion of climate change resilience is also likely to have long term, indirect positive effects in respect of biodiversity (SA Criteria 1).

Resilience to flooding and coastal change can promote safe communities and human health. Further positive effects have therefore been identified in respect of SA Criteria 12 and 13. Some uncertainty remains with respect to whether local communities would benefit from resilient proposals, as it is not known at this stage whether only the development/activity itself would be resilient to coastal change and flooding, or whether the resilience of the local community would also be increased. However, it is noted that Policy SOC_09 covers the resilience of communities to coastal change and flooding.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- None identified.

Uncertainties:

- The exact actions taken to ensure resilience are not known at this stage. This could ultimately involve hard engineering approaches or alternative measures such as managed retreat, which would have differing effects requiring further assessment.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_09: Effects on Coastal Change and Flooding Proposals are encouraged that: <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; align with the relevant Shoreline Management Plan. 	+/-	+	++	0	+/-	++	+/-	0	+	0	++	++	++	0

Significant Effects:

As noted above, coastal erosion is occurring along 23% of the Welsh coastline and in this regard, Policy SOC_09 is considered likely to have a significant positive effect on the physical environment (SA Criteria 3) as a result of ensuring no adverse effects on coastal processes and by supporting the actions contained in Shoreline Management Plans (SMPs). SMPs identify the most sustainable approach to managing the flood and coastal erosion risks to the coastline in the short, medium and long term. The development of an integrated approach to coastal management through alignment with SMPs should help to reconcile competing interests, although final impacts depend upon the location and character of the proposal area.

The WMER highlights that approximately 80,000 properties are currently at risk around the coast from a 0.1% chance flood incident (1 in 1,000 chance of occurring in any given year). The risk of severe flood incidents could increase further due to climate change and new development in the marine area and so the measures set out in Policy SOC_09 have been assessed as having a significant positive effect on climate change (SA Criteria 6). Reduction of the risk of flooding would also have a positive effect on individuals and communities who may otherwise suffer from flooded properties. The social, well-being and health benefits from avoided flooding have been assessed as significant against the well-being and health SA criteria (SA Criteria 12 and 13).

Reducing the risk of flooding and adverse coastal change is important for the Welsh economy, both in terms of tourist revenue, and for business continuity. In consequence, a significant positive effect has been identified in respect of SA Criteria 12. It is also expected that tourism and recreation (SA Criteria 9) would experience positive effects as a result of the implementation of Policy SOC_09 through reduced risk of flooding and adverse coastal change. Tourist sites and recreational activities could otherwise be disrupted by flood incidents, and the coastline is an important attraction to visitors.

Flooding and coastal erosion could lead to increased sediment loading in estuaries and coastal areas, so minimising this risk has been assessed as having a positive effect on water quality (SA Criteria 2).

Biodiversity features of national and international importance can experience significant rapid morphological changes following storm events and sustained stresses due to coastal change. SMPs can include the use of managed wetlands to act as additional buffers to flood risk, and in doing so, they can create or extend habitats of particular interest to wading birds. The implementation of managed realignment or no active intervention policies can also result in the creation of wetlands. In this regard, it is noted that the supporting text to Policy SOC_09 sets out that, as far as practicable, decision makers should encourage solutions that work with natural processes and enable habitat creation opportunities. The policy could therefore result in a positive effect on biodiversity (SA Criteria 1) as a result of supporting SMPs, albeit with some uncertainty over the nature and locations of actions taken as a result of this policy. Landscape and seascape character (SA Criteria 5) and the historic environment (SA Criteria 7) may also be affected by coastal change, which has the potential to be avoided as a result of this policy. There is also the



potential, however, for impacts on biodiversity, landscape/seascape and heritage to be negative if proposals to reduce risks of flooding/coastal change require the creation of hard structures that adversely affect ecology, landscape/seascape and the setting of historic assets or loss of habitat (although environmental effects associated with the implementation of SMPs are considered during their preparation including through Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA), where appropriate). Negative effects on the biodiversity, landscape and seascape and heritage criteria have therefore also been identified.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects have been identified.

Mitigation/Enhancement:

- The supporting text to Policy SOC_09 could stipulate that adaptation measures requiring construction or engineering should seek to avoid adverse effects on local communities and the natural environment.

Assumptions:

- It is assumed that tourism, businesses and local communities would be at a lower risk of flooding or experience adverse effects from coastal change as a result of this policy.

Uncertainties:

- The locations of reduced flood and coastal change risk and the scale of reduction in risk is not known.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>SOC_10: Minimising Climate Change Proposals should, in order of preference:</p> <ul style="list-style-type: none"> 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. <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>	+	0	0	+	0	++	0	0	0	++	+	+/?	+	+
<p>Significant Effects: Policy SOC_10 will support efforts to reduce greenhouse gas emissions from future Welsh marine development activity and in consequence, it has been assessed as having a significant positive effect on climate change (SA Criteria 6). This policy may also support offshore renewable energy development and contribute towards renewable energy targets, generating a significant positive effect in respect of resources (SA Criteria 10).</p> <p>The transition away from the combustion of fossil fuels to low carbon energy sources is expected to lead to an improvement in air quality, as the release of polluting combustion products would be reduced. A positive effect on SA Criteria 4 (air quality) is therefore predicted to arise as a result of the implementation of Policy SOC_10. Incidental human health benefits could also arise as a result of reductions in emissions from combustion as well as longer term benefits in terms of habitats and species. This has been assessed as having a positive effect on biodiversity (SA Criteria 1) and health (SA Criteria 13).</p> <p>The potential expansion of the renewables sector in Wales that could be supported through Policy SOC_10 would promote the Welsh economy and a positive effect has therefore been identified in respect of the economy (SA Criteria 11). It is recognised that minimising or mitigating the release of greenhouse gases has the potential for additional costs for businesses. However, investment decisions are complex and any additional capital costs would need to be weighed against expected reductions in operational costs and as such, apart from any energy intensive industries, this would not be significant to materially affect the decision to locate new business.</p> <p>The potential expansion of the renewables sector could promote employment creation and enhance the well-being of local communities. However, the scale of additional jobs created for Welsh residents is not certain, and specific skill-sets may be brought in from elsewhere. The effects of Policy SOC_10 on well-being (SA Criteria 13) have therefore been assessed as positive but with some uncertainty.</p> <p>By supporting reductions in greenhouse gas emissions, this policy will help to ensure that development and activities in the marine environment contribute towards climate change targets, supporting collaboration across marine and terrestrial boundaries. In consequence, Policy SOC_10 has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p>														



No significant negative or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that proposals may include project-specific actions such as energy efficiency measures and incorporation of renewable energy, in addition to larger proposals in the clean energy sector such as wind farms, wave and tidal energy or Carbon Capture and Storage, which would significantly contribute to greenhouse gas mitigation.
- While Policy SOC_10 is expected to make a contribution to reducing global greenhouse gas levels, the global context for emissions and scale of effects associated with Welsh emissions means that direct effects relating to the impacts of climate change have not been identified.

Uncertainties:

- The nature and location of actions taken to reduce greenhouse gas emissions is not known. Some may involve construction work which could result in localised disturbance, but this is not certain at this stage and is likely to be outweighed in the longer term by the benefits of reducing greenhouse gas emissions.
- The scale of additional employment opportunities as a result of this policy is not certain at this stage.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>SOC_11: Resilience to Climate Change Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaptation measures, taking into account Climate Change Risk Assessments for Wales.</p>	+/ -	+	+	0	+/ -	++	+/ -	0	+	- / ?	+	+	+	+
<p>Significant Effects: Future development and activities in the marine environment have the potential to both affect and be affected by the impacts of climate change. Policy SOC_11 seeks to ensure that proposals have considered the future effects of climate change and included appropriate adaptation measures. The supporting text sets out that, where appropriate, plan users should consult the most up to date scientific evidence on the predicted extent of climate change to assess the impact of climate change on proposed development and use of the marine environment. It also makes clear that decision makers should be satisfied that adequate risk management or contingency plans are in place to increase the resilience of developments to climate change. Reference is also made to consideration of the possible opportunities emerging as a result of climate change. Overall, the provisions of Policy SOC_11 and its supporting text have been assessed as having a significant positive effect on climate change (SA Criteria 6).</p> <p>The WMER identifies that ecological impacts from climate change may arise due to seawater temperature changes and ocean acidification, in addition to damage or loss of habitats from increased flooding or sea level rise. Adaptation measures such as managed realignment would allow coastal habitats to respond naturally to sea level rise, creating habitats and contributing to the positive biodiversity effects. Adaptation may also include the use of managed wetlands to act as additional buffers to flood risk, and in doing so can create or extend habitats for wading birds. These measures, which could be supported through the implementation of Policy SOC_11, are considered to have an overall positive effect on biodiversity (SA Criteria 1), although it is recognised that coastal squeeze is likely to continue over the plan period.</p> <p>The Climate Change Risk Assessment for Wales identifies that climate change may cause reduction in water availability and increases in frequency and severity of summer droughts. In this context, Policy SOC_11 could facilitate adaptation measures which promote water efficiency and enhance the availability of water resources. Additionally, water quality may improve as adaptation measures could be implemented to respond to the potential increases in sewerage overflows. Overall, this policy has been assessed as a positive effect on water (SA Criteria 2).</p> <p>Sea level rise and increased frequency of storm events as a result of climate change could increase the risk of coastal erosion through flooding and wave action, and affect seascapes, coastal character and heritage assets. Adaptation to climate change and the potential avoidance of coastal change could result in positive effects on these SA criteria.</p> <p>Climate change adaptation measures may protect tourist sites and recreational activities which would otherwise be disrupted by flood incidents and adverse coastal change, with the coastline an important attraction to visitors. Additionally, the Climate Change Risk Assessment for Wales identifies the potential for a longer tourist season with more visitors, and enhanced opportunities to promote outdoor activities as a result of higher summer temperatures. Capitalising on these changes to increase coastal tourism would result in a positive effect against the tourism and recreation (SA Criteria 9).</p> <p>Climate change adaptation measures are expected to improve business continuity and resilience in the event of extreme weather or flood events, or in longer term economic considerations, such as designing more robust vessels / structures and changing behaviours to target new fish species. Adapting to higher summer temperatures to promote tourism is also important for the Welsh economy. In this context, Policy SOC_11 has been assessed as having a positive effect on the economy (SA Criteria 11).</p>														



The risk of severe flood incidents could increase due to climate change, so adaptation measures to reduce flood risk would have a positive effect on the safety and attractiveness of communities and individuals who may otherwise suffer from flooded properties. Adapting to climate change could also protect and improve human health, for example by managing the effects of extreme heat in proposal locations. The social, well-being and health benefits associated with this policy have been assessed as having a positive effect on SA Criteria 12 and 13.

Proposals taking the Climate Change Risk Assessments for Wales into account will also contribute towards good governance, with integrated decisions across marine and terrestrial boundaries. This has been assessed as having positive effects on governance (SA Criteria 14).

It is important to note that there is the potential for impacts on biodiversity, landscape/seascape and heritage to be negative if proposals to reduce risks of flooding/coastal change require the creation of hard structures that adversely affect ecology, landscape/seascape and the setting of historic assets or result in habitat loss. In consequence, the potential for negative effects has also been identified in respect of SA Criteria 1, 5 and 7.

The WMER notes that marine aggregates are used for the maintenance of coastal defences that are likely to be required for adaptation to climate change. There are often no practicable alternative sources to marine aggregate for this, so it is possible that existing marine resources will not be used sustainably if there was increased demand with no alternatives. In consequence, Policy SOC_11 has been assessed as having a negative effect on SA Criteria 10. However, there is considerable uncertainty over whether this effect would arise and the extent to which marine aggregates would be affected.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects have been identified.

Mitigation/Enhancement:

- The supporting text to Policy SOC_11 could stipulate that adaptation measures requiring construction or engineering should seek to avoid adverse effects on local communities and the natural environment.

Assumptions:

- It is assumed that the adaptation measures are limited to the specific proposal's operations or location.

Uncertainties:

- The nature and location of adaptation measures, and the extent of their benefits, is not known at this stage.
- The requirement for the use of marine aggregates as an adaptation material is not known.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
SOC_12: Support for Wider Resilience to Climate Change Relevant public authorities should support opportunities that contribute towards climate change adaptation and/or mitigation.	+/-	+	+	+	+/-	++	+/-	0	+	++/-	+/?	+	+	0

Significant Effects:

Policy SOC_12 promotes proposals which contribute towards climate change mitigation and adaptation. This is expected to support the delivery of large-scale renewable energy infrastructure as well as smaller renewable/low carbon schemes and energy efficient development that help to reduce greenhouse gas emissions in addition to flood defence and coastal management schemes, in line with SMP2 policy, that help to minimise the impacts of flood risk and coastal change. This has been assessed as having a significant positive effect on climate change (SA Criteria 6).

Policy SOC_12 has also been assessed as having a significant positive effect on resources (SA Criteria 10). As noted above, the policy may support large-scale renewable energy development, generating a significant positive effect in terms of low carbon energy generation. However, the WMER notes that marine aggregates are used for the maintenance of coastal defences that are likely to be required for adaptation to climate change. There are often no practicable alternative sources to marine aggregate for this, so it is possible that existing marine resources will not be used sustainably if there was increased demand with no alternatives. The delivery of renewable energy infrastructure will also result in resource use, particularly during construction. In consequence, Policy SOC_12 has also been assessed as having a negative effect on SA Criteria 10.

A positive effect has been identified in respect of biodiversity (SA Criteria 1). This reflects the potential for the implementation of Policy SOC_12 to reduce Wales' contribution to greenhouse gas emissions and climate change which can cause, for example, seawater temperature changes, ocean acidification and damage or loss of habitats from increased flooding or sea level rise. Adaptation measures such as managed realignment would allow coastal habitats to respond naturally to sea level rise, creating habitats and contributing to the positive biodiversity effects, although it is recognised that coastal squeeze is likely to continue over the plan period. The creation of managed wetlands to act as additional buffers to flood risk can also create or extend habitats for wading birds.

This policy may contribute to reducing sewerage overflows by managing the effects of increased rainfall events. Water efficiency measures may also be implemented as part of new developments as a result of this policy in order to adapt to reductions in water availability and increases in frequency and severity of summer droughts. This has been assessed as having a positive effect on water (SA Criteria 2).

The transition away from the combustion of fossil fuels to low carbon energy sources is expected to lead to an improvement in air quality, as the release of polluting combustion products would be reduced. A positive effect on air quality (SA Criteria 4) is therefore predicted as a result of the implementation of Policy SOC_12.

Sea level rise as a result of climate change could increase the risk of coastal erosion through flooding and wave action, and affect seascapes, coastal character and heritage assets. The implementation of adaptation measures could therefore generate positive effects on the physical environment (SA Criteria 3). Adaptation measures such as managed realignment would improve natural coastal defences by removing barriers to inland migration.

Climate change adaptation measures may protect tourist sites and recreational activities which would otherwise be disrupted by flood incidents and adverse coastal change, with the coastline an important attraction to visitors. Additionally, the Climate Change Risk Assessment for Wales identifies the potential for a longer tourist season with more visitors, and enhanced opportunities to



promote outdoor activities as a result of higher summer temperatures. In this context, Policy SOC_12 has been assessed as having a positive effect on tourism and recreation (SA Criteria 9).

Positive effects on the economy (SA Criteria 11) as a result of the implementation of Policy SOC_12 are also expected. This reflects the potential for the policy to support a reduction in flood risk which can disrupt businesses and tourist activities. Adapting to higher summer temperatures to promote tourism is also important for the Welsh economy. Longer term economic considerations, such as designing more robust vessels / structures would also have beneficial economic effects. Finally, the delivery of renewable energy schemes and improved flood defences could generate investment in local economies and the supply chain with associated employment opportunities (although the likely level of any benefit in this regard is uncertain). In this regard, the WMER highlights that the renewables sector in the plan area generated approximately £127 million GVA in 2013.

The risk of severe flood incidents could increase due to climate change, so adaptation measures to reduce flood risk would have a positive effect on the safety and attractiveness of communities and individuals who may otherwise suffer from flooded properties. The potential expansion of the renewables sector could also promote employment creation and contribute to the enhancement of the well-being of local communities. However, the scale of additional jobs created for Welsh residents is not certain, and specific skill-sets may be brought in from elsewhere. Overall, Policy SOC_12 has been assessed as having a positive effect on well-being (SA Criteria 12).

Mitigation of climate change resulting in reduced temperature increases and adaptation to its effects, including extreme heat, would have human health benefits. Incidental human health benefits could also arise as a result of reductions in emissions from combustion. In this context, Policy SOC_12 has been assessed as having a positive effect on health (SA Criteria 13).

It is important to note that there is the potential for the construction, operation and decommissioning of renewable energy infrastructure and flood defences to result in adverse environmental impacts, and particularly in respect of biodiversity, landscape/seascape and heritage. In consequence, the potential for negative effects has been identified in respect of SA Criteria 1, 5 and 7.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects have been identified.

Mitigation/Enhancement:

- The supporting text to Policy SOC_12 could stipulate that proposals involving climate change mitigation and adaptation measures should seek to avoid disruption to local communities and the natural environment.

Assumptions:

- None identified.

Uncertainties:

- The extent of reductions in greenhouse gas emissions, and the location and extent of adaptation measures, are not known at this stage.
- The scale of additional employment opportunities as a result of this policy is not certain at this stage.

Living Within Environmental Limits

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
ENV_01: Resilient Marine Ecosystems Proposals should demonstrate how they contribute to the protection, restoration and/or enhancement of marine ecosystems.	++	++	++	+	+	+	0	0	+	0	+/-/?	+	+	0

Significant Effects:

The WMER notes that “*Marine habitats and species provide a range of ecosystem services and benefits of significant value to UK society.*” It highlights that Wales is biologically diverse as a result of the variety of habitats and species. However, the WMER states that historically, the marine environment around Wales has suffered significant habitat loss, with key examples being coastal habitat (particularly saltmarsh) and subtidal native oyster beds. The State of Natural Resources Report (SoNaRR) (2016) prepared by Natural Resources Wales (NRW), meanwhile, highlights that marine habitats are in variable condition (although they are able to support healthy populations of many species of seabirds and marine mammals).

Policy ENV_01 seeks to protect and build the resilience of marine ecosystems with specific emphasis on biodiversity and geodiversity. Development in, and use of, the marine environment can have adverse impacts on biodiversity and geodiversity. These impacts may be direct (for example, where a construction activity results in the loss of habitat or species) or indirect (for example, where development results in changes to coastal processes which affect species and habitats or results in disturbance due to noise and vibration). There is also the potential for positive impacts where, for example, development/activities improve or restore habitats. The provisions of Policy ENV_01 in this regard are expected to help ensure that proposals minimise adverse effects and generate positive effects on biodiversity and geodiversity as part of wider improvements to ecosystem resilience. In consequence, the policy has been assessed as having a significant positive effect on biodiversity (SA Criteria 1) and the physical environment (SA Criteria 3).

SoNaRR notes that there have been improvements in water quality in recent years. It highlights that Wales has contributed to the good progress made towards achieving Good Environmental Status for UK waters by 2020 (as defined in the UK Marine Strategy Part One) and that 100% of bathing waters currently comply with the Water Framework Directive (WFD). However, coastal and marine water quality is fair with only 29% of Wales’ estuarine and coastal waters being of good or better ecological status and only 3 of 22 Shellfish Waters meeting guideline quality standards in 2014. By seeking to protect and enhance marine ecosystems, Policy ENV_01 is likely to maintain and support improvements to water quality. For example, proposals that improve or restore marine habitats can help to support ecosystem functions, such as nutrient cycling and water filtration. This has been assessed as having a significant positive effect on water (SA Criteria 2).

Atmospheric pollutants can have detrimental impacts on biodiversity and the wider environment, causing effects such as acidification and eutrophication. In this context, the protection and enhancement of biodiversity may indirectly help to maintain and enhance air quality by reducing emissions to air associated with development and activities in the marine environment. Further, marine ecosystems can help to regulate air quality and therefore any enhancement could generate air quality benefits. Policy ENV_01 has therefore been assessed as having a positive effect on air quality (SA Criteria 4).

As much of the Welsh coast is designated for landscape importance, the protection and enhancement of habitats and physical features under Policy ENV_01 is also expected to support the protection of landscape/seascape character and designated areas. A positive effect on SA Criteria 5 has therefore been identified.

The protection, restoration and enhancement of marine ecosystems could help to support their resilience to the effects of climate change. Further, proposals that, for example, enhance habitat



could provide opportunities for increased flood protection. Policy ENV_01 has therefore been assessed as having a positive effect on climate change (SA Criteria 6).

SoNaRR highlights that the importance of marine ecosystems to the resilience of Wales goes beyond environmental factors to include social and economic benefits. The WMER states that *“Marine habitats and species provide a range of ecosystem services and benefits of significant value to UK society. The quality of the marine environment has a direct effect on the way we benefit from it – as a source of food, energy and building materials, and as a place where we live, work and play.”* For example, marine ecosystems provide seafood, support fishing (and associated industries), aquaculture and tourism and provide opportunities for recreation. However, SoNaRR concludes that the benefits of marine ecosystem services are not currently being optimised. By requiring that proposals demonstrate how they contribute to the protection, restoration and enhancement of marine ecosystems, Policy ENV_01 may indirectly help to protect and optimise these benefits. In this context, the policy has been assessed as having a positive effect on tourism and recreation (SA Criteria 9), the economy (SA Criteria 11), well-being (SA Criteria 12) and health (SA Criteria 13). It is recognised that, in the short term in particular, proposals to protect marine ecosystems could limit activities and development in the marine environment such as commercial fishing and in consequence, a negative effect has also been identified in respect of SA Criteria 11. However, this is uncertain and in the longer term, if protection aids the recovery of marine fauna/flora, activities such as sustainable fishing could increase.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that air quality and landscape features would be enhanced as a result of this policy.

Uncertainties:

- The scale and location of action taken to enhance biodiversity and geodiversity is not certain at this stage.
- The extent to which proposals to protect marine ecosystems may limit activities and development in the marine environment is uncertain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
ENV_02: Marine Protected Areas Proposals should demonstrate how they: <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; avoid adverse impacts on non-marine designated sites. 	++	++	++	0	0	+	0	0	+	0	+/-/?	+	+	+

Significant Effects:

There are currently 132 Marine Protected Areas (MPAs) in Welsh inshore waters. Wales' network of MPAs consists of European Marine Sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)), intertidal Sites of Special Scientific Interest, marine elements of Ramsar Sites, Marine Nature Reserves and Marine Conservation Zones (MCZs). The WMER highlights that whilst certain MPA features, such as Bottlenose Dolphin and Grey Seal, are in Favourable Conservation Status at a UK level, a number of features are not. Features not in Favourable Conservation Status include estuaries, mudflats and sandflats and large shallow inlet sand bays. The WMER refers to a Special Sites Database, developed by NRW, that has identified a number of key activities understood to be impacting, or potentially impacting, MPAs. Issues include pollution, coastal squeeze, invasive species, fisheries, recreational activities and marine litter.

Policy ENV_02 seeks to protect and ensure consistent management of MPAs (as well as terrestrial designated sites) by avoiding damage to the MPAs and ensuring proposals are compatible with MPA management measures. With specific regard to European sites, the supporting text to the policy makes clear that 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). In such cases compensatory measures must be secured to ensure the overall coherence of the network is maintained." The good management of designated sites to protect habitats and species has been assessed as having a significant positive effect on biodiversity (SA Criteria 1) and the physical environment (SA Criteria 3) (due to the protection afforded to the seabed in designated MPAs and geological SSSIs). Positive effects on water (SA Criteria 2) have also been assessed as significant as it is likely that coastal and marine water quality would improve as a result of the implementation of this policy (given the linkages between water quality and the condition of MPAs).

