Sustainability Appraisal of the Natural Resources Policy

Sustainability Appraisal – Final Report

November 2017

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Welsh Government
Cathays Park
Cardiff
CF10 3NQ

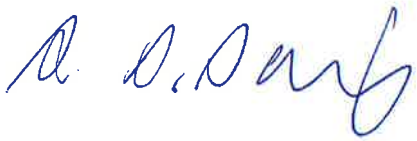
Main contributors

Pete Davis
Alex Melling
Sean Nicholson

Issued by

Alex Melling

Approved by



Pete Davis

Amec Foster Wheeler

Redcliff Quay
120 Redcliff Street
Bristol BS1 6HU
United Kingdom
Tel +44 (0)117 317 8950

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Executive Summary

The Natural Resources Policy

Natural resources include animals, plants, air, water, soil, minerals, geographic features and associated processes. As individual components, and as part of ecosystems, they are essential for the economy, health and well-being of Wales. The Environment (Wales) Act 2016 requires the 'sustainable management of natural resources' (SMNR) to contribute to an objective 'to maintain and enhance the resilience of ecosystems and the benefits they provide'. The Act provides an iterative framework that ensures that managing natural resources sustainably will be a core consideration in decision-making. This includes:

- **The State of Natural Resources Report** (SoNaRR) – a report, completed by Natural Resources Wales (NRW), that provides an assessment of natural resources and their sustainable management.
- **A Natural Resources Policy** (NRP) – a national policy, produced by Welsh Government, that sets out the priorities, risks and opportunities for managing natural resources sustainably. The policy will take into account the findings of SoNaRR.
- **Area Statements** – produced by NRW, which will facilitate the implementation of the NRP in a local context.

Following consultation in winter 2016, the Welsh Government published the NRP in August 2017. The focus of the NRP is the sustainable management of Wales' natural resources, to maximise their contribution to achieving the well-being goals within the Well-being of Future Generations (Wales) Act 2015. It sets out the opportunities and challenges associated with the SMNR and establishes three national priorities for managing Wales' natural resources. These are:

- Delivering nature-based solutions;
- Increasing renewable energy and resource efficiency; and
- Taking a place-based approach.

Sustainability Appraisal of the NRP

There is no legislative requirement to undertake a Sustainability Appraisal (SA) of the NRP. The Welsh Government has chosen to undertake a SA of the NRP on a voluntary basis in order to strengthen the quality of the NRP and to demonstrate how the NRP contributes to the well-being goals established in the Well-being of Future Generations (Wales) Act 2015.

A set of objectives and guide questions were developed through the scoping consultation in Spring 2016 and have been used to appraise the sustainability effects of the NRP. The SA objectives define the long term aspirations for 12 sustainability topics and it is against these objectives that the performance of the draft NRP has been appraised.

The SA objectives used to appraise the NRP are set out in **Table NTS1** below.

Table NTS1 SA objectives used to appraise the NRP

1. Biodiversity, Flora and Fauna: To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.
2. Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.
3. Economy: To support an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately.
4. Human Health: To support and maximise people's physical and mental well-being.
5. Land Use, Geology and Soil: To maintain and enhance soil and geology as an important resource and support the sustainable management of land for multiple benefits.
6. Water: To maximise the sustainable management of water resources and help achieve the objectives of the Water Framework Directive and Marine Strategy Framework Directive, taking into account the effects of climate change.
7. Flood Risk and Coastal Change: To minimise the risks from flooding and coastal change to Wales' natural resources, economy and communities, taking into account the effects of climate change.
8. Air: To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and Cleaner Air for Europe Directives.
9. Climatic Factors: To limit the causes and effects of climate change and ensure resilience and adaptation to any consequences of climate change.
10. Material Assets: To promote the sustainable management and resilience of natural resources.
11. Cultural Heritage: To protect and sustainably manage the historic environment including cultural heritage resources, historic buildings and archaeological features.
12. Landscape and Seascape: To maintain and enhance Wales' landscape and seascape character.

The SA has not only sought to determine the potential sustainability outcomes associated with the implementation of the NRP during drafting but the appraisal has also identified potential opportunities for enhancement, for example:

- encouraging the NRP to acknowledge where there are tensions between relevant policy areas with a view to the NRP highlighting the need for these to be avoided and/or addressed; and
- identifying additional topics or other matters that are considered to be appropriately strategic to be acknowledged in the NRP.

The following activities have been undertaken to test the environmental, social and economic effects of the emerging NRP and describe the contribution that the final NRP will make to the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015:

- Assessing the compatibility of the NRP objectives with the SA objectives;
- Completing a gap analysis of the scope and content of the NRP objectives;
- Appraising the national priorities in the NRP against the SA objectives to identify potential effects;
- Testing the illustrative policies in the NRP against the SA objectives to identify any gaps in the NRP or opportunities to make additional links with the broader policy landscape;
- Completing a gap analysis of the NRP priorities and key priorities from '*Taking Wales Forward*'; and

- Appraising the priorities in the NRP against the well-being goals in the Well-being of Future Generations (Wales) Act 2015, in order to demonstrate the extent to which the NRP supports the Welsh Government in working towards its legal duties under the Act.

These tasks are described in **Section 2** of this report.

Results of the Appraisal of the NRP

Key findings from the SA of the NRP are as follows:

- All of the NRP objectives are identified as having a positive relationship with all of the SA objectives. Although some uncertainties in compatibility between the NRP objectives and SA objectives are identified during the assessment, these are considered to be consistent with an exercise of this nature and no amendments to the NRP objectives have been suggested in response to the uncertainties.
- An additional objective related to embedding the concept of nature-based solutions in all plans, programmes and projects in Wales was suggested from the gap analysis of the draft NRP objectives and the SA objectives. This was not incorporated in the final NRP in order to avoid duplication with the Area Statements, which are seen as the core strategic document to managing natural resources sustainably and collaboratively at the local level.
- The SA of the priorities in the final NRP highlights the potential for significant positive effects through the use of nature-based solutions. Where uncertainties are identified in the SA, these relate to the extent to which projects resulting from the NRP's implementation would be targeted at areas that would benefit most and also the timescales over which projects would come forward.
- A gap analysis undertaken in relation to the SA objectives and key priorities from '*Taking Wales Forward'* concluded that all of the SA objectives appeared to relate to one or more of the topics covered in Section 4 of the working draft NRP. No gaps in the NRP were therefore identified on this basis. An updated exercise demonstrates that the key priorities in the final NRP support all four national priorities from '*Taking Wales Forward'*; and
- The NRP will support delivery of the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015 and assist the Welsh Government in demonstrating that it is meeting its legal duties under the Act.