The protection/management of MPAs and other designated sites could help to support their resilience to the effects of climate change. Further, proposals that, for example, enhance habitat could provide opportunities for increased flood protection. Policy ENV_02 has therefore been assessed as having a positive effect on climate change (SA Criteria 6).

Policy ENV_02 has been assessed as having a positive effect on tourism and recreation (SA Criteria 8) given the importance of Wales' designated nature conservation sites to the tourism economy. In this regard, positive effects have also been identified in respect of the economy (SA Criteria 11) as well as well-being (SA Criteria 12) and health (SA Criteria 13). It is recognised that, in the short term in particular, proposals to protect MPAs could limit activities and development in the marine environment such as commercial fishing and in consequence, a negative effect has also been identified in respect of SA Criteria 11. However, this is uncertain and in the longer term, if protection aids the recovery of marine fauna/flora, activities such as sustainable fishing could increase.



A further positive effect has been recorded against governance (SA Criteria 14) due to integrated decision-making arising from the consideration of existing MPA management measures.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects have been identified.

Mitigation/Enhancement:

- The policy wording could be revised to refer to the enhancement of MPAs.
- The policy wording could refer specifically to the objectives of MPAs.

Assumptions:

- It is assumed that high quality MPAs would attract increasing tourist numbers.

Uncertainties:

- The extent to which proposals will align with existing measures to manage MPAs is uncertain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
ENV_03: Invasive Non-native Species Proposals should include biosecurity measures to reduce the risk of introducing and spreading invasive non-native species.	++	+	+	0	0	0	0	0	+	0	++	0	+/?	0

Significant Effects:

The ecological impacts of invasive non-native species are a major threat to biodiversity worldwide. Invasive species may prey on, out-compete or displace native wildlife, changing the ecology of aquatic ecosystems.⁵⁷ The WMER identifies invasive species as a specific concern for Welsh habitats, with 16 species of non-native marine plants and 32 species of animals recorded on Welsh coasts. As noted above, the Special Sites Database developed by NRW identifies invasive species as a key issues impacting upon MPAs.

Invasive species can be spread by a range of human activities including (inter alia) ships (e.g. taking in and later discharging ballast water and hull fouling), infrastructure development, accidental or intentional release of non-natives species, translocation by recreational activity and aquaculture. In this context, Policy ENV_03 seeks to help control the spread of invasive species arising from the development and use of the marine area through requiring the adoption of biosecurity measures. In light of the importance of this issue for marine ecosystems in Wales, the policy has been assessed as having a significant positive effect on biodiversity (SA Criteria 1) and a positive effect on the physical environment (SA Criteria 3).

Invasive species can have detrimental economic effects. For example, they can result in the decline in existing fish stocks whilst the presence of non-native mussel species can affect aquaculture. This is in addition to the financial costs which may arise associated with the management of invasive species. It is therefore considered that preventing the introduction and spread of invasive species under Policy ENV_03 would have a significant positive effect on the economy (SA Criteria 11).

The introduction and spread of invasive species can affect water quality. In consequence, Policy ENV_03 has been assessed as having a positive effect on water (SA Criteria 2).

A positive effect is likely to arise for tourism and recreation (SA Criteria 9) as a result of the implementation of Policy ENV_03. Without a reduction in the introduction and spread of invasive species, there could be detrimental effects on recreational sea angling from changing fish stocks, as well as impacts on ecotourism due to predation of seabird eggs, leading to reductions in bird colony numbers.

Invasive species can spread disease⁵⁷ and result in harmful algal blooms leading to diarrhetic shellfish poisoning (DSP) and paralytic shellfish poisoning (PSP)⁵⁸ so avoidance of their introduction as supported by Policy ENV_03 could have a positive effect on human health (SA Criteria 13). However, as it is not known whether species harmful to health would be introduced in Wales, some uncertainty remains.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects or negative effects have been identified.

⁵⁷ GB Non-Native Species Secretariat (2016) *Why are Non-Native Invasive Species a Problem?* Available from <http://www.nonnativespecies.org/checkcleandry/why-are-non-native-species-a-problem.cfm> [Accessed June 2016].

⁵⁸ Natural Scotland (2006) *Harmful Algal Bloom Communities in Scottish Coastal Waters: Relationship to Fish Farming and Regional Comparisons – A Review*. Available from <http://www.gov.scot/resource/doc/92174/0022031.pdf> [Accessed January 2017].



Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that tourist destinations and activities which focus on marine species would be protected by this policy.

Uncertainties:

- It is not certain whether species harmful to health may be introduced to Wales.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
ENV_04: Marine Litter Proposals should demonstrate that they: <ul style="list-style-type: none"> avoid the deliberate introduction of litter into the marine plan area; and minimise the risk of accidental release. 	++	++	0	0	+	0	+	0	+	++	+	+	+	0

Significant Effects:

Marine litter has the potential to cause harm to marine wildlife through entanglement and ingestion, smothering of the seabed, and bioaccumulation of contaminants within the food chain. As noted above, the Special Sites Database developed by NRW identifies marine litter as one issue that is impacting upon MPAs. Avoiding/minimising marine litter could therefore help to conserve biodiversity including designated nature conservation sites and in this context, Policy ENV_04 has been assessed as having a significant positive effect on SA Criteria 1.

Policy ENV_04 has also been assessed as having a significant positive effect on water (SA Criteria 2). This reflects the expectation that preventing litter and microplastics entering the marine environment will help to protect water quality.

Policy ENV_04 will help to ensure that activities in the marine area minimise the inappropriate disposal of waste. It could also encourage waste minimisation, reuse and recycling (in accordance with the waste hierarchy). In this regard, it is noted that the supporting text to the policy refers to a range of actions that could be undertaken by developers to minimise waste disposal including the development of waste management plans, adherence to relevant codes of conduct, the provision of training, signage and waste disposal facilities. It also states that *“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.”* This policy has therefore been assessed as having a significant positive effect on resources (SA Criteria 10).

The WMER notes that a survey of 38 beaches in Wales found that Wales has a higher presence of litter on beaches than the UK average. The visual attraction of beaches can be significantly impacted by marine litter as can the setting of heritage assets at the coast. In consequence, Policy ENV_04 has been assessed as having a positive effect on landscape and seascape (SA Criteria 5), heritage (SA Criteria 7) and well-being (SA Criteria 12). Adverse impacts on the visual attraction of beaches caused by litter along with the potential harm to humans and wildlife, can have substantial impacts on local tourism and recreational activities. This policy and the associated reductions in marine litter would therefore have a positive effect on SA Criteria 9.

In addition to detrimental effects on tourism, marine litter can cause problems for fishermen and seafarers as a result of damaged gear and propellers, with associated economic impacts. A positive effect has therefore been identified in respect of the economy (SA Criteria 11) due to the predicted reduction in marine litter risks as a result of the implementation of Policy ENV_04. A positive effect has also been identified in respect of health (SA Criteria 13) due to the anticipated reduction in risk of marine litter causing harm to humans as a result of this policy. However, positive effects in respect of both criteria are expected to be very minor.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.



Assumptions:

- None identified.

Uncertainties:

- The scale of reduction in marine litter, and which types of marine litter, are not known at this stage.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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>	++	0	0	0	+	0	0	0	0	0	0	+	+	0
<p>Significant Effects: Sources of noise in the marine environment can include (inter alia) construction, gravel extraction, shipping, wind farms and the use of sonar and underwater explosions. The WMER states that levels of underwater noise are likely to increase in the future which could generate adverse environmental and social impacts.</p> <p>Adverse impacts on marine species from noise range from reductions in hearing sensitivity and behavioural effects to injury and death. Marine species using sound for communication, navigation and hunting prey are also at risk of interference with natural behaviours. In this context, Policy ENV_05 seeks to avoid, reduce or mitigate the effects of noise arising from development and activity on the marine environment. The supporting text to the policy sets out that proposals should include a noise impact assessment (when required by a public authority) that should include details on the type, level and duration of noise expected to be generated throughout all stages of the development and an assessment of the effects on noise-sensitive species (including the cumulative impact). It also provides direction to existing guidance on noise produced by the JNCC and makes clear that developers and plan users must also consider whether the level of surface or underwater noise has the potential to affect any European Protected Species. Overall, the policy is expected to help avoid adverse noise impacts on marine ecology arising from new development and activity in the marine area. It has therefore been assessed as having a significant positive effect on biodiversity (SA Criteria 1).</p> <p>Underwater and airborne sound can have an impact on the health and well-being of coastal communities, particularly for those people living near major ports. Noise can cause sleep disturbance and annoyance. In this context, Policy ENV_05 has been assessed as having a positive effect on well-being (SA Criteria 12) and health (SA Criteria 13). Positive effects have also been identified in respect of landscape and seascape (SA Criteria 5) given the potential for noise to affect the tranquillity enjoyed in many designated landscapes.</p> <p>The supporting text to Policy ENV_04 states that public authorities should ensure that, where appropriate, the consenting process requires developers to record impulsive noise-generating activities within the Marine Noise Registry. Where submissions are not a condition of a consent, developers are encouraged to voluntarily submit information. This measure will help to support continued research and policy development in marine planning with respect to noise and a positive effect on governance (SA Criteria 14) is therefore predicted.</p> <p>Neutral effects have been identified with respect to the other remaining SA criteria.</p>														



No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Reference could usefully be included in the supporting text to the policy to mitigation measures such as spatial and timing controls, noise barriers (e.g. bubble curtains), pile sleeves and pingers.
- The policy could include reference to effects arising from vibration and sonar which would capture percussive effects associated with, for example, wind farm piling or defence training (although it is noted that reference is made to vibration in the supporting text to the policy).

Assumptions:

- None identified.

Uncertainties:

- The scale of reduction in marine noise and the specific locations of reduction are not known.
- It is not certain whether proposals would reduce both short duration (impulsive) and long lasting (continuous) noise sources.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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>	++	++	0	++	0	+	0	0	+	+	+/?	+	++	0
<p>Significant Effects: Good air and water quality are essential to ecosystem resilience in coastal and offshore areas. Development and use of the marine environment can generate emissions which affect air quality and discharges which impact on water quality, generating negative ecological impacts. The WMER identifies the main sources of air pollution in coastal areas as industrial facilities, shipping, oil and gas operations and vehicle emissions. Sources of water pollutants, meanwhile, include shipping, urban wastewater and industrial discharges. Policy ENV_06 requires that proposals avoid, minimise or mitigate adverse air and water quality impacts which is expected to help reduce the potential for negative impacts on biodiversity. In consequence, this policy has been assessed as having a significant positive effect on biodiversity (SA Criteria 1).</p> <p>The avoidance of releases to the marine environment would have a significant positive effect on water (SA Criteria 2). As noted above, SoNARR highlights that coastal and marine water quality is fair with only 29% of Wales’ estuarine and coastal waters being of good or better ecological status (failures to achieve Good Ecological Status are primarily due to elevated concentrations of nutrients derived from diffuse and point sources) and only 3 of 22 Shellfish Waters meeting guideline quality standards in 2014. However, there have been improvements in water quality in recent years. Wales has contributed to the good progress made towards achieving Good Environmental Status for UK waters by 2020 (as defined in the UK Marine Strategy Part One) and 100% of bathing waters currently comply with the WFD. Avoiding/minimising adverse water quality impacts associated with development and activity in the marine area would therefore help to maintain and potentially improve the status of these bodies. Poor air quality can also cause water-based effects such as acidification and eutrophication, so improvements to air quality would also contribute to the significant positive effect against the water SA Criteria.</p> <p>A significant positive effect has been identified in respect of air quality (SA Criteria 4) as Policy ENV_06 will help to ensure that development does not give rise to adverse air quality impacts and could support a reduction in polluting atmospheric releases. Any associated reduction in emissions to air as a result of this policy could also reduce greenhouse gas emissions which has been assessed as having a positive effect on climate change (SA Criteria 6).</p> <p>Changes in water quality have the potential to affect human health, either through direct contact with contaminated water or via ingestion of algal toxins which can accumulate in edible shellfish. As noted above, only 3 of 22 Shellfish Waters met guideline quality standards in 2014 so water quality improvements could have substantial benefits in this area. Emissions of certain air pollutants are also harmful to human health, prolonged exposure to which can cause an increased incidence of respiratory and heart diseases. Policy ENV_06 will help to ensure that</p>														



development does not give rise to harmful emissions to air and water discharges and may lead to sustained improvements in air and water quality. It has therefore been assessed as having a significant positive effect on health (SA Criteria 13).

Water quality is fundamental to the success and enjoyment of numerous activities conducted in the marine environment and so a positive effect on tourism and recreation (SA Criteria 9) is expected as a result of this policy. As wastewater discharges are one of the key contributors to poor water quality, Policy ENV_06 has also been assessed as having a positive effect on resources (SA Criteria 10) due to expected improvements in the treatment of waste water. Positive effects have also been identified in respect of well-being (SA Criteria 12) as good air and water quality will contribute to safe and attractive local communities.

Adverse conditions associated with poor air and water quality can impact on many marine related economic sectors, including fishing, aquaculture, tourism and recreation. A positive effect would therefore result from the avoidance/minimisation of pollutant releases to air and water. It is recognised that primary industry such as processing and manufacturing may face additional abatement costs with potential negative economic effects. However, this is uncertain and on balance, the positive effects associated with the implementation of this policy are expected to outweigh adverse effects, particularly over the long term.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- The policy could set out that, where possible, proposals should contribute to the enhancement of air quality and water quality in estuaries, coastal waters and the open sea (although it is noted that this is addressed in the supporting text).
- Consideration could be given to the identification of example mitigation measures in the supporting text to the policy.

Assumptions:

- It is assumed that the avoidance of adverse air and water impacts would result in improvements to air and water quality in the plan area.

Uncertainties:

- The specific actions taken to avoid air and water releases, and the associated localised effects e.g. if construction activities are required, are not known at this stage.

Promoting Good Governance

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>GOV_01: Cumulative Effects Proposals should demonstrate that they have assessed potential cumulative effects and, in order of preference:</p> <ol style="list-style-type: none"> avoid adverse effects; and/or minimise effects where they cannot be avoided; and/or 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>Significant Effects: Policy GOV_01 seeks to ensure that the potential cumulative effects of proposals are considered and addressed. There are multiple stressors and/or activities occurring in the marine environment, meaning that the extent and magnitude of any detrimental effects may be combined. The avoidance or mitigation of these effects would have wide-ranging positive environmental, social and economic benefits. In this context, Policy GOV_01 has been assessed as having a positive effect across all of the SA criteria with positive effects expected to be significant in respect of governance (SA Criteria 14) due to the policy's promotion of integrated decision making and consideration of effects beyond project-specific boundaries.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that the avoidance of cumulative effects would have environmental and socio-economic benefits. <p>Uncertainties:</p> <ul style="list-style-type: none"> The scale and type of positive effects as a result of this policy are not known at this stage. 														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<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>Significant Effects: Maximising the achievement of the well-being goals for Wales and making decisions in accordance with the sustainable development principle is expected to have wide ranging positive effects across the SA criteria. In the Well-being of Future Generations (Wales) Act 2015, the sustainable development principle is specified as ensuring that the needs of the present are met without compromising the ability of future generations to meet their own needs. The seven well-being goals include further aspirations to enhance the biodiverse natural environment, to act on climate change, provide employment opportunities, maximise well-being, protect cultural heritage, promote the Welsh language and encourage recreation, among others.</p> <p>The emphasis of Policy GOV_02 on integration of marine planning with the Well-being of Future Generations (Wales) Act 2015 and sustainable development will make a significant contribution to good governance and integrated decision making. In addition, the requirement for proposals to have regard to other plans and policies including local development plans, the Natural Resources Policy and any relevant area statements means that the policy will help to ensure that:</p> <ul style="list-style-type: none"> proposals reflect wider local and national policy objectives; there is collaboration across terrestrial and marine planning; there is consideration of cumulative effects across boundaries; and planning at an ecosystem scale can take place. 														



These factors all contribute to a significant positive effect on governance (SA Criteria 14).

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that contribution to the achievement of the well-being goals for Wales will result in environmental and socio-economic benefits.

Uncertainties:

- The exact nature, location and scale of activities as a result of this policy, and the associated positive or negative impacts of specific activities, are not known at this stage.

Using Sound Science Responsibly

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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>Significant Effects: Policy SCI_01 seeks to ensure that decisions are made using sound evidence, applying a risk-based approach and the precautionary principle. The application of evidence-based analysis in decision making will make a significant contribution to good governance. The use of sound evidence is also expected to support continued research and policy development in marine planning. Alongside the stepped approach to decision making of adaptive management, this will contribute to a significant positive effect on SA Criteria 14.</p> <p>Under the precautionary principle, if a particular action may cause harm to the public or environment and if there is no scientific consensus on the issue, the action should not be pursued.⁵⁹ Policy SCI_01 applies this principle with a risk-based approach thereby enabling appropriate decisions to be made whilst applying the appropriate level of precaution. This, alongside the sound use of evidence in decision making, is expected to generate positive effects across all environmental, social and economic SA criteria.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> The policy wording could be revised to refer specifically to the principle of sustainable development (although it is recognised that this is captured in the supporting text to the policy). <p>Assumptions:</p> <ul style="list-style-type: none"> None identified. <p>Uncertainties:</p> <ul style="list-style-type: none"> None identified. 														

⁵⁹ EUR-Lex (2016) *Precautionary Principle*. Available from http://eur-lex.europa.eu/summary/glossary/precautionary_principle.html [Accessed June 2016].

Appendix E

Appraisal of Draft WNMP Sector Policies

Key to Appraisal

Symbol	Effect
++	The draft policy is likely to have a significant positive effect on the SA criteria.
+	The draft policy is likely to have a positive effect on the SA criteria.
0	The draft policy is likely to have a neutral effect on the SA criteria.
-	The draft policy is likely to have a negative effect on the SA criteria.
--	The draft policy is likely to have a significant negative effect on the SA criteria.
?	The effects of the draft policy on the SA criteria are uncertain at this stage.

*Note: where more than one symbol is presented in a box it indicates that the appraisal has found more than one score for the category. Where the scores are both positive and negative, hatching has been used. Where a box is coloured but also contains a ?, this indicates uncertainty over whether the effect could be a minor or significant effect or where there remains uncertainty over whether an effect could arise. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Aggregates

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</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>	-/?	-/?	-/?	+/-	0	+/-	-/?	?	0	++/--	++/?	+/?	0/-	+

Significant Effects:

Commercially viable deposits of aggregates occur in spatially discrete areas as a result of geological processes. Marine aggregate resources are widely distributed across Welsh waters; however the majority of extraction has historically taken place in the Bristol Channel, Severn Estuary and off North Wales.

Marine aggregates form an important component of the national and local supply of aggregates. Wales' Marine Evidence Report (October 2015) (WMER) highlights that marine sand and gravel in particular provide an essential contribution to meeting the nation's demand for construction material whilst the UK Marine Policy Statement (MPS) (2011) notes that Wales is highly dependent on marine-dredged sand, which meets more than 80% of the demand. Recognising that marine sourced aggregate is expected to continue to dominate supplies of sand and gravel in Wales when compared to other sources, Policy AGG_01 seeks to maintain an adequate and continuing source of supply by encouraging proposals for aggregate extraction in a Strategic Resource Area (SRA) focused around current licensed reserves (in the Bristol Channel, Severn Estuary and off North Wales) which reflects proximity to markets and the presence of infrastructure as well as the availability of reserves to meet known demand over the plan period and beyond. This is consistent with the requirements of the MPS which sets out that marine plan authorities "should as a minimum make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates ... contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses." Reflecting the importance of marine dredged sand and gravel, and taking into account the potential for the identified SRA to meet demand for aggregates over the plan period, Policy AGG_01 has been assessed as having a significant positive effect on resources (SA Criteria 10). However, the winning of marine aggregates will unavoidably result in the depletion of a non-renewable resource. Further, the activity itself will require resources and generate waste. In consequence, a significant negative effect has also been identified in respect of SA Criteria 10, although Policy AGG_01 is expected to lead to the more sustainable management of marine aggregates including

through support for the identification and review of permitted tonnage limits. In this regard, the supporting text to the policy states that “*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...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 Ministerial 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.*”

The winning of marine aggregates such as sand and gravel will support development including housing and infrastructure as well as providing fill for major coastal infrastructure projects such as ports. The sector therefore makes an important contribution to the Welsh economy. As an example, the WMER highlights that, at a UK scale, total construction aggregate extraction is worth £2.4 billion, total construction products are worth £5.3 billion and downstream markets are worth £400 billion (although marine aggregate extraction and use will only represent a small proportion of these values). The Draft WNMP estimates that the marine aggregates sector in Wales generated £16M Gross Value Added (GVA) in 2014. In this context, Policy AGG_01 is expected to have a significant positive effect on the economy (SA Criteria 11) by supporting the growth of the aggregates industry and by providing confidence and security to the sector to encourage future investment.

There is the potential for aggregates extraction supported by Policy AGG_01 to adversely affect other economic activities in the marine area including, for example, oil and gas exploration, commercial fishing and navigation. In this regard, it is noted that blocks provisionally awarded under the 28th offshore oil and gas licensing round, fish spawning and nursery grounds, shipping routes and subsea cables are present in the aggregates SRA (SRAs for other sectors also overlap with the aggregates SRA). However, as part of the licencing procedure, new proposals for licenced aggregate dredging sites must minimise their impacts on existing or planned activities in other sectors. Further, the supporting text to Policy AGG_01 sets out that, in preparing aggregates related proposals, developers should apply the relevant safeguarding policies of other sectors in the plan. On balance, the positive effects of this policy are considered to outweigh potential adverse impacts on other economic activities, although some uncertainty remains.

The aggregates sector provides both direct and indirect employment opportunities. As an example, the WMER sets out that minerals extraction represents 6-7,000 jobs and construction products 19,000-23,000 jobs at the UK scale (although marine aggregates extraction will only represent a small proportion of this figure). The Draft WNMP estimates that in 2014, the sector supported 600 employee jobs in Wales. By supporting proposals for aggregate extraction and in providing confidence and security to the sector to encourage further investment, Policy AGG_01 could support local jobs creation. Further, through supporting construction, the policy may have indirect employment benefits. However, the scale of employment growth related to aggregate extraction over the plan period is considered unlikely to be significant and the extent to which it benefits local communities will be dependent on the recruitment practises of employers and the availability of required skills in local labour markets. Overall, Policy AGG_01 has been assessed as having a positive effect on well-being (SA Criteria 12), although some uncertainty remains.

Policy AGG_01 sets out that relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of aggregate SRAs and wider marine aggregate natural resources. This will help to promote engagement, integrated decision making and research in marine planning and in consequence, the policy has been assessed as having a positive effect on governance (SA Criteria 14).

Aggregates extraction will result in energy use and generate emissions to air (including greenhouse gases) associated with the use of vessels and equipment which could contribute to climate change and affect human health. A study⁶⁰ of the carbon footprint of marine aggregates extraction in the UK found that, on average, the total footprint per tonne of aggregate landed was 10.01 kg CO₂-eq with over 75% of the carbon footprint related to vessel activities. However, the study also highlights that distribution of aggregates to market can have a significant impact on the overall carbon footprint and that proximity to market is an important factor. In this regard, Policy AGG_01 seeks to maintain aggregate supplies close to the point of use which is reflected in the location of the SRA for the sector. This is expected to help minimise the length of movements associated with the transportation of aggregates and associated emissions to air including greenhouse gas emissions.

With specific regard to climate change, excessive or inappropriate aggregates extraction could exacerbate flood risk and coastal change (as a result of increased erosion and changes to coastal processes). However, it is noted that the supporting text to Policy AGG_01 highlights that, as part of the Environmental Impact Assessment (EIA) and any Coastal Impact Study (CIS), proposals for aggregates dredging will need to consider climate change to demonstrate that they will not increase flood risk or impact upon beaches and coast protection unacceptably. Further, aggregates may be used in flood defences and beach recharge schemes helping to increase resilience to the effects of climate change.

Overall, mixed positive and negative effects has been identified in respect of air quality (SA Criteria 4) and climate change (SA Criteria 6).

Aggregates extraction can cause the direct loss of and/or damage to habitats and species due to sediment removal as well as localised disturbance to marine ecology due to noise and vibration

⁶⁰ The Crown Estate/ERM (2010) *Marine Estate Research Report: Carbon Footprint of Marine Aggregate Extraction*. Available from <https://www.thecrownestate.co.uk/media/5453/ei-carbon-footprint-of-marine-aggregate-extraction.pdf> [Accessed December 2016].

(although relative to land-won supplies, environmental impacts are likely to be less). The WMER also sets out that aggregate extraction can create sediment plumes caused by draghead disturbance, overflow when loading sediment and by screening of aggregate for end user requirements. This can result in decreased water quality and associated impacts on marine ecology and ecosystems and may also give rise to suspended sediments. The settlement of these suspended sediments can result in the smothering or blanketing of subtidal communities and/or adjacent intertidal communities. Indirectly, aggregates extraction may cause physical changes to bathymetry and hydrodynamic processes which could further affect water quality and coastal habitats and species. Effects on biodiversity could be significant where they affect designated nature conservation sites and in this regard, it is noted that the SRA for aggregates extraction is within/in close proximity to a number of European designated sites including (inter alia): Menai Strait and Conwy Bay Special Area of Conservation (SAC); Liverpool Bay Special Protection Area (SPA); The Dee Estuary SAC/SPA/Ramsar; Carmarthen Bay and Estuaries SAC; Carmarthen Bay SPA; and the Severn Estuary SAC/SPA/Ramsar. Mobile species such as marine mammals forming features of more distant may also be affected (the HRA identifies a total of 49 European sites within the marine and terrestrial Zone of Influence (Zol) of the SRA). Effects in this regard may include:

- changes in habitat or prey distributions due to the physical and physio-chemical changes;
- underwater noise and vibration due to turbine operation, particularly for fish and marine mammals;
- collisions with vessels and structures, particularly for marine mammals;
- introduction of lighting (although generally not likely to be substantial)
- changes in foraging success / predation risk as a result of effects on prey distributions.

However, potential adverse effects on ecology, and specifically protected sites, would be assessed at the project stage as part of any marine licence, EIA, CIS and Habitats Regulations Assessment (HRA) (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 to ENV_03) and avoid adverse impacts on Marine Protected Areas (MPAs) (Policy ENV_02). Further, it is noted that the supporting text to the policy states that 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. In this regard, the findings of the HRA indicate that the policy will not result in adverse effects on any European sites based on the mitigation measures that are in place. Overall, Policy AGG_01 has been assessed as having a negative effect on biodiversity (SA Criteria 1) as well as water quality (SA Criteria 2) and the physical environment (SA Criteria 3), although some uncertainty remains.

Aggregates extraction can result in disturbance to, or loss of, underwater heritage assets. Policy AGG_01 has therefore been assessed as having a negative effect on heritage (SA Criteria 7). The magnitude of effect will be dependent on the location and scale of development as well as the significance of any heritage asset(s) affected. In this regard, it is noted that the SRA for this sector contains a number of wrecks (and is in close proximity to Resurgam Protected Wreck). However, impacts on heritage assets would be assessed and considered at the project stage and marine licence determination with proposals determined in accordance with Policy SOC_05 of the Draft WNMP which seeks to conserve and enhance heritage assets.

Emissions to air and any change in water quality associated with aggregates extraction could have adverse impacts on human health. However, the probability of any negative effects occurring in this regard, and their magnitude, would be low given the short term nature of the activity and its distance from the shore. Further, it is anticipated that potential impacts on air and water quality would be considered at the consenting stage (including through EIA, if required) with proposals determined in accordance with those policies of the Draft WNMP that seek to maintain the well-being of communities (Policy SOC_02) and protect water and air quality (Policy ENV_06). Overall, Policy AGG_01 has been assessed as having a neutral/negative effect on health.

The potential creation of local employment opportunities associated with the implementation of Policy AGG_01 could help to retain populations of local, Welsh speakers and attract Welsh speakers back to coastal communities. However, there is also the potential that development could result in an influx of non-Welsh speakers to Welsh speaking communities which could adversely affect Welsh language and culture. On balance, this policy has been assessed as having an uncertain effect on Welsh language (SA Criteria 8).

Effects on the remaining SA criteria have been assessed as neutral.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that the revocation of the Interim Marine Aggregates Dredging Policy following adoption of the WNMP would not result in the loss of policy effect/coverage.

Uncertainties:

- The exact scale and location of future proposals is currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.



Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	+	0	+	0	0	0	++	++/?	+/?	0	+

Significant Effects:

Marine aggregates extraction can only take place where commercially viable deposits of sand and gravel occur and it is therefore important that these resources are appropriately safeguarded against other marine activities which may compromise their future use. A number of sectors have the potential to adversely affect aggregates extraction and in particular those that establish fixed or permanent structures such as oil and gas platforms, renewable energy structures, telecommunications cables and pipelines, or which lead to the contamination of resources, such as disposal. In this context, Policy AGG_02 seeks to ensure that impacts arising from activities which may sterilise or contaminate a resource are avoided, minimised or mitigated. This will help to safeguard aggregates and therefore the policy has been assessed as having a significant positive effect on resources (SA Criteria 10).

As set out above, the aggregates sector makes an important contribution to the Welsh economy, both in terms of the supply of aggregates to support construction and also in directly supporting businesses and jobs. By safeguarding aggregate resources, Policy AGG_02 will support the protection of existing businesses and jobs whilst providing the confidence the sector needs for further investment. A significant positive effect has therefore been identified in respect of the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which could conflict with aggregates extraction may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.

This policy could theoretically allow the development of proposals which may adversely affect licenced extraction activity. However, as the intent of the policy is the safeguarding of the aggregates sector, it is assumed that proposals would not result in negative effects.



The existing distribution of aggregates activities in Welsh waters is in part influenced by proximity to market. By safeguarding existing and future aggregate activities in these areas, Policy AGG_02 may therefore help to ensure that the sector continues to benefit from being in close proximity to markets thereby helping to minimise emissions to air including greenhouse gas emissions associated with the transportation of aggregates. As a result, the policy has been assessed as having a positive effect on air quality (SA Criteria 4) and climate change (SA Criteria 6).

The requirement to consider the compatibility of proposals with current or proposed aggregates activities could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the aggregates sector.

Uncertainties:

- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	+/?	0	+/?	0	0	0	++/?	++/?	+/?	0	+
<p>Significant Effects: Policy AGG_03 seeks to safeguard areas where exploration or option agreements have been offered or are in place for aggregates extraction. The effects associated with this policy would be broadly similar to those identified in respect of Policy AGG_02. However, there is considered to be greater uncertainty reflecting the fact that the scale and location of activities is unknown.</p> <p>As for Policy AGG_02, this policy could theoretically allow the development of proposals which may adversely affect exploration or option areas for aggregates extraction. However, as the intent of the policy is the safeguarding of the aggregates sector, it is assumed that proposals would not result in negative effects in this regard.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the aggregates sector. <p>Uncertainties:</p> <ul style="list-style-type: none"> It is uncertain whether proposals in exploration or option areas would progress to full-scale aggregates activity. The scale of additional jobs created for Welsh communities is not certain. 														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>AGG_04: Aggregates (Safeguarding) Proposals potentially affecting Strategic Resource Areas for aggregate extraction should demonstrate how they, in order of preference:</p> <ol style="list-style-type: none"> avoid adverse impacts on future potential aggregate extraction in those areas; and/or minimise impacts where they cannot be avoided; and/or 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>	0	0	0	+/?	0	+/?	0	0	0	++/?	++/?	+/?	0	+
<p>Significant Effects: Policy AGG_04 seeks to safeguard potential future aggregates extraction activity within SRAs. The effects associated with this policy would broadly be similar to those identified in respect of Policies AGG_03 and AGG_04 above, however there is considered to be greater uncertainty over the scale and location of future activity that might be realised in SRAs (as they do not benefit from a production licence or exploration/option agreement). It is therefore not known whether aggregates extraction would go ahead in SRAs, and whether the associated safeguarding benefits would be realised.</p> <p>As for Policies AGG_03 and AGG_04, this policy could allow the development of proposals which may adversely affect the potential of SRAs. However, as the intent of the policy is the safeguarding of aggregates extraction activities, it is assumed that proposals would not result in negative effects in this regard.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that proposals would not be permitted if negative effects would arise, as the policy intent is safeguarding of the aggregates sector. <p>Uncertainties:</p> <ul style="list-style-type: none"> It is uncertain whether aggregates extraction will take place in SRAs. The scale, type and location of aggregates extraction activity that may take place in SRAs is not known. 														

Aquaculture

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ul style="list-style-type: none"> a. aquaculture Strategic Resource Areas; and b. wider natural resources that provide aquaculture potential; <p>in order to support the sustainable growth of the aquaculture sector through marine planning.</p>	+/-/?	+/?	-/?	+/-/?	-/?	+/-/?	-/?	0	+/-/?	0	++/?	+/?	+/?	+
<p>Significant Effects: This policy seeks to encourage aquaculture activities in several identified seabed and water column SRAs including to the east and west of the Isle of Anglesey, around the Llŷn Peninsula, in Cardigan Bay, to the north and west of Pembrokeshire and in Carmarthen Bay, Swansea Bay and the Severn Estuary. Aquaculture is the rearing or cultivation of aquatic organisms, i.e. finfish, shellfish and algae (including support feeds etc.) to increase their production beyond the natural capacity of the species in their natural environment. Aquaculture may produce livestock for direct commercial purposes (e.g. seafood for human or animal consumption, pharmaceuticals, or algae for fertiliser or energy-stock) or for restocking and enhancing wild populations i.e. 'ocean ranching'. Supporting activities include the processing, distribution and sale of fish/shellfish for consumption, the manufacture of prepared feed for the farms and the specialised construction and installation of fish farms and associated equipment. Marine aquaculture commonly requires additional infrastructure on land to support it, such as purification and processing facilities, storage areas and transport (vessels and vehicles).</p> <p>Aquaculture is a sector with significant growth opportunity in Welsh waters. The Welsh Government is committed to helping support the sustainable growth of aquaculture and has ambitious plans to double Wales' annual finfish aquaculture output, from 1,000 tonnes to 2,000 tonnes by 2020, and shellfish aquaculture production from 8,000 tonnes to 16,000 tonnes. Wales' Marine Evidence Report (October 2015) (WMER) identifies that total estimated GVA associated with aquaculture activities in the plan area was £3.70M in 2013-14 and this is forecast to increase to £5.24M by 2032-33. In this context, Policy AQU_01 is expected to have a significant positive effect on the economy (SA Criteria 11) by supporting the growth of aquaculture and associated infrastructure and by providing greater certainty to developers. There is the potential for aquaculture supported by Policy AQU_01 to adversely affect other economic activities in the marine area including, for example, commercial fishing and navigation (fish spawning and nursery grounds are present in the SRAs). However, the (offshore) footprint of aquaculture development is small whilst modified sea bed and structures may provide opportunities to enhance fish production. Further, it is noted that in developing the SRAs, consideration has been given to other marine uses including demonstration zones for renewables, licensed aggregate areas, cables and pipelines. On balance, the positive effects of this policy are considered to outweigh potential adverse impacts on other economic activities, although some uncertainty remains.</p>														

Shellfish aquaculture requires good water quality and so there is the potential for Policy AQU_01 to support water quality improvements in Welsh waters. This is particularly pertinent given that only 3 of 22 Shellfish Waters in Wales met guideline quality standards in 2014 (as reported in the State of Natural Resources Report (SoNaRR) (2016) prepared by Natural Resources Wales (NRW)). Whilst there is the potential for aquaculture to also have adverse impacts on water quality (associated with, for example, copper antifoulants used on cage nets and the release of medicines), on balance Policy AQU_01 has been assessed as having a positive effect on water (SA Criteria 2), although some uncertainty remains.

Many of Wales' coastal communities are rural and the nature of aquaculture activity lends itself well to supporting rural coastal communities. **The** development of the aquaculture sector under Policy AQU_01 could therefore support local employment creation in such communities. In this regard, the supporting text to the policy sets out that aquaculture developments will be particularly encouraged where they (inter alia) support the development of local seafood industries to bring jobs and boost tourism to support the well-being of coastal communities. However, the scale of aquaculture employment growth over the plan period is considered unlikely to be significant (the WMER highlights that the Welsh aquaculture sector currently supports only 23 direct full time equivalent (FTE) jobs). Overall, a positive effects has been identified in respect of well-being (SA Criteria 12).

The WMER states that *"Aquaculture could become the greatest source of the required increase in fish and shellfish production that will be needed in the coming decades to bridge the gap between diminishing food resources and the increasing demand for food."* Opportunities also exist at a smaller scale to grow algae closer inshore to supply pharmaceutical or food related industries. Support to the growth of the aquaculture sector could therefore generate positive effects on health (SA Criteria 13) both in terms of the supply of food and medicines. There is the potential for onshore development to generate localised adverse health impacts (for example, emissions to air during the construction and operation of related onshore facilities). However, these effects are considered to be unlikely given existing regulation, although some uncertainty remains.

There is the potential that growth of the aquaculture sector could support research and development in fields such as pharmaceuticals as well as innovation in aquaculture operations and engagement on associated marine planning issues. In this regard, an Aquaculture Advisory Group has been established to inform policy development through collaboration with industry and it is noted that the supporting text to Policy AQU_01 sets out that *"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."* Overall, the policy has therefore been assessed as having a positive effect on governance (SA Criteria 14).

While shellfish is currently the predominant form of aquaculture in Wales, both finfish and shellfish aquaculture are highlighted in the WMER as having the potential to expand. The present SRA does not include finfish, but finfish has the potential to be included in SRAs in future in line with the WMER expectations for expansion of the aquaculture sector. Finfish aquaculture results in the collection of waste feed and excreted waste on the seabed which can affect seabed biodiversity. The spread of disease from farmed to wild fish, as well as the release of medicines which are toxic to other species such as marine invertebrates, could also have detrimental effects on marine wildlife. Copper antifoulants used on cage nets are another source of potential harm to marine species,⁶¹ all of which could have particularly detrimental effects within the SACs and candidate SACs (cSAC) which overlap with, or are within close proximity to, the SRAs including (inter alia): North Anglesey Marine cSAC; Menai Strait and Conwy Bay SAC; Llyn Peninsula and the Sarnau SAC; West Wales Marine cSAC; Cardigan Bay SAC; Pembrokeshire Marine SAC; Carmarthen Bay and Estuaries SAC; Carmarthen Bay SAC; Bristol Channel Approaches cSAC; and Severn Estuary SAC (and Ramsar Site). The escape of farmed fish into the wild may also present competition for wild species, and birds may suffer detrimental effects from shellfisheries due to loss of feeding areas and disturbance. This would be particularly relevant for the marine SPAs and potential SPAs (pSPAs) on the north and south coasts including (inter alia): Liverpool Bay SPA; Aberdaron Coast and Bardsey Island SPA; and Skokholm and Skomer SPA (including the proposed extension); as well as the Ramsar sites at the Loughor, Dyfi and Dee estuaries, which are within SRAs. The HRA of the Draft WNMP also identifies potential impact pathways as including (inter alia) hydrodynamic changes and loss of/damage to habitat. Mobile species such as marine mammals forming features of more distant can also be affected (the HRA of the Draft WNMP identifies a total of 79 European sites within the marine and terrestrial Zone of Influence (Zoi) of the SRA). There is also the potential for both direct impacts (e.g. loss of habitat or species) and indirect impacts (e.g. disturbance) on terrestrial ecology associated with the construction and operation of onshore supporting facilities (a large number of designated sites including Sites of Special Scientific Interest (SSSI) occur along the coast and in close proximity to the SRAs). However, potential adverse effects on ecology would be assessed at the project stage as part of any HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 to ENV/02). Further, aquaculture can help to improve water quality with associated benefits on marine ecology and ecosystems whilst mussel farms may also attract fish and enhance wild fish populations.⁶¹ Overall, a mixed positive and negative effect has been identified in respect of biodiversity (SA Criteria 1), although the magnitude of effect is uncertain and will be dependent upon the exact scale, type and location of activity.

Mixed positive and negative effects have also been identified in respect of air quality (SA Criteria 4) and climate change (SA Criteria 6). Marine biomass from seaweed harvesting is identified in the WMER as one of the newest prospective aquaculture business sectors for use in energy production. Support for such activity may therefore have a positive effect upon climate change together with benefits associated reductions in emissions to air (as the release of polluting combustion products could be reduced), although the magnitude of any positive effect is uncertain at this stage given the infancy of the sector. Development of the aquaculture sector would, however, be likely to generate emissions to air including greenhouse gas emissions associated with both

⁶¹ Scottish Government (2012) *Aquaculture: Environmental Impacts*. Available from <http://www.gov.scot/Topics/marine/Fish-Shellfish/18716/environmentalimpact> [Accessed August 2016].

the construction of facilities (including the embodied carbon in materials) and operation of vessels and vehicle movements during operation. This could have a negative effect on air quality and climate change, although it is noted that the supporting text to Policy AQU_1 sets out that aquaculture developments will be particularly encouraged where they (inter alia) make use of existing or planned fixed structures such as renewable energy developments (thereby optimising the use of marine space) and coordinate with existing or planned activities to share vessel use (thereby reducing greenhouse gas emissions). Additionally, onshore development associated with aquaculture activities could, if inappropriately sited, be affected by flood risk and coastal change, although it is anticipated that development proposals would be accompanied by a Flood Consequences Assessment (FCA) where appropriate (i.e. in high risk areas) whilst other plan policies (see Policies SOC_08 and SOC_09) seek to ensure that development is not affected by/does not affect flood risk and coastal change such that the probability of this risk occurring would be reduced.

Aquaculture can support long term improvements in water quality and the provision of locally sourced seafood to retailers and restaurants which can help to sustain the tourism industry. Whilst aquaculture activity could also affect tourism and recreation (principally due to space conflicts and potential visual impacts), any adverse impacts are likely to be manageable and, further, proposals would need to be considered at the project stage with reference to Policy ECON_02 which promotes coexistence. On balance, Policy AQU_01 has been assessed as having a mixed positive and negative effect on SA Criteria 9.

The accumulation of waste on the seabed associated with aquaculture activities can affect the nature and chemistry of sediments. In consequence, Policy AQU_01 has been assessed as having a negative effect on the physical environment (SA Criteria 3), although the magnitude of effect is dependent on the exact scale and location of development.

There is the potential for aquaculture which takes place at the surface of water to be visible from land and affect seascapes. In this regard, it is noted that SRAs are close to the Pembrokeshire Coast National Park and Areas of Outstanding Natural Beauty (AONB) on the north-west coast of Wales (including Anglesey and Llyn) and the Gower which could be affected by the implementation of Policy AQU_01. There is also the potential for the development of associated onshore facilities to have adverse landscape and visual impacts which could be significant if development is located within or close to designated landscapes. However, it is noted that the supporting text to Policy AQU_1 sets out that aquaculture developments will be particularly encouraged where they (inter alia) fit well with or enhance the local character of an area including the landscape and seascape which may help to mitigate such effects. Further, it is expected that potential landscape/seascape impacts would be assessed at the project stage and that proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance landscape and seascape (such as Policies SOC_06 and SOC_07). It is also recognised that aquaculture activity can and does operate in sensitive areas such as AONBs with no adverse effects. Overall, Policy AQU_01 has been assessed as having a negative effect on landscape and seascape (SA Criteria 5), although the probability of the effect occurring and its magnitude is dependent on the exact scale, type and location of development which is currently unknown.

Onshore development associated with aquaculture could have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on cultural heritage assets. Aquaculture with connections to the seafloor also has the potential to cause harm to cultural heritage receptors such as wrecks. Wrecks are present all around the Welsh coast, but this could be particularly relevant in the large seabed SRA to the east of Anglesey (although no wrecks are protected in this location). Policy AQU_01 has therefore been assessed as having a negative effect on heritage (SA Criteria 7), although the probability of the effect occurring and its magnitude is dependent on the exact scale, type and location of development which is currently unknown.

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that both shellfish and finfish activities will experience growth in the identified SRAs.

Uncertainties:

- The exact scale, type and location of future proposals is currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>AQU_02: Aquaculture (Safeguarding) 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> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	0	0	0	0	0	++/?	+/?	0	+
<p>Significant Effects: Policy AQU_02 would help safeguard existing proposals/areas identified for aquaculture activity from incompatible development and by ensuring that proposals avoid, minimise or mitigate against any adverse effects on such areas/uses. As set out above, aquaculture is an important sector in the Welsh marine economy and the Welsh Government is committed to helping support its sustainable growth. In this context, the safeguarding of areas/proposals for aquaculture has been assessed as having a significant positive effect upon the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which may conflict with aquaculture activity may not be permitted in some areas, taking into account the small footprint of aquaculture development and the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.</p> <p>This policy could theoretically allow the development of proposals which may adversely affect potential aquaculture sites. However, as the intent of the policy is the safeguarding of aquaculture production, it is assumed that proposals would not result in negative effects on the sector.</p>														



The requirement to consider the compatibility of proposals with current or proposed aquaculture activities could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and aquaculture activity.

Assumptions:

- None identified.

Uncertainties:

- The scale and type of aquaculture that may take place is not currently known.
- It is uncertain whether seabed agreements and other proposals would progress to commercial aquaculture operations.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>AQU_03: Aquaculture (Safeguarding) Proposals potentially affecting Strategic Resource Areas for aquaculture should demonstrate how they, in order of preference:</p> <ul style="list-style-type: none"> 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>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>	0	0	0	0	0	0	0	0	0	0	++/?	+/?	0	+
<p>Significant Effects: Policy AQU_03 seeks to safeguard aquaculture in water column and seabed SRAs. The effects associated with this policy would broadly be similar to those identified in respect of Policy AQU_02 above, however there is considered to be greater uncertainty over the type, scale and location of future commercial aquaculture that might be realised in SRAs.</p> <p>As for Policy AQU_02, this policy could theoretically allow the development of proposals which may adversely affect the potential of SRAs. However, as the intent of the policy is the safeguarding of aquaculture production, it is assumed that proposals would not result in negative effects on the sector.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> • None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> • None identified. <p>Uncertainties:</p> <ul style="list-style-type: none"> • The scale, type and specific location of aquaculture that may take place in SRAs is not currently known. 														