These findings are described in **Section 3** of this report.

Following publication of the NRP, NRW will develop Area Statements for appropriate areas of Wales to facilitate the implementation of the NRP. In consequence, it will be important to ensure that the objectives and priorities of the NRP are embedded in plan making, decision making and project development processes in the areas covered by the Area Statements. The SA has highlighted that to support NRP implementation and integration with lower tier plans and projects:

- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the plan making process, rather than draft plans being checked for compatibility with the NRP at the end of the plan development process, near publication;
- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the development of projects, rather than projects being checked for compatibility with the NRP towards completion; and
- A checklist with associated guidance could be provided for plan makers to help them integrate the NRP objectives and priorities into their plans and to also enable them to demonstrate that they will contribute to the objectives and priorities of the NRP.

These recommendations could be addressed by NRW in collaboration with other parties through the development and direction contained in the emerging Area Statements.

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Monitoring

The final NRP states:

> *"We will develop an evaluation framework to demonstrate the extent to which we deliver our priorities in the NRP, supported by performance measures aligned to those in the suite of 'National Indicators for Wales. "*

Aligning the NRP's performance measures with those in the suite of 'National Indicators for Wales' should provide a firm basis for monitoring. A scoping exercise undertaken as part of this SA has demonstrated a good synergy between the national indicators and elements of the NRP in terms of monitoring outcomes. Using existing indicators will enable monitoring to be undertaken on a cost effective basis and provide some surety in terms of the long term availability of data, thereby enabling progress to be monitored on a consistent basis over time.

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Appendix A Appraisal Matrices for the Priorities

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1. Introduction

1.1 Sustainable Management of Natural Resources (SMNR)

1.1.1 Natural resources are defined in the Environment (Wales) Act 2016 as:

- Animals, plants and other organisms;
- Air, water and soil;
- Minerals;
- Geological features and processes;
- Physiographical features; and
- Climatic features and processes.

1.1.2 These individual components work together in many ways and at many scales in ecosystems. Healthy, resilient ecosystems, and the services they provide, are essential for the economy, health and well-being of Wales. They provide air, water and food and protect against hazards such as climate change and flooding, and provide the raw materials and energy for industries. They enhance the quality of the places where people live, work and visit and provide the landscapes and biodiversity that make these areas special.

1.1.3 Demands on natural resources, and the pressures on ecosystems in Wales, are increasing. Key challenges for the sustainable management of natural resources identified by the Welsh Government in 2015[1] are summarised in **Table 1.1**.

Table 1.1 Key Challenges for the Sustainable Management of Natural Resources

Challenges	Context
Safeguarding and increasing carbon stores	A loss of carbon storage in soils - especially peat rich uplands – and in biomass particularly where woodland is permanently removed is potentially diminishing the ability to regulate the climate.
Maintaining productivity capacity	Loss of soils and reducing soil quality, threats to pollinators and plant health and from invasive non-native species risk the productive capacity of land for food, timber and fibre; including for energy.
Reducing the risk of flooding	Increased soil sealing and compaction from farming practices and urban development resulting in loss of water storage capacity and more surface water run-off. The loss of natural coastal flood defences is a key challenge.
Improving health and equity	Noise, poor air quality and fly-tipping are impacting on our health. Lack of access to good quality green or blue space reduces individual well-being and can affect mental health. These impacts are disproportionately experienced in poorer urban areas.
Improving the quality and maintaining the availability of water	In Wales, there is a high dependency on rivers for water supply. Diffuse and point source pollution from a range of sources including some land management practices, sewage discharges, abandoned mines and misconnected sewers is affecting water quality.

[1] Welsh Government (2015) *Natural Resources Policy Statement* (Figure 5).

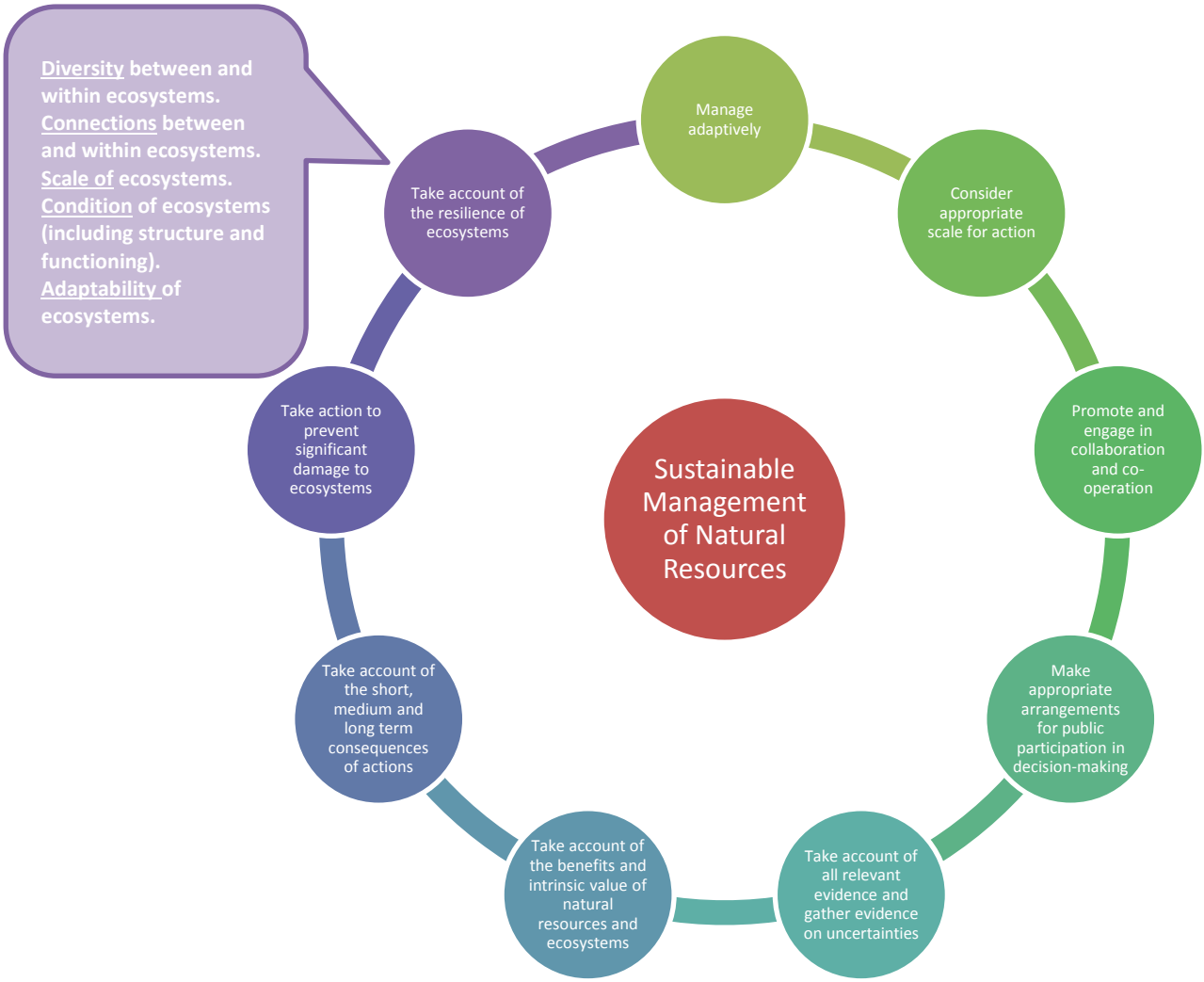
Challenges	Context
Improving the quality and connectivity of habitats	Changing land management practices, urbanisation, pollution and invasive non-native species have led to habitat loss and fragmentation, which, coupled with acidification and eutrophication, have changed the quantity and quality of wildlife they can support.
Retaining the distinctiveness of places and historic landscapes	Wales is renowned for its attractive and historic landscapes. During the mid-20th Century, the character of the landscape was impacted by developments relating to energy, transport and tourism and through forest design.