Defence

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascap	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>DEF_01: Defence (Safeguarding) Proposals that:</p> <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>	+	+	0	0	0	0	0	0	0	+/?	+/?	+	+	
<p>Significant Effects: The Draft WNMP notes that, through restriction of certain developments, there are extensive areas of inshore waters that have greatly reduced levels of human activity. Their continued protection under Policy DEF_01 could therefore indirectly help to conserve ecology and protect water quality, providing positive ecosystem resilience benefits. In this context, Policy DEF_01 has been assessed as having an indirect positive effect on biodiversity (SA Criteria 1) and water (SA Criteria 2).</p> <p>The WMER notes that relatively little military activity occurs in the plan area, partly due to the lack of naval bases along the coast. However, there are extensive areas protected for defence-related interests and activity including several military practice areas such as the Air Defence Range at Manorbier Head on the Pembrokeshire coast, the Pembrey Sands Air Weapons Range and the Castlemartin firing range in Pembrokeshire. Cardigan Bay is also a military practice area and there are some relatively small munitions disposal sites off the coast of Pembrokeshire. Non-defence related development in the marine area can impact on these areas and associated defence activities and in this regard, the Marine Policy Statement sets out that marine activities should not prejudice the interest of defence and national security and that the Ministry of Defence (MoD) should be consulted accordingly. In accordance with the Marine Policy Statement, Policy DEF_01 stipulates that proposals affecting MoD areas or with the potential to interfere with communication and navigation facilities will only be consented with the agreement of the MoD. This is expected to help 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. The policy has therefore been assessed as having a positive effect on SA Criteria 11. The restriction of certain activities in MoD areas is expected to help ensure the safety of marine users whilst defence of the nation is a clear contributor to the safety and well-being of its inhabitants. Positive effects have therefore been identified in respect of well-being (SA Criteria 12) and health (SA Criteria 13). It is recognised that MoD activity and associated Danger and Exercise Areas can act to restrict/constrain other sectors/activities; however, any negative effects are not expected to be significant, although some uncertainty remains.</p> <p>This policy should support the continued and uninterrupted contribution of MoD survey and monitoring data to the marine sector. Further, liaison with the armed forces will promote collaboration across marine and terrestrial boundaries. Overall, Policy DEF_01 has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p>														



Mitigation/Enhancement:

- None identified.

Assumptions:

- None identified.

Uncertainties:

- None identified.

Dredging and Disposal

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	-/?	-/?	-/?	-	0	+/-/?	-/?	0	+	-	++	+	-	0
<p>Significant Effects: Dredging and disposal (D&D) is the removal of material from one area of the seabed and its deposition in another. D&D is essential for maintaining and developing unimpeded and safe navigation of ports, harbours and waterways for shipping and recreational boating which in-turn supports the local and national economy through the transportation of people, materials and goods, and tourism and recreation. Policy D&D_01 seeks to provide confidence to the port and shipping sector that appropriate navigable channels will be established and maintained which in-turn will help ensure the resilience of the Welsh economy including tourism. Dredged material can also be a valuable resource and used for beach nourishment and in engineering projects for construction materials which could support economic development. The policy has therefore been assessed as having a significant positive effect on the economy (SA Criteria 11) and a positive effect on tourism and recreation (SA Criteria 9). Whilst dredging can impact on other users of the marine area including tourism and recreation, as D&D activities are typically occasional and of limited duration, any adverse effects are considered unlikely to be significant.</p> <p>The Draft WNMP notes that the D&D sector is a relatively small employer and in this regard, the implementation of Policy D&D_01 is unlikely to generate a substantial increase in employment associated directly with D&D activities. However, through supporting the operation of existing ports, shipping and the wider Welsh economy including tourism, the policy may have indirect employment benefits. A positive effect has therefore been identified in respect of well-being (SA Criteria 12).</p> <p>D&D promoted under Policy D&D_01 will result in energy use associated with the use of vessels and equipment and emissions to air including greenhouse gases. Negative effects have therefore been identified in respect of air quality (SA Criteria 4) and climate change (SA Criteria 6). However, the volume of emissions associated with D&D activities is not expected to be significant. With specific regard to climate change, there may also be the potential to utilise dredged material in flood defences which could generate a positive effect on this criteria (although this is uncertain).</p> <p>D&D can cause the direct loss of and/or damage to the seabed and the habitats that it supports as well as disturbance to marine ecology due to noise and vibration. It may also give rise to suspended sediments, resulting in decreased water quality and associated impacts on marine ecology and ecosystems. The settlement of these suspended sediments can result in the smothering or blanketing of subtidal communities and/or adjacent intertidal communities. Indirectly, D&D activities may cause physical changes to bathymetry and hydrodynamic processes which could further affect water quality and coastal habitats and species. This is particularly pertinent given the location of many of Wales' harbours being within or in close proximity to designated nature conservation sites. In consequence, Policy D&D_01 has been assessed as having a negative effect on biodiversity (SA Criteria 1) as well as water quality (SA Criteria 2) and the physical environment (SA Criteria 3). The magnitude of effects on these criteria will be dependent on the exact scale and location of future D&D activity that may be supported by the policy as well as the characteristics of affected areas which is to some extent uncertain. However, D&D activity takes place within designated Statutory Harbour Authority areas that are likely to have already been subject to dredging thus limiting the likelihood of adverse impacts occurring. The WMER also highlights that the amount of dredged material disposed at sea has remained relatively constant over the last 20 years which suggests that there is unlikely to be a substantial expansion of activity over the plan period. It is also recognised that adverse effects would be considered during the consenting process (and in accordance with other Draft WNMP policies which seek to conserve and enhance biodiversity) and assessed as part of any EIA and HRA. Finally, there is also the potential for reuse of dredged material to support habitat creation which could help offset adverse effects (although this is currently uncertain). Negative effects on SA Criteria 1, 2 and 3 are therefore considered unlikely to be significant, although some uncertainty remains.</p> <p>D&D activities can result in disturbance to, or loss of, underwater heritage assets. Policy D&D_01 has therefore been assessed as having a negative effect on heritage (SA Criteria 7). The</p>														



magnitude of effect will be dependent on the location and scale of development and the significance of any heritage asset(s) affected, although in view of the scale of new activity envisaged and the fact that the policy principally concerns maintenance dredging of existing channels (rather than capital dredging), significant negative effects are considered to be unlikely.

Dredging will produce waste requiring disposal and in this regard, the WMER states that on average (between 2010 and 2012) there was approximately 1,70M dry tonnes of dredged material disposed to licensed disposal sites around the Welsh coast. Negative effects are therefore predicted on SA Criteria 10. However, as noted above, the amount of dredged material disposed of at sea has remained relatively constant over the last 20 years and therefore effects on this criteria as a result of the implementation of Policy D&D_01 are considered unlikely to be significant. Further, under the Waste (England and Wales) Regulations 2011, OSPAR Convention and London Protocol, applications to dispose of wastes must demonstrate that appropriate consideration has been given to the internationally agreed hierarchy of waste management options for sea disposal. In this regard, the supporting text to the policy makes clear that the beneficial use of material is encouraged and no waste should be disposed to sea if there is a safe, practicable and cost-effective alternative.

Emissions to air and any change in water quality could have adverse impacts on human health (SA Criteria 13), although any adverse effects in this regard are expected to be minor given the anticipated scale of activity and existing regulation.

Mitigation/Enhancement:

- Although referenced in the supporting text, the policy wording itself could usefully make reference to the waste hierarchy.

Assumptions:

- It is assumed that existing regulation would help to minimise potential adverse environmental impacts associated with D&D activities and promote the waste hierarchy.

Uncertainties:

- The exact scale and location of future D&D activity is unknown.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>D&D_02: Dredging and Disposal (Safeguarding) Proposals potentially affecting areas where a consent or authorisation for:</p> <ul style="list-style-type: none"> • navigation dredging; or • at-sea disposal of dredged material; <p>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> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	0	0	0	+	0	++	0	0	+
<p>Significant Effects: Policy D&D_02 seeks to prevent adverse impacts on licensed D&D areas from other sector activity, except in exceptional circumstances. As set out above, dredging and disposal is essential for maintaining and developing unimpeded and safe navigation of ports, harbours and waterways for shipping and recreational boating. In this context, the safeguarding of areas consented for D&D has been assessed as having a significant positive effect on the economy (SA Criteria 11) and a positive effect on tourism and recreation (SA Criteria 9) and well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which may conflict with D&D activity may not be permitted in some areas, taking into account the fact that existing D&D activity is not expected to substantially increase over the plan period, that D&D activities are typically occasional and of limited duration and the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant.</p> <p>The requirement to consider the compatibility of proposals with D&D activity could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p>														



No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that navigation dredging and open at sea disposal would continue in consented areas.

Uncertainties:

- None identified.

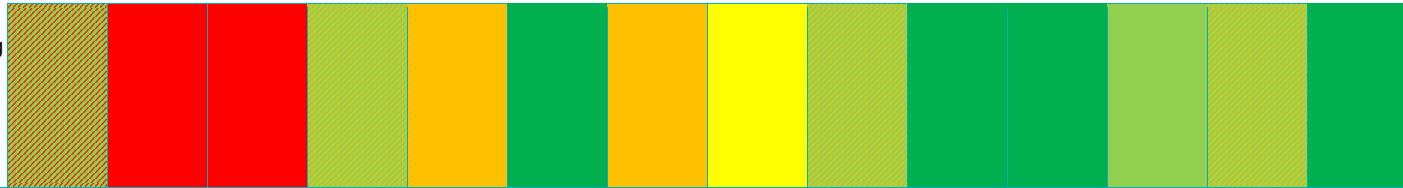
Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>D&D_03: Dredging and Disposal (Safeguarding) Proposals 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:</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>	0	0	0	0	0	0	0	0	0	0	+	0	0	+
<p>Significant Effects: Policy D&D_03 seeks to ensure that adverse effects do not occur in areas undergoing investigations for capital D&D or disposal site characterisation from other sector activity. The effects of this policy on the SA criteria are expected to be largely neutral although by facilitating investigations and site characterisation, the policy may contribute towards a better understanding of the marine area and ultimately support future D&D activity. This has been assessed as having a positive effect on the economy (SA Criteria 11) and governance (SA Criteria 14).</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> • None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> • None identified. <p>Uncertainties:</p> <ul style="list-style-type: none"> • None identified. 														

Energy – Low Carbon

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> in corresponding wave, tidal stream and any other defined renewable energy technology test and demonstration zones; and in corresponding wave, tidal stream and tidal lagoon Strategic Resource Areas. <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of:</p> <ol style="list-style-type: none"> renewable energy Strategic Resource Areas; and wider natural resources that provide renewable energy potential; <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 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.



Significant Effects:

The amount of electricity generated from renewable sources in Wales has been steadily increasing. Since 2004, generation from renewable sources has more than doubled with the vast majority of additional renewable electricity generated in recent years being due to an increase in wind generation (including offshore wind).⁶² The WMER sets out that Wales is ideally suited for the establishment of a successful and competitive marine energy industry which would further increase the proportion of electricity generated from renewable sources in Wales. In this regard, the Welsh Government's Marine Renewable Energy Strategic Framework has identified a scenario to secure 6.4GW through marine tidal stream and wave energy development. With specific regard to tidal lagoon technologies, studies have estimated the UK's total theoretical tidal range resource at between 25 and 30GWs which is enough power to supply around 12% of current UK electricity demand⁶³ and the findings of the Hendry (2016) review into tidal lagoons (the Hendry Review)⁶⁴ concludes that "power from tidal lagoons could make a strong contribution to UK energy security, as an indigenous and completely predictable form of supply". In this context, the WMER highlights that there is significant potential for tidal lagoon projects in Wales and, with the second highest tidal range in the world, the Severn Estuary represents a strategically important source of renewable energy.

Policy ELC_01 supports the development of renewable energy generation, particularly in test and demonstration zones and SRAs (currently) identified for tidal stream, tidal lagoon and wave technologies. The policy also stipulates that relevant public authorities should, in liaison with the sector and other interested parties, collaborate to understand opportunities for the sustainable use of renewable energy SRAs and wider natural resources that provide renewable energy potential. With specific regard to offshore wind, the policy encourages proposals that support strategic planning for this technology. Overall, the provisions of this policy are expected to help encourage renewable energy development and innovation in the sector together with a long term reduction in greenhouse gas emissions. In consequence, Policy ELC_01 has been assessed as having a significant positive effect on climate change (SA Criteria 6) and resources (SA Criteria 10). It is recognised that the construction of renewable energy schemes would result in resource and energy use although any adverse effects in this regard are expected to be offset by the benefits associated with renewable energy generation.

It should be noted that the operation of tidal lagoon schemes in particular can adversely affect coastal flooding, although this would be dependent on the location of schemes. However, as highlighted in the Hendry Review, there may also be opportunities for proposals to provide coastal flood and erosion protection associated with reductions in storm surges, wave size, tide level, erosion to existing defences and tide-locking. In this regard, the supporting text to Policy ELC_01 states that consideration should be given to the opportunity presented by tidal lagoon schemes to provide positive coastal defence benefits. Some uncertainty in terms of the positive effects identified in respect of SA Criteria 6 therefore remains, although it is anticipated that coastal change impacts associated with tidal lagoon (and other renewable energy) proposals would be considered as part of any design and EIA at the project stage whilst other plan policies (see Policies SOC_08 and SOC_09) seek to ensure that development is not affected by/does not affect flood risk and coastal change such that the probability of this risk occurring would be reduced.

The delivery of renewable energy schemes is likely to generate considerable investment in local economies and the supply chain. The WMER highlights that the renewables sector in the plan area generated approximately £127 million GVA in 2013 with 1,149 direct employees and a further 862 indirectly employed in the sector. In March 2015, Marine Energy Pembrokeshire published⁶⁵ the outputs of a survey of the economic contribution from the marine energy sector in Wales, for wave, tidal stream and tidal lagoon. This highlighted that technology and project developers have spent £34.5 million, directly creating 99 person years of employment. 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). Investment in the renewables sector may also create local employment opportunities which could benefit coastal communities including the more deprived coastal areas around North Wales, Swansea and South East Wales which are in the vicinity of tidal lagoon, tidal stream and/or wave SRAs. In this context, the supporting text to Policy ELC_01 sets out that proposals should clearly demonstrate how they will support the Welsh economy and provide benefits for local coastal communities and that they should be supported by (inter alia):

- developing, locating and investing in marine renewable energy businesses and nearby communities;

⁶² Welsh Government (2015) *Energy Generation and Consumption for Wales, 2013*. Available from <http://gov.wales/docs/statistics/2015/150225-energy-generation-consumption-2013-en.pdf> [Accessed November 2016].

⁶³ BEIS (2013) *Guidance - wave and tidal energy: part of the UK's energy mix*. Available from <https://www.gov.uk/guidance/wave-and-tidal-energy-part-of-the-uks-energy-mix> [Accessed September 2017].

⁶⁴ Hendry, C. (2016) *The Role of Tidal Lagoons*. Available from <https://hendryreview.wordpress.com/> [Accessed September 2017].

⁶⁵ Marine Energy Pembrokeshire (2015) *Marine Energy in Wales*. Available from <http://www.marineenergywales.co.uk/wp-content/uploads/2016/03/Marine-Energy-in-Wales-Investment-Jobs-Supply-Chain-2015-m.pdf> [Accessed September 2017].

- training and employing people and businesses in the planning, construction, maintenance and supply of materials for equipment and infrastructure; and
- enabling training providers to provide a workforce with the skills needed to support the sector.

With specific regard to tidal lagoon technologies, the Hendry Review highlights that such schemes provide a significant opportunity for investment and employment as well as regeneration benefits associated with the unlocking of land for development (through increased flood protection) and the use of seawalls for recreation and tourism. In this context, the Draft WNMP sets out that, 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.*”

Overall, Policy ELC_01 has been assessed as having a significant positive effect on the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12), although the magnitude of effects is to some extent uncertain and will depend on the exact scale and location of development, the number of local jobs created and the availability of relevant skills in the local labour force.

It is recognised that renewable energy development can have adverse impacts on other economic activities in the plan area. In this regard, the SRAs for tidal stream energy overlap with existing shipping routes, subsea cables, fishing areas, fish nursery grounds and areas of potential aquaculture whilst the wave energy SRA is within the area of fish spawning grounds. Tidal lagoons in particular would be large scale projects established in near-shore waters which could have extensive interactions with many other sectors such as ports and shipping, fishing and tourism and recreation by constraining established activities as well as limiting new opportunities including the deployment of other renewable technologies such as tidal stream. In this regard, it is noted that the tidal lagoon SRA overlaps with military practice areas, blocks licensed for oil and gas, aggregate option areas, dumping grounds, shipping routes, subsea cables, fish nursery and spawning grounds and areas of potential aquaculture. However, it is assumed that other Draft WNMP policies which seek to safeguard these sectors would not allow for inappropriate negative economic effects to arise from renewable energy development. The supporting text to Policy ELC_01 states that proposals should be supported by optimising the use of marine space through encouraging multiple activities that can co-exist (for example, there are potential synergies with tidal lagoon schemes and aquaculture, tourism and recreation and aggregates). The supporting text also highlights that 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 thereby allowing other sectoral activities to be planned to minimise impacts as much as possible and for mutual benefits to be maximised.

Renewable energy generation would contribute towards UK and Welsh Government climate change targets whilst liaison with the sector and other interested parties on the opportunities for offshore renewables would promote collaboration. Further, support for development in test and demonstration zones and the policy’s specific emphasis on the collection of evidence in respect of offshore wind will facilitate continued research and development in the marine renewables field. In this regard, it is noted that the supporting text to Policy ELC_01 states that proposals should be supported by (inter alia):

- supporting research and development to address evidence gaps and facilitate timely consenting of projects;
- 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; and
- providing focussed, proactive information and guidance on development opportunities.

On this basis, Policy ELC_01 has been assessed as having a significant positive effect on governance (SA Criteria 14).

Mixed positive and negative effects have been identified in respect of air quality (SA Criteria 4) and health (SA Criteria 13). The transition away from the combustion of fossil fuels to low carbon energy sources is expected to lead to an improvement in air quality, as the release of polluting combustion products would be reduced. It is also recognised that the construction of renewable energy development can cause temporary, short term emissions to air (e.g. associated with the movement of vessels) which could have adverse impacts on sensitive receptors along transport routes and where schemes such as tidal lagoon proposals are shore connected. However, as a proportion of UK atmospheric emissions, those directly emitted from development sites would form a small proportion, and the distance of most point sources from shore allows for significant dispersal and so effects on coastal and terrestrial air quality are not likely to be significant⁷⁴. With specific regard to human health, there is also the potential for associated onshore development (for example substations and tidal lagoon schemes that are shore connected) to affect the amenity of receptors. However, it should be noted that proposals would be considered against other policies that comprise the Draft WNMP which seek to minimise noise (Policy ENV_05) and air quality impacts (Policy ENV_06) such that effects would be minimised and mitigated where possible.

It is possible that adverse landscape/seascape and visual impacts alongside obstruction to recreational activities such as sailing could result in a decline in tourism, particularly in the Pembrokeshire and Anglesey coastal areas near tidal stream SRAs, although there is no evidence that current windfarm developments off the North Wales coast have had an adverse impact upon tourism and recreation. Further, it should be noted that tidal lagoon schemes in particular can provide new opportunities for tourism and recreation such as walking, open water swimming and sailing and, as noted above, the supporting text to Policy ELC_01 sets out that proposals should be supported by optimising the use of marine space through encouraging multiple activities that can coexist. Overall, Policy ELC_01 has been assessed as having a mixed positive and negative effect on tourism and recreation (SA Criteria 9), although some uncertainty remains.

There is the potential for adverse effects on biodiversity during the construction, operation and decommissioning of renewable energy developments. These effects can arise due to (inter alia): the

introduction of non-native species; physical damage to habitats during construction (e.g. as a result of the anchoring of infrastructure); construction and operational noise and vibration (e.g. underwater noise due to piling or the operational noise associated with wave and tidal energy devices); entrainment of marine species; behavioural disturbance from the presence of infrastructure and barriers to movement; discharges to water; and the use of antifouling materials. There may also be both direct impacts (e.g. loss of habitat or species) and indirect impacts (e.g. disturbance) on terrestrial ecology associated with the construction and operation of onshore supporting facilities such as substations (it is noted that a large number of designated sites including SSSI occur along the coast and in close proximity to the SRAs for this sector).

Marine SACs and SPAs around Anglesey, St David's peninsular and the Bristol Channel are likely to be particularly sensitive to effects from development within the tidal stream SRAs. These designated nature conservation sites include (inter alia): North Anglesey cSAC; Liverpool Bay SPA; Menai Strait and Conwy Bay SAC; Pembrokeshire Marine SAC; West Wales Marine pSAC; Grassholm SPA; Skokholm and Skomer SPA (including the proposed extensions); and the Severn Estuary SAC and SPA (and Ramsar Site). In addition to the generalised effects on biodiversity associated renewable energy development outlined above, tidal stream schemes can (depending on scale) affect water quality and result in changes to hydrodynamics and sediment patterns with impacts potentially felt beyond the plan area and which could be significant. Changes to hydrodynamics can also affect other receptors that rely on the high velocities (foraging, decreased vertical mixing, increased stratification – bloom dynamics) and could affect sectors such as aggregates. In this regard, the HRA of the Draft WNMP uses a precautionary 50km marine Zol for wave and tidal stream proposals based on tidal stream modelling for the Bristol Channel (e.g. Neill 2013) which suggests that sediment dynamics may be influenced up to 50km from the point of energy extraction. There is also the potential for impacts on mobile species such as marine mammals over wider areas due to, for example:

- changes in habitat or prey distributions due to the physical and physio-chemical changes;
- underwater noise and vibration due to operation, particularly for fish and marine mammals;
- electromagnetic changes associated with the generation and transfer of electricity, particularly for fish (some marine mammals may also be sensitive in certain situations, although this is thought to be less notable);
- collisions with moving structures or entanglement, particularly for marine mammals; and
- the introduction of new structures creating new habitat or reef effects (particularly for fish, which often aggregate around structures, but conceivably for birds and other features).

With regard to offshore wind, meanwhile, additional impacts may include collision risks to birds. The UK Offshore Energy Strategic Environmental Assessment: OESEA3 Environmental Report⁶⁶ highlights that the potential barrier effects of offshore wind farms and displacement of birds from offshore wind farm areas have been extensively recognised with a growing number of publications on this topic but that there is still little convincing data showing significant effects.

The potential range of effects on biodiversity associated with the development and operation of tidal lagoon schemes are similar to the impacts already identified above but are likely to be of greater significance with limited or no opportunity for the scope or extent of impacts to be significantly moderated to avoid effects (in contrast to, say, a wind farm scheme which may have multiple location options); and any large-scale tidal lagoon is likely to have far-field effects. In particular, tidal lagoon schemes can (depending on scale) result in:

- hydrodynamic changes - large impoundments alter tidal regimes, the tidal currents (around the impoundment, and locally around turbines), and wave exposure. The habitats enclosed by the impoundment will have the greatest exposure to change but large-scale schemes also have the potential to substantially alter coastal processes locally and regionally, particularly far-afield longshore drift;
- physio-chemical changes - physio-chemical changes would be expected in conjunction with the hydrodynamic changes, as tidal currents and fluxes are altered; the extent would depend on the scale of the scheme, but may result in pressures such as localised changes in salinity or temperature, or accumulation of nutrients where dispersal is limited;
- physical loss / changes - the hydrodynamic changes are likely to result in the physical loss of some habitats and maintenance dredging is a likely operational requirement due to increased siltation within and around any impoundment.

The tidal lagoon SRA includes several marine SACs and SPAs (including Liverpool Bay SPA, Severn Estuary SPA/SAC/Ramsar Site, the Dee Estuary SPA/SAC/Ramsar Site, Great Orme's Head SAC, Kenfig SAC, Menai Strait and Conwy Bay SAC and Dunraven Bay SAC) and it is in relative close proximity to a number of other European sites. Due to the potential for significant effects on European sites, an appropriate assessment of the tidal lagoon aspects of Policy ELC_01 has been undertaken as part of the HRA of the Draft WNMP and this is supported by three technical assessments concerning birds⁶⁷, marine mammals⁶⁸ and fish and marine habitats⁶⁹.

The assessment of effects on birds has identified a total of 56 SPA and Ramsar Sites with interest features potentially exposed to the effects of Policy ELC_01 and where adverse effects on

⁶⁶ Department of Energy and Climate Change (2016) *UK Offshore Energy Strategic Environmental Assessment: OESEA3 Environmental Report*. Available from <https://www.gov.uk/government/consultations/uk-offshore-energy-strategic-environmental-assessment-3-oesea3> [Accessed November 2016].

⁶⁷ Institute of Estuarine and Coastal Studies University of Hull (2017) *Plan Level HRA of the Welsh National Marine Plan Tidal Lagoon Policy: Bird Features. Report to the Welsh Government*.

⁶⁸ Royal HaskoningDHV (2017) *Draft Welsh National Marine Plan - Plan level Habitats Regulation Assessment for Tidal Lagoon Policy – Marine Mammals*.

⁶⁹ ABPMer and THA Aquatic (2017) *Plan Level HRA of Welsh National Marine Plan Tidal Lagoon Policy: Fish and Supporting Environs*.

integrity cannot not be excluded. These adverse effects are associated with, in particular (although not exclusively): barrier to movement; collision below water with non-natural objects; habitat structural changes (removal of substratum); physical loss of habitat; visual disturbance; and wave exposure change.

The technical assessment for marine mammals, meanwhile, has considered effects on harbour porpoise, bottlenose dolphin, grey seal, harbour (or common) seal and otter. This assessment concludes that adverse (alone) effects cannot be excluded for:

- harbour porpoise associated with Bristol Channel Approaches cSAC and North Anglesey Marine cSAC; and
- otter associated with Carmarthen Bay and Estuaries SAC.

In addition, adverse effects 'in combination' cannot not be excluded for:

- bottlenose dolphin associated with Cardigan Bay SAC and Llyn Peninsula and the Sarnau SAC;
- harbour porpoise associated with West Wales Marine cSAC;
- grey seal associated with Cardigan Bay SAC, Isles of Scilly Complex SAC; Lundy SAC; Pembrokeshire Marine SAC and Llyn Peninsula and the Sarnau SAC.

Impact pathways with the potential to give rise to adverse effects on the integrity of these features (or where uncertainty remains) include: disturbance from underwater noise; collision risk with vessels; collision risk with operational turbines; barrier effects to movements; and changes to prey availability;

For a total of 39 European sites, the technical assessment of effects associated with the tidal lagoon element of Policy ELC_01 on fish and marine habitats concludes that adverse effects on integrity (alone and / or in combination) cannot be excluded at the plan level due to the inherent uncertainties associated with:

- the location of tidal lagoon activities (both within and outside the SRA);
- the scale of tidal lagoon development;
- the proposed technologies to be used and future advances in these technologies;
- the scale of the effects arising via some of the defined impact pathways;
- the detailed baseline ecology of the development locations;
- the sensitivities of species to impacts; and
- the efficacy of some project-level mitigation options.

The key impact pathways identified in this assessment for which it might not be possible to avoid adverse effects include: direct changes in habitat extent, type and quality; indirect changes in habitat extent, type and quality (including sediment transport, tidal regime and species assemblage/interaction); barrier to movement through presence of infrastructure and habitat fragmentation for aquatic species; and collision risk (including vessels and static/ rotating structures and entrainment).

Overall, the HRA of the Draft WNMP concludes that the nature of tidal lagoons are such that adverse effects on European sites or interest features, particularly habitats, fish and birds, cannot clearly be avoided at the project level, regardless of the policy controls or known project-level measures.

The generation of low carbon energy and associated reductions in greenhouse gas emissions would support climate change mitigation and contribute to associated biodiversity benefits, although in the context of UK and global greenhouse gas emissions any positive effects in this regard are likely to be minor and uncertain. The presence of renewable energy infrastructure can also act to restrict/preclude other activities such as fishing thereby creating exclusion (no take) zones. This has the potential to benefit marine ecology (particularly fish and benthic communities) although adverse impacts associated with, for example, fishing may be displaced. Renewable energy development and associated fixed structures can also serve to create new habitat, attracting key species and enhancing biodiversity.⁷⁰

In conclusion, Policy ELC_01 has been assessed as having a mixed positive and significant negative effect on biodiversity (SA Criteria 1). The potential for significant negative effects to occur on this criteria reflects in particular the possible magnitude and range of impacts associated with the tidal lagoon element of the policy. However, as highlighted above, some uncertainty remains and it should be noted that potential adverse effects on ecology would be assessed at the project stage as part of any EIA and HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 to ENV_03) such that any significant adverse effects would be minimised and mitigated where possible. In this regard, it is noted that the supporting text to Policy ELC_01 sets out that the Welsh Government does not encourage developments that do not comply with the Habitats Directive. Nevertheless, where impacts affect designated sites in particular, there is the potential for negative effects to be significant.

⁷⁰ Marine Institute Plymouth University and Friends of the Earth (2013) *Marine Renewables, Biodiversity and Fisheries*. Available from https://www.foe.co.uk/sites/default/files/downloads/marine_renewables_biodiver.pdf [Accessed January 2017].

Renewable energy development can adversely affect water quality as a result of, for example, the mobilisation of sediment during construction, the release of chemicals associated with maintenance, accidental release of hydraulic fluids and the release of antifouling coatings. However, it is uncertain whether these various releases would take place as they are dependent on the type of technology used and it is also assumed that construction, operation and decommissioning activities would be undertaken in accordance with relevant regulation and guidance on pollution prevention and control. Tidal stream and tidal lagoon schemes can also cause permanent changes to the physical nature and associated ecology of the estuary/river basin where they are located.⁷⁴ In this regard, the HRA highlights that the operation of tidal lagoon schemes can result in changes to temperature, salinity, dissolved oxygen and suspended sediment concentrations and that where these impacts affect designated nature conservation sites, effects could be significant. Overall, Policy ELC_01 has therefore been assessed as having a significant negative effect on water (SA Criteria 2), although some uncertainty remains. It should be noted that potential adverse effects on water quality would be assessed at the project stage as part of any EIA (where required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to protect water quality (Policy ENV_06) such that any significant adverse effects would be minimised and mitigated where possible. Further, the operation of tidal lagoon schemes in particular could help to improve water quality, for example, through the installation of treatment processes.

Negative effects are expected to arise on the physical environment (SA Criteria 3) due to impacts associated with infrastructure construction and decommissioning on the seabed, and for tidal and wave energy, changes to hydrodynamics and wave conditions with associated effects on sediment transport. The HRA of the tidal lagoon element of Policy ELC_01 highlights that the operation of tidal lagoon schemes can cause scour effects in soft sediment systems and changes to rates of sedimentation. It also notes that changes in water velocities and sediment transport, erosion and deposition caused by the presence of new structures will alter benthic habitats, at least on a local scale. Hydrodynamic changes, including water levels, waves and flow speeds, within an estuary or coastal region, or around a new development, may lead to changes in the pattern of erosion or accretion of marine sedimentary habitats such as mudflats and sandbanks. These in turn have the potential to affect habitat quality and result in changes to diversity, abundance and biomass of habitats and species. The outflow of water will also delay or alter the timing of the falling tide given the need to generate a tidal 'head'. Therefore, the presence of these structures could influence habitats upstream and downstream of the facility, specifically altering exposure of tidal flats. However, the magnitude of any such changes will be project specific as impacts would be dependent on the scale of the development; where designated sites are affected, there is the potential for effects to be significant. Overall, Policy ELC_01 has been assessed as having a significant negative effect SA Criteria 3, although some uncertainty remains. It should be noted that potential adverse effects on coastal processes would be assessed at the project stage as part of any EIA and CIS (where required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to minimise impacts on coastal processes (Policy SOC_09).

Renewable energy development could have adverse impacts on landscape/seascape and visual amenity. These impacts would be principally associated with the introduction of built form into landscapes/seascapes and views and may be felt in the short term during construction and in the longer term once development is complete. Landfall works and the development of associated onshore infrastructure such as substations and grid connections could also have adverse impacts on landscape character and visual amenity. As tidal lagoon schemes would be shore-connected and potentially in areas of high coastal populations, effects in this regard may be more likely when compared to other types of renewable energy development. Additionally, the operation of tidal lagoon schemes could have indirect impacts on coastal landscape and seascapes associated with physical changes to intertidal areas (and/or displacement if compensatory measures are considered) and related alteration of the fauna and flora, changes in tidal regime, and alterations to the pattern of vessel movements (e.g. if requiring traffic separation through locks).⁷¹ The magnitude of landscape/seascape and visual effects will be dependent on the exact type, scale and location of development, the sensitivity of the receiving landscape/seascape and the proximity of sensitive receptors which is uncertain. However, it is noted that the SRAs for those tidal streams are close to the Heritage Coast, Anglesey AONB and the Pembrokeshire Coast National Park whilst the SRA for tidal lagoons is close to the Gower AONB. In consequence, there is at least the potential for adverse effects associated with this policy to be significant where development is visible. Notwithstanding the adverse impacts identified above, the potential for negative landscape/seascape and visual effects would be considered during the consenting process and as part of any EIA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Overall, Policy ELC_01 has been assessed as having a negative effect on landscape and seascape (SA Criteria 5), although some uncertainty remains.

Renewable energy development has the potential to have both direct impacts (e.g. loss of, or damage to, assets) and indirect impacts (e.g. adverse effects on setting) on cultural heritage assets. In this regard, it is noted that the SRAs contain a large number of wrecks including Royal Yacht Mary Protected Wreck and Resurgam Protected Wreck which could be affected by development, particularly during construction. Offshore development could additionally affect the setting of coastal (terrestrial) cultural heritage assets whilst the development of associated onshore facilities could also affect these assets directly. As tidal lagoon schemes would be shore-connected, effects in this regard may be more likely when compared to other types of renewable energy development. The magnitude of effect on heritage as a result of the implementation of Policy ELC_01 is, however, uncertain as it is dependent on the nature and location of renewable energy projects as well as the sensitivity/significance of the receiving environment. Again, however, it is expected that the potential for adverse effects would be considered during the consenting process (in the context of other plan policies) and as part of any EIA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Overall, Policy ELC_01 has been assessed as having a negative effect on cultural heritage (SA Criteria 7), although some uncertainty remains.

The potential creation of local employment opportunities associated with the implementation of Policy ELC_01 could help to retain populations of local, Welsh speakers and attract Welsh speakers

⁷¹ Department of Energy and Climate Change (2016) *UK Offshore Energy Strategic Environmental Assessment: OESEA3 Environmental Report*. Available from <https://www.gov.uk/government/consultations/uk-offshore-energy-strategic-environmental-assessment-3-oesea3> [Accessed November 2016].



back to coastal communities. However, there is also the potential that development could result in an influx of non-Welsh speakers to Welsh speaking communities which could adversely affect Welsh language and culture. On balance, this policy has been assessed as having an uncertain effect on Welsh language (SA Criteria 8).

Mitigation/Enhancement:

- The policy wording could make specific reference to encouraging research and development in addition to collaboration in order to understand further the opportunities for renewable energy development including environmental constraints and opportunities as well as the efficacy of mitigation. This may help to refine the extent of the SRAs identified for this sector in future marine plans and resolve the uncertainties identified in the assessment of Policy ELC_01

Assumptions:

- It is assumed that renewables deployment will take place in the SRAs, albeit with uncertainty over the exact type, location and scale of the proposals.

Uncertainties:

- The exact scale, type and location of future proposals is currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.
- Effects on Welsh language are uncertain.
- There are a number of uncertainties with regard to the potential type and magnitude of effects associated with the deployment of renewable energy schemes and in particular tidal lagoon technologies.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	++	0	0	0	++	++/?	+/?	0	+

Significant Effects:

Policy ELC_02 seeks to safeguard renewable/low-carbon energy generation projects by preventing incompatible development in areas where a consent or authorisation for renewable energy generation has been granted or formally applied for, except in exceptional circumstances. This is likely to result in significant positive effects on climate change (SA Criteria 6) and resources (SA Criteria 10) by helping to ensure that renewable energy generation and reductions in greenhouse gas emissions associated with consented schemes are realised.

This policy could theoretically allow the development of proposals which may adversely affect consented/authorised/leased renewable/low-carbon energy schemes. However, as the intent of the policy is the safeguarding of renewable/low-carbon energy generation, it is assumed that proposals would not result in negative effects in this regard.

This policy will support the protection of the renewable/low-carbon energy sector which is an important contributor to the Welsh economy, together with associated jobs. A significant positive effect has therefore been identified in respect of the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which may conflict with renewable/low-carbon energy schemes may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.

The requirement to consider the compatibility of proposals with renewable/low-carbon energy schemes could help to promote engagement on marine planning. This has been assessed as



having a positive effect on governance (SA Criteria 14).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and renewable/low-carbon schemes.

Assumptions:

- It is assumed that consented/leased renewable energy projects would progress to become operational.
- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the renewables sector.

Uncertainties:

- The scale of renewables development that may take place in consented areas is not currently known.
- Improvements in air quality associated with a reduction in the release of polluting combustion products would generally be expected as a result of renewable energy generation (in addition to incidental human health benefits). As this policy relates to safeguarding consented renewables developments, the scale of which is not yet known, these indirect benefits have not been identified as effects.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	++/?	0	0	0	++/?	++/?	+/?	0	+
<p>Significant Effects: Policy ELC_03 seeks to safeguard areas where exploration or option agreements have been offered or are in place for renewable/low-carbon energy generation. The effects associated with this policy would be broadly similar to those identified in respect of Policy ELC_02. However, there is considered to be greater uncertainty reflecting the fact that the type, scale and location of activities is unknown as is whether full scale renewables deployment would go ahead in exploration areas.</p> <p>As for Policy ELC_02, this policy could theoretically allow the development of proposals which may adversely affect exploration or development areas for renewable/low-carbon energy activities. However, as the intent of the policy is the safeguarding of renewable/low-carbon energy generation, it is assumed that proposals would not result in negative effects in this regard.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that proposals would not be permitted if negative effects would arise, as the policy intent is safeguarding of the renewables sector. <p>Uncertainties:</p> <ul style="list-style-type: none"> It is uncertain whether proposals in exploration areas or with option agreements would progress to full-scale renewables projects. 														



- The scale, type and specific location of renewables development that may ultimately take place in these areas is not currently known.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoid adverse impacts on future potential renewable energy activities in those areas; and/or minimise impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	++/?	0	0	0	++/?	++/?	+/?	0	+
<p>Significant Effects: Policy ELC_04 seeks to safeguard potential future renewable energy activity within SRAs. The effects associated with this policy would broadly be similar to those identified in respect of Policies ELC_02 and ELC_03 above, however there is considered to be greater uncertainty over the type, scale and location of future schemes that might be realised in SRAs (as they do not benefit from a lease, consent, or exploration/option agreement). It is therefore not known whether renewables deployment would go ahead in SRAs, and whether the associated safeguarding benefits would be realised.</p> <p>As for Policies ELC_02 and ELC_03, this policy could allow the development of proposals which may adversely affect the potential of SRAs. However, as the intent of the policy is the safeguarding of renewable/low-carbon energy generation, it is assumed that proposals would not result in negative effects in this regard.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that proposals would not be permitted if negative effects would arise, as the policy intent is safeguarding of the renewables sector. <p>Uncertainties:</p> <ul style="list-style-type: none"> It is uncertain whether renewables projects will take place in SRAs. 														



- The scale, type and location of renewables development that may take place in SRAs is not known.

Energy – Oil and Gas (including Gas Unloading and Storage and Carbon Dioxide Capture and Storage)

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
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.	-/?	-/?	-/?	-/?	-/?	-/?	-/?	?	0	++/- /?	++/?	+/?	-/?	0
<p>Significant Effects:</p> <p>The principal activities of the oil and gas sector are the exploration and extraction of petroleum and natural gas from underground wells and the operation of the drilling rigs and production facilities. The WMER highlights that there is currently limited conventional oil and gas exploration or production taking place within Welsh waters (although there are a range of onshore supporting facilities in Wales including: the Point of Ayr Gas Terminal (Prestatyn) which processes gas from the Liverpool Bay gas fields via 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). Whilst the UK Government's 28th offshore oil and gas licensing round included licensed blocks in Welsh waters, the current 29th round does not.</p> <p>In this context, Policy O&G_01 encourages proposals that maximise the long term supply of oil and gas which is expected to support the opportunities for oil and gas exploration and production in existing and future licensed blocks. The production of indigenous offshore gas could make an important contribution to meeting Wales', and the UK's, energy demand as a transition fuel as decarbonisation proceeds (whilst the proportion of electricity generated from renewables in Wales has increased, a significant proportion (circa 19% in 2013) continues to be generated from gas⁶²). However, the extraction of hydrocarbon reserves would result in the direct loss of a primary natural resource that is non-renewable. Resources including energy, water and aggregates would also be required to support the construction, operation and decommissioning of oil and gas facilities. Additionally, waste will be generated from platforms and vessels (in 2014, the UK Continental Shelf (UKCS) offshore oil and gas industry returned just over 190,000 tonnes of waste material to shore). Waste arisings associated with offshore oil and gas exploration and production would include sewage, cooling water, drainage and drilling wastes (typically around 1,000 tonnes of cuttings are generated from an exploration or development well).⁷⁴ There would also be produced water, although at least 95% of this water would normally be reinjected with any discharges to sea being required to meet strict UK standards.⁷⁴ Overall, Policy O&G_01 has been assessed as having a mixed significant positive and significant negative effect on resources (SA Criteria 10), although some uncertainty remains as the magnitude of effect will depend on the extent of future oil and gas activity in the plan area which is at present unknown.</p> <p>Supporting the long term supply of indigenous oil and gas will help to secure energy supplies which are necessary for economic growth and could help reduce energy costs to consumers. Further, the development of the oil and gas sector in Wales would itself generate significant investment in the economy during the construction, operation and decommissioning of facilities. In this regard, total offshore oil and gas expenditure in the UKCS was £21.7 billion in 2015 with approximately £30 billion spent in the supply chain⁷². The Draft WNMP, meanwhile, estimates that the sector in Wales generated £173M in 2014. However, it should be noted that economic benefits associated with oil and gas exploration and production are closely linked to the global price of oil and gas and investment and exploration/production activity in the UKCS has decreased since 2014 due to the collapse in oil prices. Overall, Policy O&G_01 has been assessed as having a</p>														

⁷² Oil and Gas UK (2016) *Economic Report 2016*. Available from <http://oilandgasuk.co.uk/wp-content/uploads/2016/09/Economic-Report-2016-Oil-Gas-UK.pdf> [Accessed November 2016].

significant positive effect on the economy (SA Criteria 11), although some uncertainty remains.

It is recognised that oil and gas exploration and production could have adverse impacts on other economic activities in the plan area and in this regard, it is noted that the provisional blocks awarded under the 28th Licensing Round include military practice areas, Gwyn y Mor Offshore Windfarm, windfarm leases, aggregates production and exploration and option areas, dredging areas and fish spawning and nursery grounds. However, it is assumed that other Draft WNMP policies which seek to safeguard these sectors would not allow for inappropriate negative economic effects to arise from oil and gas development. Further, the footprint of oil and gas activity is small so any interactions could likely be minimised and therefore relatively minor.

Across the UK, around 330,000 jobs are currently supported by the offshore oil and gas industry.⁷³ Growth of the oil and gas sector in Wales would therefore be expected to contribute towards employment creation which could benefit coastal communities including more deprived areas along the North Wales coast which are in relative close proximity to provisional blocks awarded under the 28th Licensing Round. However, significant growth of this sector in Welsh waters is not anticipated by the Draft WNMP. Also, the potential for any jobs created to directly benefit local communities would depend on the balance between the skilled and unskilled oil and gas posts required and the availability of individuals in the local labour market with the required skills and the relevant experience (just over half of UK offshore oil and gas workers live in Scotland⁷³). As noted above, indigenous oil and gas production could help to maintain secure, affordable energy prices which could benefit the local population of Wales and particularly those on low incomes. Overall, Policy O&G_01 has been assessed as having a positive effect on well-being, although some uncertainty remains.

The main stages of oil and gas activity are:

- Exploration and appraisal: this involves initial exploratory drilling with well evaluation and testing typically using mobile drilling rigs, possibly preceded by seismic survey. Based on previous experience, typically less than half the wells drilled reveal hydrocarbons, and of that half less than half again will yield an amount significant enough to warrant development.
- Development: includes production facility installation which may be fixed or floating, and generally the installation of pipeline(s), which for major developments could come ashore but are more often "tied back" to existing export infrastructure, and the drilling of producer and injector wells.
- Production and export operations: involves routine supply, return of wastes to shore, power generation, chemical use, flaring, produced water management/reinjection and reservoir monitoring and maintenance.
- Decommissioning: including cleaning and removal of facilities, for reuse, recycling or disposal.⁷⁴

These activities can result in a wide range of adverse environmental impacts with the potential to generate negative effects on a number of the SA criteria, as set out below.

Offshore oil and gas exploration and production during all stages of the project lifecycle can cause harm to marine ecology and ecosystems due to loss of habitats and disturbance arising from (inter alia): the introduction of non-native species; the installation of infrastructure on the seabed; noise and vibration associated with seismic and geophysical surveys, drilling and construction; and behavioural disturbance from the presence of infrastructure and barriers to movement. Additionally, exploration and production activities can affect water quality which could have subsequent impacts on marine ecology. Effects on biodiversity could be significant where there are impacts on designated nature conservation sites and in this regard, it is noted that provisional awards under the 28th Licensing Round are located within/in close proximity to a number of European designated sites including: Liverpool Bay SPA; Menai Strait and Conwy Bay SAC; Cardigan Bay SAC; Aberdaron Coast and Bardsey Island SPA; West Wales Marine cSAC; and Pembrokeshire Marine SAC; as well as several Marine Conservation Zones. However, the HRA (Appropriate Assessment) of the 28th round⁷⁵ considered the potential for blocks in Welsh waters to result in likely significant effects on European designated nature conservation sites and concluded that, taking into account the mitigation measures that can be imposed through existing permitting mechanisms on the planning and conduct of activities, there would be no adverse effects on the integrity of European designated sites.

Overall, Policy O&G_01 has been assessed as having a negative effect on biodiversity (SA Criteria 1). Negative effects are also expected to arise on the physical environment (SA Criteria 3) due to impacts associated with infrastructure construction and decommissioning on the seabed such as the anchoring of rigs and laying of pipeline. However, the magnitude of effects on SA Criteria 1 and 3 is uncertain and will be dependent upon the exact scale, type and location of activity. The potential for adverse effects would be considered during the award of licences (any application for new licences must be supported by an Environmental Sensitivity Assessment whilst the blocks applied for are subject to HRA) and also during the consenting process including as part of any EIA/HRA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 and ENV_02). It should also be noted that the oil and gas sector is heavily regulated

⁷³ UK Oil and Gas UK (2013) *UK Continental Shelf Offshore Workforce Demographics Report 2013*. Available from <http://publ.com/Gt7Tvg#20> [Accessed December 2016].

⁷⁴ Department of Energy and Climate Change (2016) *UK Offshore Energy Strategic Environmental Assessment: OESEA3 Environmental Report*. Available from <https://www.gov.uk/government/consultations/uk-offshore-energy-strategic-environmental-assessment-3-oseea3> [Accessed November 2016].

⁷⁵ Department of Energy and Climate Change (2015) *Offshore Oil & Gas Licensing 28th Seaward Round Irish Sea and St George's Channel. Habitats Regulations Assessment Stage 2 - Appropriate Assessment*. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444928/28th_Round_Irish_Sea_Blocks_AA.pdf [Accessed December 2016].

and in this regard, Policy O&G_01 makes clear that proposals will only be encouraged where they meet fully the environmental safeguards contained within the statutory processes of issuing production and exploration licences and subsequent activity specific approvals.