1.1.4 The Welsh Government has recognised the need to act to manage natural resources sustainably, in order to avoid serious consequences. The Environment (Wales) Act 2016 introduces a new legislative approach to ensure that natural resources are managed in a more sustainable, proactive, collaborative and joined-up way. To deliver this new approach, the Act introduces a number of requirements and duties, which seek to achieve the sustainable management of natural resources (SMNR).

1.1.5 SMNR is about managing natural resources in a way that will maintain and enhance the resilience of ecosystems and the services and benefits they provide and, in so doing, meet the needs of the present generation of people without compromising the ability of future generations to meet their needs. In this way, SMNR contributes to the well-being goals as established in the Well-being of Future Generations (Wales) Act 2015.

1.1.6 To achieve the objective of SMNR, the Environment (Wales) Act 2016 introduces a number of principles to underpin future work. These principles, which are to be applied equally, are referenced within **Figure 1.1**.

Figure 1.1 Sustainable Management of Natural Resources - Principles



The Delivery Framework

1.1.7 The Environmental (Wales) Act 2016 introduces an iterative and interconnected framework to deliver its new approach to managing natural resources. It includes the requirements to publish a review of the State of Natural Resources Report (SoNaRR), produce a Natural Resources Policy (NRP), and Area Statements to facilitate the implementation of the NRP in a local context. The key functions of, and linkages between, these requirements are illustrated within **Figure 1.2**.

1.1.8 Natural Resources Wales (NRW) has the duty to publish SoNaRR every five years. The report provides the evidence base needed to develop the NRP and provides a national baseline for SMNR. The first report[2] was produced in September 2016.

1.1.9 The Welsh Government has the duty to prepare, publish and implement the NRP. The NRP sets out the priorities, risks and opportunities for managing natural resources sustainably. The policy takes into account the findings of SoNaRR.

1.1.10 NRW will also be responsible for the production of Area Statements for the areas of Wales that it considers appropriate for the purpose of facilitating the implementation of the NRP.

[2] NRW (2016) *The State of Natural Resources Report (SoNaRR) 2016* https://naturalresources.wales/evidence-and-data/research-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en

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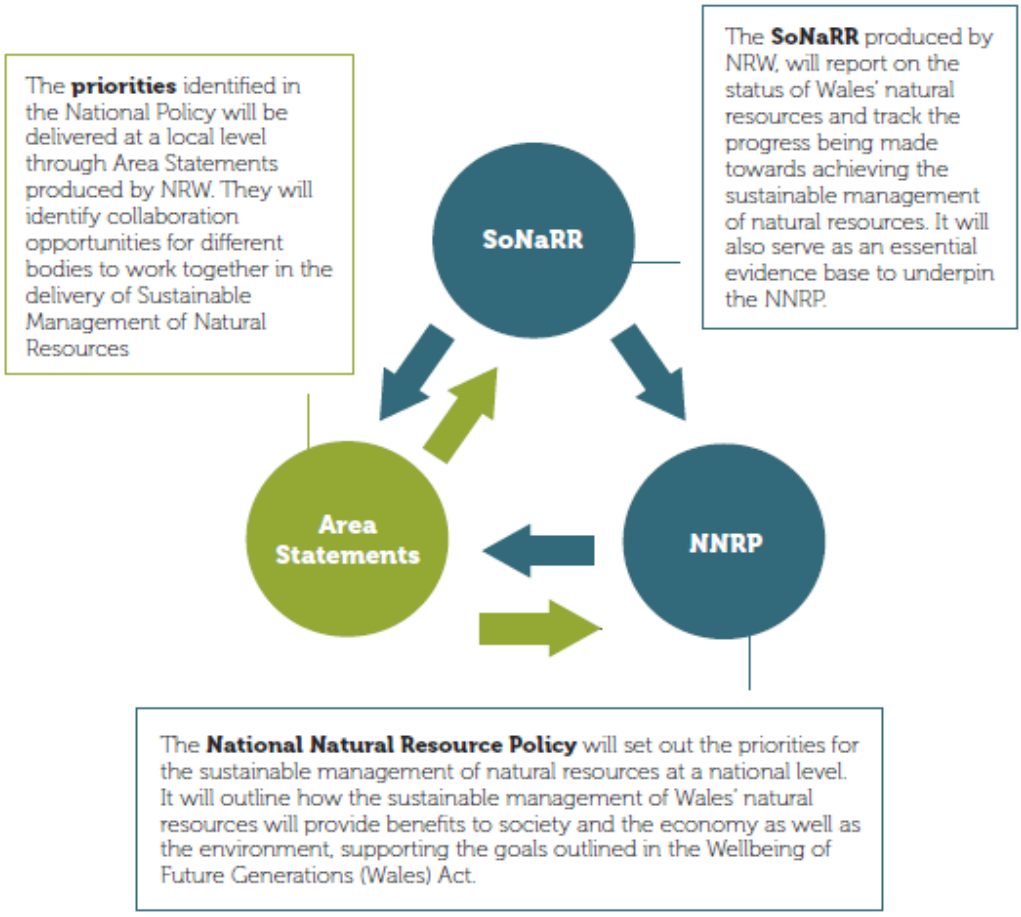
Figure 1.2 Sustainable Management of Natural Resources Delivery Framework