As noted above, oil and gas exploration and production could have adverse impacts on water quality. Sources of water pollution from oil and gas exploration and production activity include discharges of drilling wastes and production wastes such as produced water (which may contain naturally occurring radioactive materials) as well as the accidental spill of hazardous chemicals. However, strict regulation applies to discharges to water. For example, the discharge of oil-based drilling fluids is effectively banned and there are strict controls implemented over chemical additives used in water-based fluids. Proposals would also be determined in accordance with Policy ENV_06 of the Draft WNMP regarding impacts on water quality. Overall, Policy O&G_01 has been assessed as having a negative effect on water, although some uncertainty remains.

Oil and gas activity will generate emissions to air during construction, operation and decommissioning. Additionally, there would be emissions from flaring, which would primarily result in the production of CO₂ but also NO_x, SO₂, CO and particulate matter (PM₁₀), and from methane within any flowback water, although methane emissions will vary depending on the completion method implemented. Further sources of emissions to air include fugitive releases from equipment. However, emissions from this sector have fallen between 2000 and 2014⁷⁴ and as a proportion of total UK atmospheric emissions, those directly emitted from rigs would be small. Further, the distance of most point sources from shore allows for significant dispersal and so effects on coastal and terrestrial air quality and health are not likely to be significant⁷⁴. Emissions would also be regulated with adverse impacts considered at the licensing and consenting stages and in accordance with Policy ENV_06 of the Draft WNMP which concerns air quality impacts. The combustion of fossil fuels derived from offshore oil and gas activity could contribute to poor air quality with associated impacts on human health, although the magnitude of effect in this regard is uncertain and will be dependent on the future scale of oil and gas activity in Welsh waters and energy consumption trends. Overall, Policy O&G_01 has been assessed as having a negative effect on air quality (SA Criteria 4) and health (SA Criteria 13), although some uncertainty remains.

Oil and gas development will introduce new built form into seascapes (a rig/platform) and landfall works could affect coastal landscapes. The magnitude of resulting landscape/seascape and visual effects will be dependent on the scale and location of development, the sensitivity of the receiving landscape/seascape and the proximity of sensitive receptors. In this regard, it is noted that some awarded blocks under the 28th Licensing Round are in close proximity to the Heritage Coast and Pembrokeshire Coast National Park. However, associated impacts are unlikely to be significant given the distance of operations from the shore. Further, the potential for negative landscape/seascape and visual effects would be considered during the licensing and consenting processes (with proposals determined in accordance with those policies of the Draft WNMP that concern landscape and seascape and coastal character) and as part of any EIA (where appropriate) such that any significant adverse effects would be minimised and mitigated where necessary. Overall, Policy O&G_01 has been assessed as having a negative effect on landscape and seascape (SA Criteria 5), although some uncertainty remains.

Oil and gas exploration and production activity will generate greenhouse gas emissions at all stages of the lifecycle with CO₂ accounting for the greatest proportion of emissions to air from offshore oil and gas installations (around 30Mt were emitted in the OSPAR area in 2011).⁷⁴ Sources of emissions will include, for example, vessels and helicopters, generators for power and drilling as well as the embodied carbon in materials used during construction. Additional sources of emissions could include methane from flaring, flowback water and fugitive emissions. Indirectly, the combustion of extracted hydrocarbons would also generate greenhouse gas emissions. However, any emissions from exploration, production and transport of hydrocarbons in Wales would be relatively small in the context of wider UK energy supply emissions (which were 182Mt CO₂ eq. in 2014) and emissions from this sector have declined in recent years through, for example, improvements in efficiency which have reduced fugitive releases.⁷⁴

The extent to which production and consumption of oil and gas affect greenhouse gas emissions would vary subject to changes in the UK fuel mix and shifts between gas and coal usage. For the purposes of this assessment, it has been assumed that consumption of oil and gas derived from indigenous sources would replace other currently imported hydrocarbons and that there would be no net change to the energy mix within Wales or the UK. In consequence, oil and gas production and consumption would not be expected to displace energy generation from renewable and low carbon sources, nor disincentivise investment in renewable and low carbon technologies, particularly given the objectives and other energy policies of the Draft WNMP. In this regard, the supporting text to Policy O&G_01 states that *"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."* Domestic oil and gas production and consumption could, however, help to reduce net greenhouse gas emissions associated with reduced imports of LNG in particular, although the scale of any benefits would be uncertain. However, if LNG or other fossil fuel displaced from Wales/the UK is used elsewhere, that could lead to an increase in global greenhouse gas emissions (although this is dependent on global energy policy and market demand). On balance, Policy O&G_01 has been assessed as having a negative effect on climate change (SA Criteria 5), although some uncertainty remains.

Physical damage may occur to underwater cultural heritage assets such as wrecks which surround the Welsh coast from seabed construction and the anchoring of rigs and vessels. Whilst there is also the potential for the installation of rigs and landfall works to affect terrestrial heritage assets and their settings, given the distance of operations from the shore and the fact that impacts on heritage assets would be considered during consenting in particular (in accordance with Policy SOC_05 of the Draft WNMP and as part of any EIA), this is considered to be unlikely. Overall,



Policy O&G_01 has been assessed as having a negative effect on heritage (SA Criteria 7), although some uncertainty remains.

The potential creation of local employment opportunities associated with the implementation of Policy O&G_01 could help to retain populations of local, Welsh speakers and attract Welsh speakers back to coastal communities. However, there is also the potential that development could result in an influx of non-Welsh speakers to Welsh speaking communities which could adversely affect Welsh language and culture. On balance, this policy has been assessed as having an uncertain effect on Welsh language (SA Criteria 8).

Effects on the remaining SA criteria have been assessed as neutral.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that oil and gas exploration or production will take place in Welsh waters.
- It is assumed that consumption of oil and gas derived from indigenous sources would replace other currently imported hydrocarbons and that there would be no net change to the energy mix within Wales/the UK.

Uncertainties:

- The scale, type and specific location of oil and gas activities that may ultimately take place is not currently known.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
O&G_02: Oil and Gas (Supporting) Proposals that support the long-term development of carbon capture and storage technology are encouraged.	-/?	-/?	-/?	-/?	-/?	++/?	-/?	?	0	++/?	+/?	+/?	-/?	+
<p>Significant Effects: Policy O&G_02 supports proposals related to the capture and storage of CO₂. Carbon capture and storage (CCS) involves the permanent offshore storage of CO₂ in depleted oil and gas fields or saline aquifers. The WMER notes that there are currently no commercial scale CCS projects within Welsh waters, and that there is also limited potential for CO₂ storage (principally due to the geology of Wales but also the fact that little oil and gas extraction has taken place leaving few underground voids that may be used). However, the WMER also notes that this status could change during the Marine Plan period.</p> <p>CCS has the potential to contribute to reducing UK greenhouse gas emissions by removing and storing CO₂ emissions created by the combustion of fossil fuels in power stations and in a variety of industrial processes (although there would be construction and operational emissions to air including greenhouse gases). Policy O&G_02 has therefore been assessed as having a significant positive effect on climate change (SA Criteria 6) and resources (SA Criteria 10), although it is recognised that there is uncertainty with regard to the deliverability of CCS schemes in Welsh waters.</p> <p>CCS is an emerging technology and by supporting proposals for such schemes, Policy O&G_02 could facilitate research and development in this field. In consequence, the policy has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>The range of potential effects on the remaining SA criteria associated with CCS is similar to those identified for oil and gas exploration and production against the assessment of Policy O&G_01, given the offshore and onshore infrastructure requirements and are therefore not repeated here.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> None identified. <p>Uncertainties:</p> <ul style="list-style-type: none"> The scale, type and location of CCS that may ultimately take place is not currently known. The scale of additional jobs created for Welsh communities is not certain. 														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</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>	0	0	0	0	0	0	0	0	0	++	++/?	+/?	0	+
<p>Significant Effects: Policy O&G_03 seeks to ensure that adverse impacts on consented oil and gas activities are avoided, minimised or mitigated unless under exceptional circumstances. The safeguarding of existing activities and prospective areas will help to ensure that associated resources are protected from inappropriate development which could affect their recovery. Policy O&G_03 has therefore been assessed as having a significant positive effect on resources (SA Criteria 10).</p> <p>This policy will support the protection of the oil and gas sector, together with associated jobs, and help enhance energy security. A significant positive effect has therefore been identified in respect of the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which may conflict with oil and gas exploration and production schemes may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.</p> <p>This policy could theoretically allow the development of proposals which may adversely affect consented/proposed oil and gas facilities. However, as the intent of the policy is the safeguarding of oil and gas facilities, it is assumed that proposals would not result in negative effects on the sector.</p> <p>The requirement to consider the compatibility of proposals with oil and gas infrastructure could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).</p>														



Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and oil and gas exploration and production activity.

Assumptions:

- It is assumed that consented or authorised oil and gas projects would progress to operational production facilities.
- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the oil and gas sector.

Uncertainties:

- The scale of oil and gas production that may take place in consented areas is not currently known.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoid potential adverse impacts on those activities; and/or minimise potential impacts where they cannot be avoided; and/or mitigate potential impacts where they cannot be minimised; and <p>should present a clear and convincing justification for proceeding where (a-c) are not possible.</p>	0	0	0	0	0	0	0	0	0	++	++/?	+/?	0	+
<p>Significant Effects: Policy O&G_04 seeks to protect blocks advertised or awarded for Seaward Production Licences in licensing rounds from adverse impacts associated with other sectors (it should be noted that whilst the UK Government's 28th offshore oil and gas licensing round included licensed blocks in Welsh waters, the current 29th round does not). The effects associated with this policy would broadly be similar to those identified in respect of Policy O&G_03, however there is considered to greater uncertainty over the type, scale and location of future schemes that might be realised (as they do not benefit from a consent or application for consent).</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the oil and gas sector. <p>Uncertainties:</p> <ul style="list-style-type: none"> The scale, type and specific location of oil and gas activities that may ultimately take place in these areas is not currently known. The scale of additional jobs created for Welsh communities is not certain. 														

Fisheries

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <p>a. develop a strategic evidence base to improve understanding of opportunities for the sustainable development of fisheries; and</p> <p>b. support the development and refinement of Strategic Resource Areas;</p> <p>in order to support the sustainable growth of the fisheries sector through marine planning.</p>	+/-	?	?	?	+/?	?	+/?	+	+	?	+	+	+/?	+
<p>Significant Effects: Policy FIS_01 seeks to support and enhance sustainable fishing activities, the development of evidence to improve understanding of the opportunities for the sector and the identification of SRAs. In the context of the Draft WNMP, the marine fisheries sector comprises all socio-economic activities relating to the capture of wild marine organisms and the subsequent handling and processing of catches. It differs from aquaculture which concerns the rearing or cultivation of aquatic organisms.</p> <p>The WMER highlights that in 2011/12, the Welsh marine area contributed only 4% to the UK's total tonnage of shellfish and fish landings, indicating a relatively small contribution to the UK's total fishery production. Despite the small contribution of Wales' fisheries to the UK sector as a whole, small scale fisheries in Wales comprise a large number of businesses (and contribute most to the value of this sector nationally). In 2014, 466 fishing vessels were registered in Wales operating from around 33 harbours and launching points. In 2014, £2.8 million (c1,200 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). The Welsh Government (2013) Marine and Fisheries Strategic Action Plan aims to drive economic blue growth to ensure that the Welsh fishing sector receives the level of support it needs in order to grow and become more competitive. However, over the plan period the potential for growth in this sector is limited as, due to the long history of fishing, the availability of new unfished areas is low.</p> <p>In this context, the Draft WNMP states that "<i>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.</i>" The Draft WNMP identifies the following types of proposals that could support sustainable fishing activities:</p> <ul style="list-style-type: none"> • application of grant support schemes to provide support for adapting to environmental and fishery management regimes; 														

- initiatives that improve co-existence 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.

The promotion of sustainable fishing activities and delivery of the measures under Policy FIS_01 outlined above will help to sustain the existing sector in Wales and increase the economic value created by activities. The policy may also support diversification, contributing to the growth of recreational fishing and associated activities, including boat building, manufacturing of fishing gear, and the processing, distribution and sale of fish. Taking into account the likely potential for growth in this sector over the plan period, Policy FIS_01 has been assessed as having a positive effect on the economy (SA Criteria 11). The potential for growth in recreational sea angling has also been assessed as having a positive effect on tourism and recreation (SA Criteria 9).

The WMER sets out that the fisheries sector directly supports approximately 840 FTEs together with a further 8,100 indirectly related jobs. By supporting and enhancing sustainable fishing activities, Policy FIS_01 will help to protect existing, and potentially create new, employment opportunities which could help tackle deprivation in some coastal villages and towns. In consequence, the policy has been assessed as having a positive effect on well-being (SA Criteria 12).

The WMER identifies that cockle fisheries in particular are often of great local and cultural importance and their protection and enhancement could contribute towards the conservation of Welsh language and culture including by retaining Welsh speakers in coastal communities. More broadly, the fisheries sector in Wales forms an important part of Welsh culture, heritage and sense of place in many coastal towns and villages. Policy FIS_01 has therefore been assessed as having a positive effect on landscape and seascape (SA Criteria 5), heritage (SA Criteria 7) and Welsh language (SA Criteria 8).

Policy FIS_01 specifically supports collaboration between relevant public authorities, the sector and other interested parties to facilitate the development of evidence to improve understanding of the opportunities for the fisheries sector and the identification of SRAs. Further, many of the potential measures identified in the supporting text to Policy FIS_01 (as listed above) specifically concern enhanced collaboration and co-existence as well as support for research. The policy has therefore been assessed as having a positive effect on governance (SA Criteria 14).

Fisheries can have a range of impacts on marine ecosystems. In particular, the removal of target species at inappropriate levels can harm the ability of fish populations to reproduce and stocks to recover and may in-turn can have wider impacts on the food-chain. These impacts, if not properly managed, can affect the future productivity of the resource for future generations by undermining ecosystem resilience. Fishing activities can also result in the removal and discarding of non-target fish and cause detrimental physical impacts on habitats from fishing gear.⁷⁶ Marine mammals may also be caught incidentally. Where these impacts affect designated sites in particular, effects could be significant and in this regard Natural Resources Wales is working with the Welsh Government on an Assessing Welsh Fisheries Activities Project to evaluate the impacts of fishing on features of MPAs in Wales. However, Policy FIS_01 places specific emphasis on the promotion of sustainable fishing activities which is expected to help ensure that fish stocks and breeding grounds are protected to allow for growth in fish numbers and over-exploitation of stock managed. In this regard, the supporting text to the policy states "*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.*" It is also important to note that fishery management restrictions apply including the use of quota to prevent over exploitation and in this regard the Draft WNMP notes that the 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. Achieving Maximum Sustainable Yield of some Welsh stocks is also part of achieving the Good Environmental Status of Welsh seas under the Marine Strategy Framework Directive. Many of the potential measures identified in the supporting text to the policy (as listed above), meanwhile, may help to conserve and enhance fish stocks and other marine ecology. Overall, Policy FIS_01 has been assessed as having a mixed positive and negative effect on biodiversity (SA Criteria 1).

There is the potential for fishing activities promoted under Policy FIS_01 to have adverse effects on the remaining SA criteria due to, for example, emissions to air for vessels, discharges to sea or the use of trawling methods (which can affect underwater heritage). Further, the development of onshore processing and other associated facilities could generate adverse impacts on, in

⁷⁶ Food and Agricultural Organisation of the United Nations (2003) *Fisheries Impact on the Ecosystem*. Available from <http://www.fao.org/docrep/006/y4773e/y4773e05.htm> [Accessed August 2016].



particular, air quality, landscape and seascape and heritage. However, given uncertainties with regard to the type/range of activity that may result from the implementation of this policy, any negative effects on the remaining SA criteria have been assessed as uncertain at this stage.

Mitigation/Enhancement:

- None identified.

Assumptions:

- As the policy specifically relates to support for sustainable fishing, it is assumed that enhancement of fishing activities would not result in the over-exploitation of fish stocks.
- It is assumed that safeguarded fishing activities would include cockle fisheries.

Uncertainties:

- The scale, location and type of future fishing activities is uncertain.
- The range of measures, including any associated development, that may be ultimately implemented under this policy are uncertain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>FIS_02: Fisheries (Safeguarding) Proposals potentially displacing commercial fishing activities should demonstrate how they, in order of preference:</p> <ol style="list-style-type: none"> avoid displacing those activities; and/or minimise impacts where they cannot be avoided; and/or 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>	0	0	0	0	+	0	+	+	0	0	+	+/?	+	0
<p>Significant Effects: Policy FIS_02 will help to ensure that proposals avoid, minimise or mitigate adverse effects upon areas of commercial fishing activity. As set out above, the fisheries sector in Wales supports a large number of small businesses and jobs and which form an important part of Welsh culture, heritage and sense of place in many coastal towns and villages. This policy has therefore been assessed as having a positive effect on landscape and seascape (SA Criteria 5), heritage (SA Criteria 7), Welsh language (SA Criteria 8), the economy (SA Criteria 11) and well-being (SA Criteria 12). Whilst it is recognised that proposals for development which could displace fishing activities in other sectors may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.</p> <p>It is noted that proposals which may adversely affect fishing activities and which do not meet the sequential test set out in policy could be supported where a case for proceeding is presented. However, as the intent of the policy is the safeguarding of commercial fishing activity, it is assumed that proposals would not result in negative effects on the sector.</p> <p>Commercial fishing provides an important source of food and the protection of this sector is therefore expected to have a positive effect on health (SA Criteria 13).</p> <p>The requirement to consider the compatibility of proposals with current or proposed fisheries activities could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and fishing activities. 														



Assumptions:

- It is assumed that safeguarded fishing activities would include cockle fisheries.
- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the fishing sector.

Uncertainties:

- The scale, type and location of commercial fishing activities that may take place are currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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 that they, in order of preference:</p> <ol style="list-style-type: none"> avoid adverse impacts on those areas; and/or minimise impacts where they cannot be avoided; and/or 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>	+	0	0	0	0	0	0	0	0	0	+/?	+/?	0	0
<p>Significant Effects: Policy FIS_03 aims to avoid, minimise and mitigate adverse impacts upon important fish feeding and breeding grounds and habitats. This has been assessed as having a positive effect on biodiversity (SA Criteria 1) through the protection of commercial fish species and associated species of ecological importance. Such measures may 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.</p> <p>This policy may also generate positive effects on the economy (SA Criteria 11) and well-being (SA Criteria 12) due to the protection afforded to fish stocks which should support the fishing industry and help protect associated jobs. As for Policy FIS_02, other sectors may experience negative economic effects as a result of safeguarding key fish habitats. However, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains</p> <p>As for Policy FIS_02, proposals which may adversely affect spawning and nursery areas could be supported where a case for proceeding is presented. As the intent of the policy is the safeguarding of the fishing activities, it is assumed that proposals would not result in negative effects on the sector.</p> <p>Effects on the remaining SA criteria have been assessed as neutral.</p> <p>No significant negative effects or negative effects have been identified.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p>														



- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the fishing sector.

Uncertainties:

- The scale and location of protection of feeding and breeding grounds and habitats are currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.

Ports and Shipping

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>P&S_01: Ports and Shipping (Supporting) Proposals for ports, harbours and shipping activities in Strategic Resource Areas (SRA) 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>Significant Effects: Policy P&S_01 seeks to encourage port development and shipping in the identified SRA for the sector. The SRA comprises (inter alia) areas of shipping activity, anchorage areas and existing ports and harbours including 14 commercial ports (the largest being Milford Haven which handles approximately 75% of all traffic).</p> <p>Ports are a vital economic driver and a key component of Welsh transportation infrastructure. Ports, together with associated shipping activities, enable international trade, generate foreign direct investment and can deliver agglomeration benefits, supporting a wide range of sectors including oil and gas, renewable energy, manufacturing and tourism. The WMER sets out that in 2012, total freight traffic through Welsh ports was 54.6 million tonnes (Mt); of this, 36.5 Mt were goods inwards and 18.1 Mt were goods outwards. Welsh ports accounted for 11% of the total UK port traffic of 500.9 Mt. The Draft WNMP estimates that the sector generated £219M GVA in 2014. In addition to the value generated by the operation of ports, the development of existing/construction of new ports and marinas can generate significant economic benefits.</p> <p>Policy P&S_01 will support the further development of port infrastructure in Wales and shipping activities which in-turn is expected to help ensure Welsh ports remain competitive, meet growing demand for the import and export of goods and support a wide range of sectors in the Welsh economy. In this regard, the policy is consistent with the UK National Policy Statement (NPS) for Ports (2012) which seeks to support the sustainable development of ports to meet long-term forecast growth in volumes of imports and exports by sea. Policy P&S_01 has therefore been assessed as having a significant positive effect on the economy (SA Criteria 11), although as the type, scale and location of development that could come forward under this policy is unknown, some uncertainty remains.</p> <p>Policy P&S_01 has also been assessed as having a significant positive effect on well-being (SA Criteria 12). Ports and shipping provide both direct and indirect employment opportunities and in this regard, the Draft WNMP estimates that Welsh ports support almost 3,400 jobs as well as 11,000 wider jobs. Ports, harbours and marinas can also be a catalyst for regeneration and enhanced service provision. By supporting the development of this sector, Policy P&S_01 is expected to help protect existing jobs and generate further employment opportunities (during construction and operation) whilst potentially delivering wider regeneration benefits. However, the magnitude of effect in this regard will be dependent on (inter alia) the number of jobs created and the extent to which posts are filled by the local workforce. In view of the potential scale of activity associated with port-related development, there is also the potential for adverse impacts on communities including, for example, increased pressure on community services and facilities or changes to community cohesion associated with an influx of workers, although these effects are</p>														

uncertain.

Wales' ports, harbours and shipping activities have an important role in supporting tourism and recreation. In particular, ports that include a passenger or cruise terminal can increase the accessibility of an area to international markets and in this regard, several Welsh ports provide passenger ferry services including Pembroke and Fishguard (which offer services to Rosslare in Ireland) and Holyhead (which offers services to Dublin) and a number also provide cruise ship terminals. Harbours also offer a range of leisure and recreational opportunities such as sailing and fishing and are often a visitor attraction in their own right. By supporting proposals for ports, harbour and shipping related activities/development, Policy P&S_01 therefore has the potential to generate positive effects in respect of tourism and recreation (SA Criteria 9). It is recognised that port-related development can have both direct and indirect adverse impacts on tourism and recreation for example, where development results in the loss of, or damage to an asset, where an activity has adverse effects on the built and natural environment (including landscape/seascape, wildlife and water quality) or where development restricts access to open space and recreational opportunities. On balance, it is considered that the effects on SA Criteria 9 would be positive, particularly given the other policies of the Draft WNMP which seek to conserve and enhance tourism and recreation assets (see, for example, Policy T&R_02) and the natural environment (for example, Policies ENV_01 to ENV_06) which are expected to help minimise the potential for adverse impacts, although some uncertainty remains.

Policy P&S_01 sets out that 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 SRAs in order to support the sustainable growth of the ports and shipping sector through marine planning. This will help to promote engagement, integrated decision making and research in marine planning and in consequence, the policy has been assessed as having a positive effect on governance (SA Criteria 14).

As set out above, Wales' harbours have an important role in supporting recreation which in-turn can promote healthy lifestyles. The development of marinas can also provide new opportunities for recreation. However, there is the potential for the construction and operation of ports, harbours and marinas to have both direct and indirect adverse impacts on human health including, for example, the loss of existing formal and informal recreational facilities to accommodate development, emissions to air associated with construction activity as well as any increase in the number of vessels and road vehicles during operation, water pollution and nuisance. Emissions from shipping activities may also have adverse air quality impacts. These impacts could be locally significant if development is located in close proximity to sensitive receptors although other policies contained in the Draft WNMP (such as Policies SOC_03 and ENV_06) will help to minimise the potential for significant adverse impacts in this regard, although some uncertainty remains. Overall, a mixed positive and negative effect has been identified in respect of health (SA Criteria 13).