1.2 Natural Resources Policy (NRP)

1.2.1 The NRP sets out overarching strategic policies, priorities, risks and opportunities for SMNR in Wales. A NRP statement was issued by the Welsh Government in 2015 which explained the role of SMNR and illustrated the key challenges and opportunities. A copy of the statement can be found at: http://gov.wales/docs/desh/publications/150914-natural-resources-policy-statement-en.pdf.

1.2.2 A consultation document was subsequently issued in November 2016 by the Welsh Government to inform the development of the NRP. A copy of the consultation document can be found at: https://consultations.gov.wales/sites/default/files/consultation_doc_files/161114-consultation-to-inform-the-development-of-the-natural-resources-policy-en.pdf. Following consideration of the consultation responses received, the final NRP was published in August 2017. A copy of the policy can be found at: http://gov.wales/docs/desh/publications/170821-natural-resources-policy-en.PDF.

1.2.3 The adopted NRP sets out four headline opportunities associated with natural resources in Wales, namely:

- Supporting successful, sustainable communities;
- Promoting green growth and innovation to create sustainable jobs;
- Supporting a more resource efficient economy; and
- Maintaining healthy, active and connected communities.

1.2.4 The NRP identifies three key challenges:

- Improving ecosystem resilience;
- Climate change and the decline in biological diversity; and
- The UK's withdrawal from the European Union (EU).

1.2.5 The NRP sets out three national priorities:

- Delivering nature-based solutions to improve our social, ecological and economic resilience;
- Increasing renewable energy and resource efficiency and fostering innovation; and
- Taking a place-based approach.

1.2.6 The NRP discusses key policy areas that will need to be aligned to the national priorities that have been identified. These include (amongst others): economic policy; renewable energy; resource efficiency; water and flooding; transport; the land use planning system; and education.

1.3 Why has Sustainability Appraisal (SA) been undertaken?

1.3.1 There is no legislative requirement to undertake a Sustainability Appraisal (SA) of the NRP. The Welsh Government chose to undertake a SA of the NRP on a voluntary basis in order to strengthen the quality of the NRP and improve its contribution to the Well-being of Future Generations Act.

1.3.2 In this context, the purpose of this SA has been to improve, and where possible, optimise the contribution of the NRP to environmental, social, economic and cultural outcomes, the well-being goals, as required by the Well-being of Future Generations (Wales) Act 2015, and SMNR, as required by the Environment (Wales) Act 2016.

1.3.3 By working alongside the development of the NRP, the SA has prompted changes that reduce any negative social, economic or environmental effects and make the most of the benefits people receive from the environment. In applying the SA process to the NRP, it has also helped to demonstrate how the policy has been developed in line with the well-being goals and SMNR principles.

The Need for Strategic Environmental Assessment

1.3.4 Originally, the SA was developed on a precautionary basis to reflect the provisions of the EU Directive 2001/42/EC on the Assessment of Certain Plans and Programmes on the Environment, more commonly known as the Strategic Environmental Assessment (SEA) Directive and the implementing regulations.

1.3.5 Consistent with this intent, a Scoping Report was prepared and published for consultation for a period of five weeks from 4th April 2016 to 6th May 2016. Consultees included:

- NRW;
- Cadw;

- Welsh Government departments;
- Natural England;
- Historic England; and
- Environment Agency.

1.3.6 A total of six responses to the consultation were received including from NRW, Cadw, Welsh Government departments, Natural England and Historic England. **Section 2.2** of this report discusses the key messages from the consultation responses received.

1.3.7 Since consultation on the Scoping Report, the NRP has evolved substantially. It is now a short, high level document that sets out the Welsh Ministers' policy for natural resources. It includes objectives and priorities but does not contain any spatial content, which will be taken forward through Area Statements.

1.3.8 In consequence, the need for SEA was reviewed, consistent with the changing scope, purpose and contents of the NRP. Reflecting this, the Welsh Government determined that the NRP did not fall within the scope[3] of the SEA Directive and implementing regulations. Therefore, this SA does not need to meet the requirements of the SEA Directive and regulations. The Welsh Government wrote to the statutory consultees for SEA advising of this decision in December 2016.

The Need for Assessment under the Habitats Regulations (HRA)

1.3.9 Regulation 102 of the Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations') states that if a land-use plan "*(a) is likely to have a significant effect on a European site*[4] *or a European offshore marine site*[5] *(either alone or in combination with other plans or projects); and (b) is not directly connected with or necessary to the management of the site*" then the plan-making authority must "*…make an appropriate assessment of the implications for the site in view of that site's conservation objectives*" before the plan is given effect. The process by which Regulation 102 is met is known as Habitats Regulations Assessment (HRA)[6]. An HRA determines whether there will be any 'likely significant effects' (LSE) on any European site as a result of a plan's implementation (either on its own or 'in combination' with other plans or projects) and, if so, whether these effects will result in any adverse effects on the site's integrity.

1.3.10 The Welsh Government does not consider the NRP to be a plan for the purposes the Conservation of Habitats and Species Regulations 2010, rather it is a high level policy document. In coming to

[3] The NRP is not a plan or programme. Within the context of the SEA Directive, the NRP does not relate to one of the identified sectors (agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use), nor does it set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC (as amended), and given its policy objective, it is not considered likely to lead to significant adverse effects on the environment (including European designated sites).