Port-related development can have a range of adverse impacts on marine and terrestrial ecology. Adverse impacts are likely to be principally felt during the construction stage and could include (inter alia): damage/disturbance to intertidal habitats and species due to the installation of infrastructure or dredging; noise and vibration associated with the use of equipment, piling and vessels; behavioural disturbance from the presence of infrastructure and barriers to movement; air quality impacts related to emissions from equipment and vessels/HGVs; sediment transport and settlement of sediments on marine flora and fauna; and pollution of water from, for example, accidental spills. There could also be adverse impacts during the operation of ports and associated with shipping activities including the introduction of non-native species (via the hulls of ships or ballast water), noise, emissions to air, water pollution and erosion of habitats by vessel movements.

Adverse impacts during the construction and operation of ports and shipping activities could be significant where they affect designated nature conservation sites. In this regard, it is noted that a number of ports that comprise the SRA for this sector are within/in close proximity to European and national designated nature conservation sites including (for example): North Anglesey Marine cSAC, Cemlyn Bay and The Skerries pSPA and the Holy Island Coast SSSI (adjacent to Holyhead Port); Pembrokeshire Marine SAC and Milford Haven Waterway SSSI (which affects Pembroke Dock); and Severn Estuary SAC/SPA/Ramsar/SSSI (at Cardiff and Newport Ports). Other harbours/marinas as well as shipping routes are also affected by European and national nature conservation designations. The HRA of the Draft WNMP also notes that more distant sites with mobile species such as marine mammals could be affected (a total of 79 European sites are identified within the Zol used for port development).

Taking into account the range of potential impacts identified above, Policy P&S_01 has been assessed as having a negative effect on biodiversity (SA Criteria 1), although the magnitude of effect on SA Criteria 1 is uncertain and will be dependent upon the exact scale, type and location of activity. The potential for adverse effects on biodiversity would be considered during the award of licences/planning consents (including as part of any EIA/HRA (as required) and through the Environmental Permitting regime such that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policies ENV_01 and ENV_02) and avoid adverse impacts on MPAs (Policy ENV_02). Finally, it is noted that the supporting text to Policy P&S_01 sets out that "*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*".

As highlighted above, the construction and operation of ports and shipping activities can have detrimental impacts on water quality. Sources of potential impact are varied but include the accidental spillage or leakage of pollutants from vessels or from construction sites, unlawful discharges such as oil, waste or sewage and the mobilisation of sediment associated with the construction of port infrastructure or capital and maintenance dredging. Construction activities and the operation of ports will also require water resources and generate wastewater requiring

treatment. These impacts could lead to adverse impacts on health or on protected species and habitats and could, in particular, result in surface waters, groundwaters or protected areas failing to meet environmental objectives established under the Water Framework Directive (WFD). Overall, Policy P&S_01 has therefore been assessed as having a negative effect on water (SA Criteria 2), although the magnitude of effect is uncertain and will be dependent on the exact type, scale and location of development/activities.

Whilst there is some uncertainty with regard to the magnitude of effect on SA Criteria 2, it is noted that other policies in the Draft WNMP (such as Policy ENV_06) seek to ensure that adequate consideration is given to water quality impacts and that adverse impacts are avoided/minimised/mitigated where possible. Discharges will also be subject to pollution prevention control such as regulation under the International Convention for the Prevention of Pollution from Ships, 1973 (as modified by the Protocol of 1978 (MARPOL) which covers operational and accidental oil pollution and pollution from chemicals, sewage and litter) whilst any abstraction will be subject to licensing. In consequence, significant negative effects are considered to be unlikely.

The construction and operation of port infrastructure would result in emissions to air including greenhouse gas emissions associated with, in particular, the use of machinery and equipment on site and HGV/vessel movements during construction and vehicle/vessel movements during operation. Shipping also results in the release of emissions to air such as nitrogen oxides, sulphur oxides and particulate matter⁷⁷ whilst certain cargoes such as cements and aggregates can cause local dust pollution. With specific regard to climate change, there would also be greenhouse gas emissions associated with the embodied carbon in construction materials and in the energy used once schemes are operational. Infrastructure development could also affect and be affected by flood risk and coastal change. However, air quality and climate change impacts including flood risk and coastal change would be considered as part of any design and EIA (as required and including a Flood Risk Assessment). The supporting text to Policy P&S_01 also sets out that *“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.”* It is also noted that other policies contained in the Draft WNMP (see, for example, Policies SOC_08 to SOC_12 and ENV_06) seek to ensure that air quality and climate change impacts are assessed and mitigated. Finally, the development of port infrastructure and facilities could generate positive effects on air quality and climate change where, for example, proposals would involve the replacement of existing facilities with more energy efficient development, would facilitate a modal shift away from the transportation of goods by road to shipping or where proposals would support the construction of offshore renewable energy schemes. Overall, Policy P&S_01 has been assessed as having a mixed positive and negative effect on air quality (SA Criteria 4) and climate change (SA Criteria 6), although the magnitude of effect will be dependent on the exact type, scale and location of future development/shipping activities.

Port construction may have direct and indirect impacts on the seabed and coastline. Direct impacts may be associated with, for example, capital or maintenance dredging whilst indirect impacts could arise as a result of changes to coastal hydrology which could lead to localised or more widespread coastal erosion or accretion. In this context, Policy P&S_01 has been assessed as having a negative effect on the physical environment (SA Criteria 3). However, the magnitude of effect on SA Criteria 3 is uncertain and will be dependent on the exact type, scale and location of development. Further, the potential for adverse effects on coastal processes would be considered during the award of licences/planning consents and as part of any EIA (as required) such that any significant adverse effects would be minimised and mitigated where necessary. Proposals would also be determined in accordance with those policies of the Draft WNMP that seek to avoid adverse impacts on coastal processes (see, for example, Policy SOC_09).

Port and harbour construction would result in changes to landscape/seascape and could affect visual amenity as a result of, for example, landtake (including the loss of greenfield land), the introduction of new built form into views or increased lighting with impacts felt in both the short term during construction and in the longer term once development is complete. The magnitude of resulting landscape/seascape and visual effects will be dependent on the type, scale and location of development, the sensitivity of the receiving landscape/seascape and the proximity of sensitive receptors. In this regard, it is noted that the Port of Milford Haven, the largest in Wales, is located adjacent to the Pembrokeshire Coast National Park whilst Holyhead Port is situated next to an AONB. The SRA for this sector could therefore be particularly sensitive to port development. However, any expansion of existing port infrastructure would be within the context of the existing built form of port development and landscape/seascape and visual impacts would be fully assessed at the project stage and as part of any EIA (as required) with decisions made in accordance with those policies of the Draft WNMP that seek to conserve and enhance landscape/seascape character including designated sites (see, for example, Policies SOC_06 and SOC_07). There is also the potential for landscape/seascape and visual impacts arising from port development to be positive where, for example, development involves the reuse of brownfield/derelict land or the redevelopment of existing facilities. Overall, Policy P&S_01 has been assessed as having a negative effect on landscape and seascape (SA Criteria 5), although some uncertainty remains.

The construction and operation of ports could have both direct adverse impacts (e.g. loss of, or damage to an asset) and indirect adverse impacts (e.g. impacts on setting) on heritage assets such as listed buildings, scheduled monuments and sections of Heritage Coast. There is also the potential for port construction and shipping activities to affect submerged heritage assets and in this regard, there are a number of wrecks in close proximity to existing ports (although none are protected). In consequence, negative effects have been identified in respect of heritage (SA

⁷⁷ OSPAR Commission (2009) *Assessment of the Impacts of Shipping on the Marine Environment*. Available from http://qsr2010.ospar.org/media/assessments/p00440_Shipping_Assessment.pdf [Accessed August 2016].

Criteria 7), although it is expected that the potential for these adverse effects to be significant will be reduced through the application of other Draft WNMP policies (such as Policy SOC_05) at the project stage. There is also the potential for ports development to generate positive effects on this criteria where, for example, it results in the sensitive restoration of cultural heritage assets (although this is uncertain).

The construction and operation of ports and shipping activities would require land and resources and result in energy consumption which, depending on the nature of proposals, could be significant. Development and shipping activities would also generate waste including construction/demolition wastes, spoil from capital and maintenance dredging, commercial/industrial wastes and operational (shipping) wastes such as sewage and litter. However, proposals could present an opportunity to utilise sustainably sourced/recycled materials, improve the energy efficiency of existing facilities, support onsite renewable and low carbon energy generation and reuse previously developed land and buildings which may help to offset adverse impacts associated with new development. With regard to waste, under the Waste (England and Wales) Regulations 2011, OSPAR Convention and London Protocol, applications to dispose of wastes must demonstrate that appropriate consideration has been given to the internationally agreed hierarchy of waste management options for sea disposal. On balance, Policy P&S_01 has been assessed as having a negative effect on resources (SA Criteria 10), although the exact magnitude of effect is uncertain and there is also the potential for effects at the project level to be positive.

The potential creation of local employment opportunities associated with the implementation of Policy P&S_01 could help to retain populations of local, Welsh speakers and attract Welsh speakers back to coastal communities. However, there is also the potential that development could result in an influx of non-Welsh speakers to Welsh speaking communities which could adversely affect Welsh language and culture. On balance, this policy has been assessed as having an uncertain effect on Welsh language (SA Criteria 8).

Mitigation/Enhancement:

- None identified.

Assumptions:

- None identified.

Uncertainties:

- The exact type, location, scale and nature of activity is currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
P&S_02: Ports and Shipping (Supporting) Proposals that provide for the maintenance, repair, development and diversification of port and harbour facilities are encouraged.	-/?	-/?	-/?	+/-/?	-/?	+/-/?	-/?	?	+/?	-/?	++/?	++/?	+/-/?	+
<p>Significant Effects: Policy P&S_02 provides general support to port and harbour operators in the Marine Plan area to enable to the continued operation and development of existing facilities. Effects associated with the implementation of this policy are expected to be similar to those identified in respect of Policy P&S_01 above and are therefore not repeated here.</p> <p>Mitigation/Enhancement:</p> <ul style="list-style-type: none"> None identified. <p>Assumptions:</p> <ul style="list-style-type: none"> None identified. <p>Uncertainties:</p> <ul style="list-style-type: none"> The exact type, location, scale and nature of activity is currently unknown. The scale of additional jobs created for Welsh communities is not certain. 														

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>P&S_03: Ports and Shipping (Safeguarding) 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> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	0	0	0	0	0	0	0	0	+/?	0	++/?	+/?	0	+
<p>Significant Effects: Policy P&S_03 seeks to ensure that adverse impacts on ports and shipping activities that comprise the SRA for this sector (including related proposals) are avoided, minimised or mitigated unless under exceptional circumstances.</p> <p>As set out above, ports are a vital economic driver and a key component of Welsh transportation infrastructure. The ports and shipping sector is also an important employer. In safeguarding navigation routes, ports and their future expansion, Policy P&S_03 is expected to have a significant positive effect on the economy (SA Criteria 11) and a positive effect on well-being (SA Criteria</p>														



12). The WMER highlights that other marine activities can compete for sea space and affect shipping, such as offshore renewable energy developments. In consequence, there is the potential that proposals for development in other sectors which may conflict with ports and shipping may not be permitted in some areas. However, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.

It is noted that proposals which may adversely affect ports or impede their expansion could be supported where a case for proceeding is presented. However, as the intent of the policy is safeguarding port and shipping activity, it is assumed that proposals would not result in negative effects on the sector.

The requirement to consider the compatibility of proposals with current or proposed ports and shipping activities could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that the safeguarding as a result of this policy would be beneficial for passenger ferries and recreational boating.
- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the ports and shipping sector.

Uncertainties:

- The scale and location of future port and shipping activity and expansion is uncertain.

Subsea Cabling

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascap	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
CAB_01: Subsea Cabling (Supporting) Proposals that facilitate the growth of digital communications networks and/or the optimal distribution of electricity are encouraged.	-/?	0	-/?	0	0	++/-	-/?	0	0	++/-	++	++	0	0
<p>Significant Effects: Policy CAB_01 relates to proposals for digital communications infrastructure and electricity distribution networks. The principal activities associated with these are the laying, operation and maintenance of submarine cables and their facilities.</p> <p>The WMER notes that the increasing use of the internet and e-commerce has led to growth in demand for communication cables and faster services. Digital communications are of significant importance to the Welsh economy and communities whilst the installation, maintenance and decommissioning of subsea cables themselves will generate positive economic impacts including investment and job opportunities. Subsea cabling for electrical transmission, meanwhile, creates an offshore power grid connecting energy installations both to the shore and linking electricity to other countries through interconnectors. Alongside direct investment associated with installation, maintenance and decommissioning, subsea cabling for electrical transmission can deliver potential benefits related to the securing of electricity supplies at competitive rates that optimisation of the network could bring. These benefits would include enhanced energy security and, potentially, lower commercial and domestic electricity bills. In this regard, developing infrastructure to support electricity distribution may enable the import of electricity from, for example, offshore renewable energy schemes in the Republic of Ireland. Further, the provision of transmission cabling could support and encourage investment in the renewables sector, generating further indirect economic benefits (the WMER highlights that the renewables sector in the plan area generated approximately £127 million GVA in 2013, for example). In supporting proposals for digital communications and electricity distribution infrastructure, Policy CAB_01 has been assessed as having a significant positive effect on the economy (SA Criteria 11) and well-being (SA Criteria 12).</p> <p>There is the potential for the construction, maintenance and decommissioning of subsea cables to adversely affect other economic activity in the marine area such as fishing, shipping and aggregates. However, subsea cables are laid on the seabed and are often buried in order to both reduce conflict with other sector activities and reduce the chances of damage which is expensive to repair and can cause significant disruption to power and telecommunication distributions. Further, it is assumed that other Draft WNMP policies which seek to safeguard these sectors would not allow for inappropriate negative economic effects to arise from subsea cabling installation, maintenance or decommissioning. In this regard, it is noted that the supporting text to the policy sets out that proposals should seek to avoid areas that are important to other sectors.</p> <p>Optimisation of the electricity distribution network would be expected to help facilitate the delivery of renewable energy schemes in the Welsh marine area and as noted above, could support the importation of renewable electricity from, for example, offshore renewable energy schemes in the Republic of Ireland. The WMER sets out that Wales is ideally suited for the establishment of a successful and competitive marine energy industry and which would further increase the proportion of electricity generated from renewable sources in Wales. In this context, Policy CAB_01 has been assessed as having indirect, significant positive effects on climate change (SA Criteria 6) and resources (SA Criteria 10), although it is recognised that developing distribution infrastructure will result in energy and resource use (including the embedded carbon in materials).</p> <p>The laying, maintenance and decommissioning of cables can have various adverse environmental effects. The WMER highlights that disturbance can occur to marine habitats during the laying,</p>														

maintenance and decommissioning of cables on the seabed. During operation, meanwhile, subsea power cables can create electromagnetic fields (EMFs) that affect navigation and migration in sensitive species including some marine mammals.⁷⁸ Surveys for cable routes also use sonar and seismic systems which can result in underwater noise during the process of cable laying, with the potential for detrimental effects on subsea species.⁷⁹ There is also the potential for landfall works to result in adverse impacts on terrestrial ecology through loss of habitat and disturbance. However, the ecological impact from cable laying and operation is limited/temporary and there is good scope to route cables to avoid the most sensitive areas. Potential adverse effects on marine ecology would also be assessed as part of any EIA and HRA (if required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance biodiversity (such as Policy ENV_01). It is also important to note that there is a range of sector guidance relating to cable installation which could help to avoid/minimise adverse impacts and potential risks can normally be addressed through routing and planning the timing of operations. In this regard, the supporting text to the policy sets out that cables should be suitably routed to avoid sensitive habitats. Overall, Policy CAB_01 has been assessed as having a negative effect on biodiversity (SA Criteria 1), although some uncertainty remains.

The process of laying cables typically includes cable burial in the seabed which has the potential to affect the seabed in sensitive or designated locations. This may also affect undersea heritage assets such as wrecks which surround the Welsh coast. Landfall works, meanwhile, can result in adverse impacts on terrestrial heritage assets and their setting. In consequence, Policy CAB_01 has been assessed as having a negative effect on the physical environment (SA Criteria 3) and heritage (SA Criteria 7), although as with biodiversity above, potential adverse effects would be assessed as part of any EIA at the project stage (as required) and proposals would be determined in accordance with those policies of the Draft WNMP that seek to conserve and enhance heritage assets (Policy SOC_05) and designated sites (Policy ENV_02). It is also noted that the supporting text to the policy sets out that proposals should be routed to avoid historic assets.

It is recognised that seabed disturbance has the potential to result in water contamination, but this is considered to only be relevant in highly contaminated areas, which could be avoided through appropriate mitigation measures.⁷⁸ There is also the potential for emissions to air (with subsequent impacts on health), landscape and seascape impacts and effects on tourism and recreation associated with the use of vessels and landfall works. However, construction/decommissioning activity would be temporary (i.e. during the installation of cables) and the long term effects of any overland cable works at the shore would likely be minimal. Overall, Policy CAB_01 has been assessed as having a neutral effect on water (SA Criteria 2), air quality (SA Criteria 4), landscape and seascape (SA Criteria 5) and health (SA Criteria 13). Effects on the remaining SA criteria have also been assessed as neutral.

No significant negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- None identified.

Uncertainties:

- The likelihood of any adverse effects occurring and the magnitude of such effects would be dependent on the exact scale, type and location of future proposals, which is currently unknown.

⁷⁸ OSPAR Commission (2009) *Assessment of the Environmental Impact of Cables*. Available from http://qsr2010.ospar.org/media/assessments/p00437_Cables.pdf [Accessed August 2016].

⁷⁹ United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) (2009) *Submarine Cables and the Oceans: Connecting the World: UNEP-WCMC Biodiversity Series No. 31*

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</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>	0	0	0	0	0	++	0	0	0	0	++/?	+/?	0	+
<p>Significant Effects: Policy CAB_02 seeks to avoid, minimise or mitigate adverse impacts on existing or planned subsea cables arising from potentially incompatible development. As noted above, communications infrastructure supports the Welsh economy and communities whilst the electricity transmission network supports renewable energy schemes in the Welsh marine area. In seeking to safeguard existing and planned subsea cables, the policy has been assessed as having a significant positive effect on climate change (SA Criteria 6) and the economy (SA Criteria 11) with further positive effects on well-being (SA Criteria 12).</p> <p>Whilst it is recognised that proposals for development in other sectors which could conflict with subsea cabling may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.</p> <p>Proposals which may adversely affect subsea cables and which do not meet the sequential test set out in Policy CAB_02 could be supported where a case for proceeding is presented. It is assumed that as the policy intent is to safeguard the subsea cabling sector, future proposals would not result in negative effects on the sector.</p> <p>The requirement to consider the compatibility of proposals with subsea cabling could help to promote engagement on marine planning. This has been assessed as having a positive effect on governance (SA Criteria 14).</p>														



Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- Consideration could be given to the inclusion, in the supporting text to the policy, of example measures that could be adopted to address incompatibilities between proposals and renewable/low-carbon schemes.

Assumptions:

- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding the subsea cabling sector.

Uncertainties:

- The location and scale of future subsea cables is not yet known.
- The scale of additional jobs created for Welsh communities is not certain.

Surface Water and Wastewater Treatment and Disposal

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascapes	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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:</p> <ol style="list-style-type: none"> avoiding adverse impacts on those activities; and/or minimising impacts where they cannot be avoided; and/or 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>	+	++	0	0	0	+	0	0	+	++	+	+	+	0
<p>Significant Effects: Policy SWW_01 aims to ensure that proposals avoid, minimise or mitigate adverse effects on wastewater management and treatment infrastructure. In the context of the Draft WNMP, this is taken to include the collection, transport, treatment and disposal of surface water and wastewater. It covers sewers, sewage treatment works and combined sewer overflows.</p> <p>The WMER highlights that Welsh Water’s sewer network has to deal with increasing flows of surface water and that occasionally, the capacity of the network is exceeded in some areas and results in incidents of sewage flooding homes, gardens and roadways and which can cause pollution incidents in streams and rivers. It sets out that increasing pollution events may arise in the future due to:</p> <ul style="list-style-type: none"> more frequent and intense storm events linked to climate change, resulting in an increased frequency of potential storm overflows; population growth putting more demand on the sewage network and water companies to dispose of waste water; urban creep increasing the impermeable nature of the catchment and thus promoting the rapid response of watercourses to rainfall events; and 														



- diffuse urban and rural pollution from wider catchment areas.

The State of Natural Resources Report (SoNaRR) (2016) prepared by Natural Resources Wales (NRW) highlights that coastal and marine water quality is fair with only 29% of Wales' estuarine and coastal waters being of good or better ecological status and only 3 of 22 Shellfish Waters meeting guideline quality standards in 2014. However, there have been improvements in water quality in recent years. Wales has contributed to the good progress made towards achieving Good Environmental Status for UK waters by 2020 (as defined in the UK Marine Strategy Part One) and 100% of bathing waters currently comply with the Water Framework Directive (WFD).

Failures to achieve Good Ecological Status are primarily due to elevated concentrations of nutrients derived from diffuse and point sources and in this regard, wastewater discharges are one of the key contributors to poor water quality in Wales. The treatment and disposal of surface water run-off and wastewater, and the frequency of overflows leading to the release of untreated wastewater, therefore play an important role in water quality. By safeguarding existing and planned wastewater management and treatment infrastructure, Policy SWW_01 will therefore help to ensure that water quality is maintained and enhanced. The policy has therefore been assessed as having a significant positive effect on water (SA Criteria 2). The promotion of the management and treatment of wastewater has also been assessed as having a significant positive effect on resources (SA Criteria 10).

Good water quality is essential to ecosystem resilience in coastal and offshore areas. The impacts of untreated wastewater on ecosystems and marine ecology include: chronic ecosystem damage due to oxygen depletion of receiving waters from the biodegradation of organic matter; ecosystem damage due to eutrophication of waters resulting from excessive inputs of nutrients present in wastewater; and the release of marine litter and other sewage solids in effluent that can affect ecology through, for example, the smothering of river beds, nutrient enrichment or contamination (adding pathogens including bacteria and viruses) and ingestion by wildlife. Safeguarding existing and planned wastewater treatment infrastructure is expected to help minimise these impacts and in this context, Policy SWW_01 has been assessed as having a positive effect on biodiversity (SA Criteria 1).

The protection of wastewater management and treatment infrastructure will help to ensure that there is effective drainage of storm water and runoff to the sea, supporting resilience to the effects of climate change, such as flooding. Policy SWW_01 has therefore been assessed as having a positive effect on climate change (SA Criteria 6).

Good water quality is fundamental to the success and enjoyment of numerous activities conducted in the marine environment. Sewage solids can also damage commerce by making beach and riverside resorts unattractive to potential visitors. The implementation of Policy SWW_01 is therefore predicted to have a positive effect on tourism and recreation (SA Criteria 9). Positive effects have also been identified in respect of well-being (SA Criteria 12) as good water quality will contribute to safe and attractive local communities.

Adverse conditions associated with poor water quality can impact on many marine related economic sectors, including fishing, aquaculture and tourism and recreation. By safeguarding wastewater treatment infrastructure and helping to maintain and enhance water quality, Policy SWW_01 is therefore expected to have an indirect positive effect on the economy (SA Criteria 11).

Changes in water quality have the potential to affect human health. The WMER highlights that there are potential health risks from water-borne pathogens from discharges to waters used for recreational activities, such as swimming and canoeing. There are also risks associated with the ingestion of algal toxins which can accumulate in edible shellfish. As noted above, only 3 of 22 Shellfish Waters met guideline quality standards in 2014 so water quality improvements could have substantial benefits in this area. Policy SWW_01 will help to maintain and enhance water quality and has therefore been assessed as having a positive effect on health (SA Criteria 13).