[4] Strictly, 'European sites' are: any Special Area of Conservation (SAC) from the point at which the European Commission and the UK Government agree the site as a 'Site of Community Importance' (SCI); any classified Special Protection Area (SPA); any candidate SAC (cSAC); and (exceptionally) any other site or area that the Commission believes should be considered as a SAC but which has not been identified by the Government. However, the term is also commonly used when referring to potential SPAs (pSPAs), to which the provisions of Article 4(4) of Directive 2009/147/EC (the 'new wild birds directive') apply; and to possible SACs (pSACs) and listed Ramsar Sites, to which the provisions of the Habitats Regulations are applied as a matter of UK Government policy when considering development proposals that may affect them. "European site" is therefore used in this report in its broadest sense, as an umbrella term for all of the above designated sites.

[5] 'European offshore marine sites' are defined by Regulation 15 of *The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007* (as amended); these regulations cover waters over 12 nautical miles from the coast.

[6] The term 'Appropriate Assessment' has been historically used to describe the process of assessment; however, the process is now more usually termed 'Habitats Regulations Assessment' (HRA), with the term 'Appropriate Assessment' limited to the specific stage within the process.

this conclusion, regard was had to advice at the European[7] and National[8] levels on what constitutes a plan. Screening under the Habitats Regulations has not, therefore, been undertaken.

1.4 The SA Process

1.4.1 The following tasks have been undertaken as the NRP has been developed:

- Scoping the SA, determining the context for the appraisal including compiling baseline information, reviewing plans and programmes and identifying key issues, and developing the SA methodology. This information drew on evidence and key issues emerging from SoNaRR and was presented in a Scoping Report.
- Consulting on the Scoping Report and completing an analysis of consultation responses.
- Revising the scope of the SA and amending the SA Framework to address, as appropriate, consultation responses on the Scoping Report.
- Using the revised SA Framework to:
  - Assess the compatibility of the NRP objectives with the SA objectives;
  - Complete a gap analysis of the scope and content of the NRP objectives;
  - Appraise the national priorities in the NRP against the SA objectives to identify potential effects;
  - Test the illustrative policies in the NRP against the SA objectives to identify any gaps in the NRP or opportunities to make additional links with the broader policy landscape;
  - Complete a gap analysis of the NRP objectives and key priorities from '*Taking Wales Forward*'; and
  - Appraise the priorities in the NRP against the Well-being Goals in the Well-being Future Generations (Wales) Act 2015, in order to demonstrate the extent to which the NRP supports the Welsh Government in working towards its legal duties under the Act.
- Documenting the work undertaken in this SA Report.

1.5 Structure of this SA Report

1.5.1 The remainder of this SA Report is structured as follows:

- **Section 2** sets out the methodology for the appraisal of the NRP, including the SA Framework that has been used as the basis for the appraisal and the tasks undertaken to assess drafts of the NRP and the final version;
- **Section 3** summarises the findings of the appraisal; and
- **Section 4** sets out the key outcomes from the SA process and key findings from the appraisal.

[7] European Commission (November 2001) *Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.*

[8] Defra (2012) *The Habitats and Wild Birds Directives in England and its seas Core guidance for developers, regulators & land/marine managers.*

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2. Appraisal Methodology

2.1 Introduction

2.1.1 This section sets out the approach to the appraisal of the NRP, which has had regard to the scope and content of the policy. It highlights the key sustainability issues identified during scoping, summarises consultation comments received to the Scoping Report and presents the revised SA Framework, detailing how this has been used to complete the appraisal of the NRP.

2.2 Scoping

2.2.1 The study area covers Wales and 12 nautical miles from the Welsh coast, as shown in **Figure 2.1**.

Figure 2.1 The NRP Study Area

2.2.2 Baseline information for the study area (drawing on the emerging SoNaRR) and relevant plans and programmes have been reviewed. This contextual analysis identified a number of key sustainability issues affecting Wales, which were of relevance to the NRP and the SA. These issues are summarised in **Table 2.1,** which also identifies the linkages to the well-being goals of the Well-being of Future Generations (Wales) Act 2015.

Table 2.1 Summary of Key Sustainability Issues

Topic	Issue	Well-Being Goals
Biodiversity, Flora and Fauna	• The need to improve the resilience of ecosystems by taking into account their diversity, connectivity, extent, condition and their adaptability. • The need to reverse the decline in Wales' biodiversity. • The need to improve the quality and connectivity of Wales' habitats including priority habitats. • The need to protect and support the appropriate management and use of designated nature conservation sites. • The need to sustainably manage biodiversity assets, taking into account the effects of climate change. • The need to encourage green infrastructure provision.	A prosperous Wales A resilient Wales A healthier Wales A globally responsible Wales
Population and Society	• The need to reduce per capita resource use. • The need to minimise the adverse effects of population growth and development on Wales' natural resources. • The need to ensure that emissions and discharges to the environment associated with population growth and development are minimised/mitigated. • The need to tackle deprivation and promote equality with particular emphasis on the physical environment. • The need to protect and enhance Welsh language and culture. • The need to promote the natural environment as a cultural resource whilst ensuring that growth does not place undue pressure on assets.	A prosperous Wales A resilient Wales A globally responsible Wales A more equal Wales A Wales of cohesive communities A Wales of vibrant culture and thriving Welsh language
Economy	• The need to promote the efficient, sustainable and proportionate use of natural resources to support economic growth and an increase in Gross Value Added (GVA) from environmental services. • The need to create high value employment opportunities linked to the management and use of Wales' natural resources. • The need to promote a low carbon economy.	A prosperous Wales A resilient Wales A more equal Wales A globally responsible Wales
Human Health	• The need to promote healthier lifestyles by improving physical activity through access to the natural environment, open space and outdoor recreational activities and by encouraging walking and cycling. • The need to provide high quality living environments and natural resources that support and enhance human health.	A healthier Wales A Wales of cohesive communities
Land Use, Geology and Soil	• The need to influence how land is managed, promoting sustainable patterns of land use. • The need to conserve and enhance soil quality and function (including carbon sequestration). • The need to reduce nitrogen deposition. • The need to sustainably manage Wales' woodlands. • The need to protect and avoid damage to Wales' geodiversity and conserve and enhance sites designated for geological interest. • The need to manage impacts on soil resources, including control of pollution and remediation of contaminated land.	A prosperous Wales A resilient Wales
Water	• The need to sustainably manage water resource use. • The need to protect and enhance water quality including by reducing pollution from sources such as abandoned mines, contaminated land, agricultural land, sewage discharges and surface drainage.	A prosperous Wales A resilient Wales A healthier Wales
Flood Risk and Coastal Change	• The need to manage flood risk and the adverse impacts flooding has on people and natural resources. • The need to promote the effective use of Wales' natural resources and nature-based solutions to contribute towards the reduction of flood risk.	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities

Topic	Issue	Well-Being Goals
	• The need to appropriately manage coastal change. • The need to increase the resilience of Wales' natural resources, properties and assets to flood risk and coastal change.	A globally responsible Wales
Air	• The need to minimise emissions of pollutant gases and particulates. • The need to improve air quality and reduce any adverse effects it may have on people and natural resources. • The need to achieve the objectives of the air quality and ambient air quality and cleaner air for Europe Directives.	A healthier Wales A resilient Wales A globally responsible Wales
Climatic Factors	• The need to minimise greenhouse gas emissions as a contribution to climate change. • The need to ensure the resilience and adaptability of Wales' ecosystems and natural resources to the effects of climate change. • The need to utilise effectively Wales' natural resources to mitigate and adapt to the effects of climate change.	A prosperous Wales A resilient Wales A globally responsible Wales
Material Assets	• The need to minimise waste arisings and promote reuse, recovery and recycling. • The need to minimise the impact of waste generation and management on Wales' natural resources. • The need to ensure the sustainable extraction of minerals including marine aggregates whilst avoiding adverse effects on Wales' other natural resource assets. • The need to maximise the use of recycled aggregates and the efficient use of aggregate material. • The need to reduce the consumption of non-renewable sources of energy through measures such as improved energy efficiency and enhanced uptake of renewable energy.	A prosperous Wales A resilient Wales A globally responsible Wales
Cultural Heritage	• The need to conserve and enhance the historic environment including cultural heritage resources, historic buildings and archaeological features and their settings. • The need to promote access to Wales' cultural heritage assets.	A prosperous Wales A Wales of vibrant culture and thriving Welsh language
Landscape and Seascape	• The need to conserve and enhance landscape and seascape character and quality, taking into account the effects of climate change. • The need to minimise any adverse impacts upon landscape and seascape that may result from the extraction and use of natural resources. • The need to maximise the benefits and services Wales' landscapes and seascapes provide.	A resilient Wales A Wales of cohesive communities A healthier Wales

2.2.3 A proposed SA Framework, which comprised of SA objectives and associated guide questions, to be used in the appraisal of the draft NNRP was developed. The SA objectives and guide questions reflected the key objectives arising from the review of plans and programmes and the key sustainability issues identified through the analysis of socio-economic and environmental baseline conditions.

2.2.4 A Scoping Report was prepared containing the baseline information, reviewed plans and programmes, key sustainability issues and proposed SA Framework. This was issued to statutory consultees for a period of five weeks from 4th April 2016 to 6th May 2016.

2.2.5 A total of six responses to the consultation were received including from NRW, Cadw, Welsh Government departments, Natural England and Historic England. Comments related to the inclusion of additional plans and programmes, requests for additional baseline information and amendments to the guide questions in the SA Framework. As a result of the consultation exercise, some additions/amendments to the guide questions in the SA Framework were made, for example the guide questions in relation to SA objective 10 were amended to include reference to the energy hierarchy.

2.3 The SA Framework

2.3.1 **Table 2.2** presents the revised SA Framework including SA objectives and associated guide questions used in the appraisal of the NRP.

2.3.2 For each SA objective, the relevant well-being goals of the Well-being of Future Generations (Wales) Act 2015 are identified. This informed the appraisal of the performance of the NRP by providing the basis for considering the contribution of the sustainable management of Wales' natural resources to the well-being goals.

Table 2.2 The SA Framework

SA Objective	Guide Questions *Will the draft NRP….*	Well-being Goals
1. Biodiversity, Flora and Fauna: To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.	• Help to maintain and enhance internationally and nationally designated nature conservation sites (SACs, SPAs and Ramsar sites, SSSIs and the Dyfi Biosphere Reserve)? • Help to maintain and enhance healthy, functioning ecosystems that are resilient and able to address the pressures and demands placed on them by taking into account their diversity, connectivity, extent and condition? • Help to maintain and enhance the quality and connectivity of Wales' habitats including priority habitats and non-designated assets? • Support the delivery of well-connected green infrastructure and wildlife corridors that deliver multiple benefits? • Reverse the decline in Wales' biodiversity by protecting and enhancing priority habitats and species? • Help to sustainably maintain and restore key ecological processes and biodiversity assets (including the provision of habitat for pollinators), taking into account the effects of climate change?	A prosperous Wales A resilient Wales A healthier Wales A globally responsible Wales
2. Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.	• Help to ensure that population growth contributes to sustainable management of Wales' natural resources? • Encourage inclusivity and equality and tackle poverty, enabling people to fulfil their potential no matter what their background or circumstances? • Help to tackle deprivation with particular emphasis on the physical environment and ensure equality of access to the services and benefits of Wales' natural resources? • Promote and protect culture and the Welsh language? • Help to tackle crime including environmental crime?	A prosperous Wales A globally responsible 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