Proposals which may adversely affect wastewater management and treatment infrastructure and which do not meet the sequential test outlined in Policy SWW_01 could be supported where a case for proceeding is presented. It is assumed that as the policy intent is to safeguard this infrastructure, future proposals would not result in negative effects on the sector.

Neutral effects have been identified with respect to the other remaining SA criteria.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding wastewater management and treatment infrastructure.

Uncertainties:

- The location and nature of future wastewater management and treatment infrastructure is unknown at this stage.

Tourism and Recreation

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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.</p> <p>Relevant public authorities should, in liaison with the sector and other interested parties, collaborate to:</p> <p>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</p> <p>b. 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>Significant Effects: Policy T&R_01 seeks to promote new and enhanced tourism and recreation opportunities, and to further the understanding of these activities. In the context of the Draft WNMP, tourism is taken to mean “<i>activities, services and infrastructure associated with visitors and holidaymakers</i>” whilst recreation is defined as “<i>free time leisure activities largely in people’s local environment.</i>” There is clear overlap between some of these activities and the Draft WNMP therefore considers the sectors together.</p> <p>The WMER identifies that the Welsh marine area has a strong tradition of coastal tourism with the principal attractions including beaches, wildlife, coastal landscape and seascape, distinctive towns and villages and unique culture and heritage. These attractions include the National Parks, AONBs and the 870 mile-long Wales Coast Path. Key activities, meanwhile, include: hotels and similar accommodation; holiday and other short stay accommodation; camping grounds; caravan sites and static caravan sites; restaurants and mobile food service activities; beverage serving activities; libraries, archives, museums and other cultural activities; sports activities; and amusement and recreation activities. The implementation of Policy T&R_01 is expected to help support the protection of existing tourism and recreation facilities and services as well as the enhancement of the sector both by encouraging investment in attractions, facilities and services and by supporting research and development in the sector. In this regard, the supporting text to the policy highlights that measures to improve the quality of the visitor experience may include:</p> <ul style="list-style-type: none"> • 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.); and
- considering opportunities for coexistence and diversification to increase the range of activities available in a given area.

This policy will also complement existing plans, programmes and initiatives in the tourism sector and in this regard, the Welsh Government's 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. Overall, Policy T&R_01 has been assessed as having a significant positive effect on tourism and recreation (SA Criteria 9).

The Draft WNMP highlights that tourism is one of Wales' key sectors. 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 GVA in the overall Welsh economy. Based on a Great Britain Visitor Survey (2013), the WMER highlights that coastal tourism was estimated to be worth £602 million for Wales in 2013 and generated 3.6 million trips. By supporting the further growth of this sector, Policy T&R_01 is expected to have a significant positive effect on the economy (SA Criteria 11), although some uncertainty remains.

The WMER notes the importance of tourism for job creation in many parts of Wales (as noted above, tourism employs 15% of the workforce in Wales and just under half of all full time jobs associated with the marine and coastal environment are in tourism-related activities). By supporting growth in tourism and recreation, Policy T&R_01 could help increase the number of jobs in this sector further. Support for this sector is also expected to help address deprivation and bring about regeneration in many of Wales' seaside towns and communities, addressing issues such as the reliance of many people on seasonal, low-paid and part-time employment. In this regard, the supporting text to the policy states that "*there is a need to focus on developing higher value, year-round 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.*" The promotion of recreational opportunities, meanwhile, could improve the well-being of communities including deprived areas. Overall, Policy T&R_01 has been assessed as having a significant positive effect on well-being (SA Criteria 12), although some uncertainty remains.

Given the relationship between recreation and the promotion of healthy lifestyles, Policy T&R_01 has been assessed as having a significant positive effect on health (SA Criteria 13). It is recognised that tourism development and the provision of associated infrastructure, as well as any increase in visitor numbers, could have adverse effects on health due to, for example, emissions to air from traffic. However, other policies contained in the Draft WNMP (such as Policies SOC_03 and ENV_06) will help to minimise the potential for significant adverse impacts in this regard, although some uncertainty remains.

The coastal links to Welsh culture and identity such as seafaring traditions, past industrial and maritime features and literary and spiritual connections contribute to tourism and recreational activity that is distinctive to Wales and could be protected/enhanced through the implementation of Policy T&R_01. In this regard, it is noted that the supporting text to the policy sets out that proposals should seek to maintain and enhance cultural distinctiveness. Further, the creation of jobs in the tourism sector could help to retain Welsh speakers in coastal communities. Whilst it is recognised that growth in tourism could also have adverse impacts on Welsh language and culture (due to, for example, any influx of non-Welsh speakers associated with job creation), by supporting the development of coastal tourism and recreation, Policy T&R_01 is, on balance, considered to contribute to the promotion of Welsh language and culture and a positive effect has therefore been identified in respect of SA Criteria 8, although some uncertainty remains.

Policy T&R_01 makes specific reference to opportunities to improve understanding of current and potential tourism and recreation activities and the development of a strategic evidence base. This policy provision will help to address knowledge gaps in respect of tourism and recreation including the sector's relationship with the environment, ultimately supporting more informed decision making which has been assessed as having a positive effect on governance (SA Criteria 14).

The WMER notes that in a Visit Wales survey, the most popular main activity for visitors in Wales was to enjoy the landscape/countryside/beach. The Wales Outdoor Recreation Survey, meanwhile, recognises that enjoying the scenery and wildlife was ranked highly in reasons for visiting the outdoors. Coastal tourism and recreation in Wales is therefore heavily reliant upon the natural environment and built heritage of the marine area and in consequence, proposals in this sector (for example, promoting conservation awareness and stewardship) may help to support the conservation and enhancement of these natural and built assets. However, tourism and recreation can also generate adverse impacts on coastal environments and ecosystems. These adverse impacts can arise due to, for example, damage and disturbance to habitats and species or heritage assets during the construction of facilities (such as marinas, hotels or car parks) or as a result of the presence of new facilities once development is complete (which could impact on landscapes/seascape or the setting heritage assets). Indirect impacts may also arise as a result of increased visitor pressure and associated traffic with related effects including disturbance to habitats and species, loss of tranquillity, marine litter, a decline in local air quality and coastal erosion.



Where these impacts affect sensitive areas including designated sites, effects could be significant. In this regard, the WMER highlights that 70% of Wales' coastline is designated for its environmental quality and includes (inter alia): several European designated nature conservation sites; the Pembrokeshire Coast National Park; the Anglesey, Llyn and Gower Peninsula AONBs; Heritage Coasts; National Nature Reserves; Marine Nature Reserves; and SSSI. However, it is expected that the implementation of other policies contained in the Draft WNMP which seek to conserve and enhance the plan area's natural and built environments would help to avoid or mitigate the potential for significant negative effects in this regard. It is also noted that the supporting text to the policy states that proposals should seek to maintain and enhance a quality environment.

On balance, Policy T&R_01 has been assessed as having a mixed positive and negative effect on biodiversity (SA Criteria 1), water (SA Criteria 2), the physical environment (SA Criteria 3), landscape and seascape (SA Criteria 5) and heritage (SA Criteria 7), although some uncertainty remains.

Tourism development may result in both direct and indirect emissions to air including greenhouse gases associated with, for example, construction activity, the energy required for new facilities and increased transport. The growth of the sector could also result in the increased use of resources and generation of wastes. Policy T&R_01 has therefore been assessed as having a negative effect on air quality (SA Criteria 4), climate change (SA Criteria 6) and resources (SA Criteria 10), although the magnitude of effect will be dependent on the type, scale and location of development.

No significant negative effect have been identified.

Mitigation/Enhancement:

- Policy wording or supporting text could be included relating to the promotion of opportunities for the sharing of infrastructure and facilities with other sectors.

Assumptions:

- None identified.

Uncertainties:

- The exact scale, type and location of future proposals is currently unknown.
- The scale of additional jobs created for Welsh communities is not certain.
- The scale of additional transport and the associated emissions to air is not known.

Policy	1. Biodiversity	2. Water	3. Physical Environment	4. Air Quality	5. Landscape and Seascape	6. Climate Change	7. Heritage	8. Welsh Language	9. Tourism and Recreation	10. Resources (incl Waste)	11. Economy	12. Well-being	13. Health	14. Governance
<p>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.</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>	+/?	+/?	+/?	0	+/?	0	+/?	+	++	0	++/?	++/?	++	+

Significant Effects:

The development and use of the marine area can have both direct and indirect, positive and negative impacts on tourism and recreation. For example, direct impacts may include the construction of a port which could lead to a greater number of tourists visiting an area whilst indirect impacts could be associated with any change to the marine and coastal environment which can influence the attractiveness of an area to tourists. In this context, Policy T&R_02 seeks to safeguard existing or proposed tourism and recreation activities. The supporting text to the policy establishes that an 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).

This is expected to support the protection and enhancement of the coastal tourism and recreation sector in Wales and in consequence, the policy has been assessed as having a significant positive effect on tourism and recreation (SA Criteria 9).

As set out above, tourism is a key economic sector that supports a large number of businesses and jobs. In this context, the safeguarding of existing and planned tourism and recreation activities is likely to have a significant positive effect on the economy (SA Criteria 11) and well-being (SA Criteria 12). Whilst it is recognised that proposals for development in other sectors which may conflict with tourism and recreation activity may not be permitted in some areas, taking into account the potential for mitigation to resolve conflicts, any negative effects are not expected to be significant, although some uncertainty remains.



Given the relationship between recreation and the promotion of healthy lifestyles, Policy T&R_02 has been assessed as having a significant positive effect on health (SA Criteria 13).

Coastal tourism and recreation in Wales is heavily reliant upon the natural environment and built heritage of the marine area. By seeking to safeguard tourism and recreation activities, Policy T&R_02 could help to conserve these assets and the policy has therefore been assessed as having a positive effect on biodiversity (SA Criteria 1), water (SA Criteria 2), the physical environment (SA Criteria 3), landscape and seascape (SA Criteria 5) and heritage (SA Criteria 7). There is the potential for these effects to be significant if the implementation of Policy T&R_02 leads to the conservation of designated assets. In this regard, the WMER highlights that 70% of Wales' coastline is designated for its environmental quality. However, in theory the policy may also support the continuation of existing activities that are already harmful to these assets and as a result, some uncertainty remains.

As highlighted above, the strong coastal links to Welsh culture and identity such as seafaring traditions, past industrial and maritime features and literary and spiritual connections contribute to tourism and recreational activity that is distinctive to Wales and could be protected through the implementation of Policy T&R_02. The policy has therefore been assessed as having a positive effect on Welsh language (SA Criteria 8).

Effects on the remaining SA criteria have been assessed as neutral.

No significant negative effects or negative effects have been identified.

Mitigation/Enhancement:

- None identified.

Assumptions:

- It is assumed that proposals would not be permitted if negative effects would arise, as the intent of the policy is safeguarding of the tourism sector.

Uncertainties:

- The scale of additional jobs created for Welsh communities is not certain.

Appendix F

Screening of Plans and Programmes for In-combination Effects with the Draft WNMP

Plan/Programme	Likely Significant Cumulative Effects In-combination with the Draft WNMP? (Yes – Y, No- N)	Related SA Criteria (where likely significant effects have been identified)	Relationship - significant positive effect (++) / significant negative effect (-)
UK Plans and Programmes			
Environment Agency (2008) Better Sea Trout and Salmon Fisheries: Our Strategy for 2008-2021	N	N/A	~
Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland	N	N/A	~
Defra (2007) Fisheries 2027: A long-term vision for sustainable fisheries	N	N/A	~
Defra (2009) Our Seas – a Shared Resource: High Level Marine Objectives	N	N/A	~
Defra (2012) National Policy Statement for Waste Water	Y	SA Criteria 2	++
Defra (2013) The National Adaptation Programme: Making the Country Resilient to a Changing Climate	Y	SA Criteria 3, 6, 11, 12, 13	++
DECC (2010) Marine Energy Action Plan	Y	SA Criteria 6, 10, 11	++
DECC (2011) Carbon Plan: Delivering our Low Carbon Future	Y	SA Criteria 6, 10, 11	++
DECC (2011) National Policy Statements for Energy Infrastructure	Y	SA Criteria 6, 10, 11	++
Oil and Gas Authority (2017) Offshore Energy Licensing Rounds	Y	SA Criteria 6, 10, 11	++/--
Department for Transport (2011) National Policy Statement for Ports	Y	SA Criteria 11, 12	++
HMG, NI Executive, Scottish Government, Welsh Government (2011) UK Marine Policy Statement	Y	SA Criteria 1, 2, 3, 5, 6, 7, 9, 10, 11, 13, 14	++
Infrastructure and Projects Authority (2016) National Infrastructure Delivery Plan 2016–2021	Y	SA Criteria 6, 11, 12	++
Joint Nature Conservation Committee and Defra (2012) UK Post-2010 Biodiversity Framework	Y	SA Criteria 1	++
Joint Nature Conservation Committee (1994) UK Biodiversity Action Plan	Y	SA Criteria 1	++
Strategic Plan for Biodiversity 2011-2020 (2010)	Y	SA Criteria 1	++
National (Wales) Plans and Programmes			

Plan/Programme	Likely Significant Cumulative Effects In-combination with the Draft WNMP? (Yes – Y, No- N)	Related SA Criteria (where likely significant effects have been identified)	Relationship - significant positive effect (++) / significant negative effect (-)
Welsh Assembly Government (2007) Welsh Coastal Tourism Strategy	Y	SA Criteria 9, 11, 12	++
Wales Biodiversity Partnership (2010) Wales Biodiversity Framework	Y	SA Criteria 1	++
Welsh Government (1997) Technical Advice Note 13: Tourism	Y	SA Criteria 9, 11, 12	++
Welsh Government (1998) Technical Advice Note 14: Coastal Planning	Y	SA Criteria 1, 2, 3, 5, 6, 7, 9	++
Welsh Government (2005) Technical Advice Note 8: Planning for Renewable Energy	Y	SA Criteria 6, 10, 11	++
Welsh Government (2007) Coastal Access Improvement Programme	N	N/A	~
Welsh Government (2007) Technical Advice Note 18: Transport	Y	SA Criteria 11	++
Welsh Government (2008) Wales Transport Strategy	Y	SA Criteria 11	++
Welsh Government (2008) Wales Fisheries Strategy	N	N/A	~
Welsh Government (2008) People, Places, Future – The Wales Spatial Plan	Y	SA Criteria 8, 11, 12	++
Welsh Government (2009) Technical Advice Note 5: Nature Conservation and Planning	Y	SA Criteria 1	++
Welsh Government (2010) Valuing the Welsh Historic Environment	N	N/A	~
Welsh Government (2010) Climate Change Strategy for Wales	Y	SA Criteria 3, 6, 10	++
Welsh Government (2010) Low Carbon Revolution – the Welsh Government Energy Policy Statement	Y	SA Criteria 6, 10, 11	++
Welsh Government (2011) Marine Renewable Energy Strategic Framework	Y	SA Criteria 6, 10, 11	++
Welsh Government (2011) Understanding the risks, empowering communities, building resilience: The national flood and coastal erosion risk management strategy for Wales	Y	SA Criteria 3, 6, 11, 12, 13	++
Welsh Government (2013) The Historic Environment Strategy for Wales	N	N/A	~
Welsh Government (2012) Preparing Wales for Climate Change. Energy Wales A Low Carbon Transition	Y	SA Criteria 6, 10, 11	++
Welsh Government (2012) Wales Infrastructure Investment Plan	Y	SA Criteria 3, 6, 11, 12	++
Welsh Government (2012) A living language: a language for living – Welsh language strategy 2012 to 2017	N	N/A	~
Welsh Government (2013) Partnership for Growth: The Welsh Government Strategy for Tourism 2013 – 2020	Y	SA Criteria 9, 11, 12	++

Plan/Programme	Likely Significant Cumulative Effects In-combination with the Draft WNMP? (Yes – Y, No- N)	Related SA Criteria (where likely significant effects have been identified)	Relationship - significant positive effect (++) / significant negative effect (-)
Welsh Government (2013) National Flood and Coastal Erosion Strategy for Wales	Y	SA Criteria 3, 6, 11, 12, 13	++
Welsh Government (2013) Wales Marine and Fisheries Strategic Action Plan	Y	SA Criteria 1, 11, 12	++
Welsh Government (2013) Technical Advice Note 20: Planning and the Welsh Language	N	N/A	~
Welsh Government (2014) Technical Advice Note 23: Economic Development	Y	SA Criteria 11, 12	++
Welsh Government (2014) Technical Advice Note 15: Development and Flood Risk	Y	SA Criteria 3, 6, 11, 12, 13	++
Welsh Government (2015) Water Strategy for Wales	Y	SA Criteria 2	++
Welsh Government (2016) Planning Policy Wales – Edition 9	Y	SA Criteria 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13	++
Welsh Government (2017) Natural Resources Policy	Y	SA Criteria 1, 2, 3, 5, 6, 10, 11, 12	++
Regional/Local Plans and Programmes			
AONB Management Plans (various)	Y	SA Criteria 1, 3, 5, 7	++
Biodiversity Action Plans	Y	SA Criteria 1	++
Local Development Plans (various)	Y	SA Criteria 1, 2, 3, 5, 6, 8, 9, 11, 12, 13	++
National Park Management Plans (various)	Y	SA Criteria 1, 3, 5, 7, 9, 11	++
Shoreline Management Plans (various)	Y	SA Criteria 3, 6, 11, 12, 13	++



Appendix G

Potential Monitoring Indicators

SA Criteria	Potential Indicator(s)	Possible Source(s) of Information
1. To protect and enhance biodiversity (habitats, species and ecosystems).	<ul style="list-style-type: none"> Annual trends in the number, area and condition of MPAs and coastal European designated nature conservation sites and the features for which they have been selected. Annual trends in the number, area and condition of coastal SSSIs. Trends in the achievement of Good Environmental Status (GES) indicators and targets associated with MSFD descriptors 1, 2, 4, 5, 6, 7, 8, 10 and 11. Annual number of proposals consented by the Marine Licensing Team (MLT) that would have adverse impacts on biodiversity that cannot be avoided/minimised/mitigated (linked to Policies ENV_01 to ENV_03). Proposals approved by the MLT that involve habitat restoration and enhancement. 	<ul style="list-style-type: none"> Natural Resources Wales (NRW) Joint Nature Conservation Committee (JNCC) Welsh Government
2. To protect and enhance the quality of surface, ground, estuarine and coastal water.	<ul style="list-style-type: none"> Trends in the chemical and ecological status of estuaries and coastal waterbodies. Trends in the achievement of GES/Good Ecological Potential (GEP) with regards to water body morphological status associated with the WFD (e.g. coastal and estuarine waters). Trends in compliance with quality standards set out in the Shellfish Directive. Trends in compliance with quality standards set out in the Bathing Waters Directive. Trends in the number of beaches awarded Blue Flag status. Annual number of proposals consented by the MLT that would have adverse impacts on water quality that cannot be avoided/minimised/mitigated (linked to Policy ENV_06). 	<ul style="list-style-type: none"> NRW Welsh Government Welsh Water
3. To protect and enhance the physical features of the marine environment.	<ul style="list-style-type: none"> Annual trends in the number and extent of MPAs designated wholly or in part for geological or geomorphological criteria and the condition of these features. Change in the total length of coastline subject to erosion relative to that predicted in SMPs. Annual number of proposals consented by the MLT that would have adverse impacts on physical features of the marine environment. 	<ul style="list-style-type: none"> NRW JNCC Welsh Government
4. To protect and enhance air quality.	<ul style="list-style-type: none"> Annual trends in the number of exceedances of air quality limits in coastal communities. Annual number of proposals consented by the MLT that would have adverse impacts on air quality that cannot be avoided/minimised/mitigated (linked to Policies ENV_01 to ENV_06). 	<ul style="list-style-type: none"> Defra Welsh Government Welsh Air Quality Forum
5. To protect and enhance landscape and seascape character and other protected features.	<ul style="list-style-type: none"> Annual number of proposals consented by the MLT that would have adverse impacts on landscape or seascape that cannot be avoided/minimised/mitigated (linked to Policy SOC_07). 	<ul style="list-style-type: none"> Welsh Government

SA Criteria	Potential Indicator(s)	Possible Source(s) of Information
6. To limit the causes and effects of climate change and promote adaptation.	<ul style="list-style-type: none"> Total and annual trends in the number of people/properties at risk of flooding from the sea. Change in the total length of coastline subject to erosion relative to that predicted in SMPs. Total, change and trend in marine-related greenhouse gas emissions (kCO₂e). Annual trends in the amount of energy (GWh) generated from offshore renewable energy. Annual number of proposals consented by the MLT that would lead to a substantial increase in greenhouse gas emissions that cannot be avoided/minimised/mitigated (linked to Policy SOC_10). 	<ul style="list-style-type: none"> NRW Welsh Government
7. To protect and enhance cultural, historic and industrial heritage resources.	<ul style="list-style-type: none"> Annual trends in the number, extent, type and condition of designated heritage assets offshore and in coastal areas. Annual number of proposals consented by the MLT that would have adverse impacts on heritage assets and their settings that cannot be avoided/minimised/mitigated (linked to Policy SOC_05). 	<ul style="list-style-type: none"> Cadw Welsh Government
8. To support and enhance the Welsh language and culture.	<ul style="list-style-type: none"> Trends in the proportion of the population in Wales' coastal communities able to understand, speak, read or write Welsh. 	<ul style="list-style-type: none"> ONS (Census)
9. To support appropriate tourism in Wales and protect and enhance opportunities for recreation.	<ul style="list-style-type: none"> Annual trend and change in the value of Wales' coastal tourism sector. Annual trend and change in employment levels across Wales' coastal tourism sector. Proposals in the tourism and recreation sector approved by the MLT. 	<ul style="list-style-type: none"> Welsh Government
10. To promote the sustainable use of natural resources.	<ul style="list-style-type: none"> Annual trends in marine aggregate production. Proposals approved by the MLT in the aggregates sector. Annual trends in oil and gas exploration and production. Proposals approved by the MLT in the oil and gas sector. 	<ul style="list-style-type: none"> British Geological Survey Welsh Government Oil and Gas Authority
11. To support sustainable development of marine and coastal economy.	<ul style="list-style-type: none"> Annual total and change in GVA per capita across all marine sectors. Annual total and change in the number of enterprises/businesses across all marine sectors. Proposals submitted/approved/completed across all sectors. Number of proposals consented by the MLT in SRAs that would be incompatible with the sector for which the SRA is identified (linked to the sector policies). 	<ul style="list-style-type: none"> Office for National Statistics (ONS) Welsh Government
12. To maintain and enhance the well-being of local communities.	<ul style="list-style-type: none"> Annual total, rate and change in employment levels across all marine sectors (if available). Change in relative levels of deprivation in Wales' coastal communities. 	<ul style="list-style-type: none"> ONS Welsh Government (Welsh Index of Multiple Deprivation)
13. To protect and enhance human health with special regard to vulnerable groups in society.	<ul style="list-style-type: none"> Proposals for recreation approved by the MLT. Compliance with water quality standards under the EC Bathing Waters Directive. Annual changes in life expectancy at birth in Wales' coastal communities. 	<ul style="list-style-type: none"> Welsh Government NRW ONS



SA Criteria	Potential Indicator(s)	Possible Source(s) of Information
14. To promote good governance.	<ul style="list-style-type: none">• Annual average (and change) in determination period for Marine Licence applications.• Provision of additional evidence and guidance to support understanding of SRAs.	<ul style="list-style-type: none">• Welsh Government