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SA Objective	Guide Questions *Will the draft NRP….*	Well-being Goals
3. Economy: To support an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately.	• Help to develop economic opportunities that incentivise the sustainable use of natural resources? • Help to make Wales an attractive place to visit and do business? • Promote the creation of high value employment opportunities linked to the sustainable management and use of Wales' natural resources? • Support green growth and the transition to a low carbon economy? • Promote the economic benefits of sustainable tourism?	A prosperous Wales A globally responsible Wales A resilient Wales A more equal Wales A healthier Wales
4. Human Health: To support and maximise people's physical and mental well-being.	• Help to improve access to the natural environment? • Help to maintain and enhance open space provision and promote opportunities for outdoor recreation and active lifestyles? • Encourage active commuting? • Help to provide high quality living environments and natural resources that support and enhance human health (including mental health) and aid recovery from ill health?	A healthier Wales
5. Land Use, Geology and Soil: To maintain and enhance soil and geology as an important resource and support the sustainable use of land for multiple benefits.	• Help to maintain and enhance soil quality and function (including carbon sequestration), reduce nutrient loading and increase resilience to degradation? • Help to reduce, tackle and address the impacts of contaminated land? • Help to maintain and enhance food security, taking into account the effects of climate change? • Help to protect and avoid damage to Wales' geodiversity and conserve and enhance sites designated for geological interest? • Support national and local planning policy?	A prosperous Wales A resilient Wales A globally responsible Wales
6. Water: To maximise the sustainable management of water resources and help achieve the objectives of the Water Framework Directive and Marine Strategy Framework Directive, taking into account the effects of climate change.	• Contribute to the protection and improvement of the status of all water bodies, for the benefit of the human and natural environment? • Maintain, and where possible enhance, biodiversity associated with freshwater, estuarine and marine environments? • Help to maximise water efficiency in both domestic and industrial settings? • Help to ensure the resilience of water resources? • Help to reduce the discharge of pollutants to the water environment or attenuate any potential effects?	A prosperous Wales A resilient Wales A healthier Wales

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SA Objective	Guide Questions *Will the draft NRP….*	Well-being Goals
7. Flood Risk and Coastal Change: To minimise the risks from flooding and coastal change to Wales' natural resources, economy and communities, taking into account the effects of climate change.	• Help to manage flood risk and coastal change, supporting the delivery of the National Strategy for Flood and Coastal Erosion Risk Management in Wales? • Promote the effective use of Wales' natural resources and nature-based solutions to contribute towards the reduction of flood risk? • Help to realise the multiple benefits of flood risk management measures including sustainable drainage systems? • Help to increase the resilience of Wales' natural resources to flood risk and coastal change?	A prosperous Wales A resilient Wales A healthier Wales A Wales of cohesive communities A globally responsible Wales
8. Air: To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and Cleaner Air for Europe Directives.	• Help to minimise emissions of pollutant gases and particulates? • Help to enhance air quality and reduce any adverse effects it may have on people and natural resources? • Help to ensure that air quality impacts on sensitive habitats are avoided and that critical loads are not exceeded?	A healthier Wales A resilient Wales A globally responsible Wales
9. Climatic Factors: To limit the causes and effects of climate change and ensure resilience and adaptation to any consequences of climate change.	• Promote a reduction, directly or indirectly, in greenhouse gas emissions as a contribution to climate change? • Help to ensure the resilience and adaptability of Wales' natural resources to the effects of climate change? • Promote the use of Wales' natural resources in mitigating and adapting to the effects of climate change?	A prosperous Wales A resilient Wales A globally responsible Wales
10. Material Assets: To promote the sustainable management and resilience of natural resources.	• Promote the sustainable use and adaptive management of natural resources and material assets? • Help to ensure the sustainable extraction and use of minerals including marine aggregates whilst avoiding adverse effects on Wales' other natural resource assets? • Promote the sustainable management of waste and the reuse, recovery and recycling of recovered components and materials? • Promote the sustainable management of energy consistent with the energy hierarchy, and measures to reduce consumption, increase energy efficiency, and increase the use of renewable and low carbon energy sources? • Increase the understanding of Wales' natural resources in terms of how they function and of the benefits that they provide?	A prosperous Wales A resilient Wales A globally responsible Wales
11. Cultural Heritage: To protect and sustainably manage the historic	• Help to protect and sustainably manage Wales' historic environment (designated and non-designated) including its historic	A prosperous Wales

SA Objective	Guide Questions *Will the draft NRP….*	Well-being Goals
environment including cultural heritage resources, historic buildings and archaeological features.	buildings and monuments, protected wrecks, archaeological features and their settings? • Promote access to Wales' cultural heritage assets? • Help to protect and sustainably manage culturally important sites, features and assets that contribute to a sense of place and belonging? • Promote community cohesion and diversity of culture.	A Wales of vibrant culture and thriving Welsh language
12. Landscape and Seascape: To maintain and enhance Wales' landscape and seascape character.	• Help to maintain and enhance the special qualities of designated landscapes and their settings and non-designated landscapes and seascapes, taking into account the effects of climate change? • Help to maintain and enhance landscape and seascape character and quality? • Help to maximise the benefits and services Wales' landscapes and seascapes provide?	A prosperous Wales A resilient Wales A Wales of cohesive communities A healthier Wales

2.3.3 It should be noted that, whilst the NRP has been appraised against each SA objective in-turn, there are strong linkages and relationships between the SA objectives and the achievement of multiple benefits as part of the SMNR approach. Where there are linkages between the effects of the NRP on the SA objectives or where multiple benefits are found, these are highlighted in the appraisal commentary as appropriate.

2.4 Approach to the Appraisal of the NRP

2.4.1 The SA has not only sought to determine the potential sustainability outcomes associated with the implementation of the NRP during drafting but the appraisal has also identified potential opportunities for enhancement, for example:

- Encouraging the NRP to acknowledge where there are tensions between relevant policy areas with a view to the NRP highlighting the need for these to be avoided and/or addressed; and
- Identifying additional topics or other matters that are considered to be appropriately strategic to be acknowledged in the NRP.

2.4.2 The following activities have been undertaken to test the environmental, social and economic effects of the emerging NRP and describe the contribution that the final NRP will make to the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015:

- Assessing the compatibility of the NRP objectives with the SA objectives;
- Completing a gap analysis of the scope and content of the NRP objectives;
- Appraising the national priorities in the NRP against the SA objectives to identify potential effects;
- Testing the illustrative policies in the NRP against the SA objectives to identify any gaps in the NRP or opportunities to make additional links with the broader policy landscape;
- Completing a gap analysis of the NRP priorities and key priorities from '*Taking Wales Forward*'; and

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- Appraising the priorities in the NRP against the well-being goals in the Well-being of Future Generations (Wales) Act 2015, in order to demonstrate the extent to which the NRP supports the Welsh Government in working towards its legal duties under the Act.

Assessing the Compatibility of the NRP Objectives with the SA Objectives

2.4.3 The final NRP includes a section on key challenges and the need to improve ecosystem resilience. This includes a series of objectives around building ecosystems resilience and improving the conditions of ecosystems (page 10 of the NRP). Whilst these are not explicitly presented as objectives in the final version of the NRP, in earlier iterations they were referred to as such, and in consequence, this element of the appraisal has been retained. A matrix was used to assess the compatibility of the objectives in the draft NRP against the SA objectives. This exercise has been updated to reflect the objectives in the final NRP. **Table 2.3** shows the format of the matrix used to record the appraisal and the results are presented in **Section 3.2** of this report.

Table 2.3 Compatibility Matrix for Testing the NRP Objectives

NRP Objective We need to:	SA Objectives											
	1. Biodiversity, Flora and Fauna	2. Population and Society	3. Economy	4. Human Health	5. Land Use, Geology and Soil	6. Water	7. Flood Risk and Coastal Change	8. Air	9. Climatic Factors	10. Material Assets	11. Cultural Heritage	12. Landscape
1												
2 etc												

2.4.4 For each NRP objective, a decision was made as to whether or not the relationship to each SA objective was:

- Compatible (+);
- Uncertain (?);
- Neutral (0); and
- Incompatible (-).

Gap Analysis of the NRP Objectives

2.4.5 In addition to considering compatibility, the SA objectives were used to provide a gap analysis of the scope and content of the draft NRP objectives. This led to the identification of potential gaps and proposals for revisions to the NRP objectives, as described in **Section 3.3** of this report.

Appraising the NRP National Priorities

2.4.6 The priorities in the final NRP have been appraised against the SA objectives using the matrix shown in **Table 2.4**. The results are reported in **Section 3.4** and **Appendix A** of this report.

Table 2.4 Matrix Used for SA of the NRP Priorities

SA Objective	Score	Commentary
Biodiversity, Flora and Fauna: To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.	++	**Assessment of Effects:** *A description of effects of the priority under consideration has been provided here, with reasoning and justification included.* **Mitigation:** *Measures to offset adverse effects and enhance positive effects have been identified.* **Assumptions:** *Any assumptions that have underpinned the assessment have been highlighted here.* **Uncertainties:** *Uncertainties encountered during the assessment have been noted.*
Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.	+	**Assessment of Effects:** *A description of effects of the priority under consideration has been provided here, with reasoning and justification included.* **Mitigation:** *Measures to offset adverse effects and enhance positive effects have been identified.* **Assumptions:** *Any assumptions that have underpinned the assessment have been highlighted here.* **Uncertainties:** *Uncertainties encountered during the assessment have been noted.*
Etc.		

Score Key:	+ + Significant positive effect	+ Minor positive effect	0 No overall effect	- Minor negative effect	-- Significant negative effect	? Score uncertain

Gap Analysis of Illustrative Policies

2.4.7 A high level gap analysis of an earlier working draft of the NRP was undertaken. This considered the section of the NRP titled '*Delivering through our Policies*'. The work compared the topics in this section of the NRP and their content against the SA objectives in order to determine whether the illustrative coverage could be extended to strengthen the links between the NRP and the wider policy landscape. This work is reported in **Section 3.5** and has been updated to reflect the content of the final NRP.

Gap Analysis of the NRP National Priorities and the 'Taking Wales Forward' Priorities

2.4.8 A gap analysis was also undertaken in relation to the NRP priorities and the '*Taking Wales Forward*' priorities. '*Taking Wales Forward*' is the Welsh Government's Programme for Government and outlines the commitments that the Welsh Government will deliver over the next five years to help drive improvement across all facets of life in Wales.

2.4.9 This analysis provided another perspective on the extent to which the illustrative coverage in the NRP is sufficient to cover the breadth of the NRP objectives and key priorities or whether additional

elements or actions might be needed. This work is reported in **Section 3.6** of this report and has been updated to reflect the content of the final NRP.

Appraising the NRP against the Well-being Goals

2.4.10 The national priorities in the final NRP have been appraised against the well-being goals in the Well-being of Future Generations (Wales) Act 2015 in order to demonstrate the extent to which the NRP will supports the Welsh Government in working towards its legal duties under the Act. The results of the appraisal are presented in **Section 3.7** of this report.

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3. Results of the Appraisal

3.1 Introduction

3.1.1 This section of the report presents the results of the appraisal of the NRP objectives and priorities, drawing on earlier work undertaken in developing the NRP but reflects the content of the final NRP.

3.2 Assessing the Compatibility of the NRP Objectives with the SA Objectives

3.2.1 A matrix has been completed to assess the compatibility of the objectives in the final NRP against the SA objectives. **Table 3.1** presents the results of this compatibility assessment and the findings are discussed below. The full wording of the SA objectives is provided at **Table 2.2**. It is important to read the SA objectives as the compatibility assessment has been undertaken having regard to the scope and content of the SA objectives, for example the SA objective relating to the economy is about "*supporting an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately*", as opposed to a more general objective around achieving economic growth.

3.2.2 The exercise demonstrates the breadth of the NRP objectives, with all of the NRP objectives being identified as having a relationship to all of the SA objectives.

3.2.3 The first NRP objective '*Proactively develop resilient ecological networks to maintain and enhance the wider resilience of Wales' ecosystems'* is considered to be compatible with a range of SA objectives, including those relating to human health (SA Objective 4) and land use, geology and soils (SA Objective 5). Uncertainty is, however, identified in relation to SA Objective 2 'Population' and SA Objective 3 'Economy' on the grounds that, whilst resilient ecological networks can contribute positively to the economy and population through the provision of green infrastructure, there might also be potential for development that could contribute to these SA objectives to be limited or constrained by biodiversity considerations.

3.2.4 Another example of uncertainty around the compatibility of objectives concerns the NRP objective "*to better manage our soil and safeguard our best and most versatile agricultural land to improve soil quality, productive capacity and its resilience to degradation*". Whilst this objective is assessed as being compatible with the majority of the SA objectives, uncertainties are identified in relation to SA Objective 2 'Population' and SA Objective 3 'Economy' because there might be potential for the protection of best and most versatile agricultural land to restrict development at the place level.

3.2.5 The NRP objective relating to waste prevention, reuse and recycling has uncertain impacts on SA Objectives 8 'Air', 11 'Cultural heritage' and 12 'Landscape'. The new development to facilitate the achievement of this NRP objective could have either positive or negative effects at the place level (depending on the nature of a scheme, its proposed location and the quality of the receiving environment), hence the uncertainty identified.

3.2.6 The NRP objective that includes enhanced deployment and uptake of renewable energy has been identified as having uncertain effects in relation to SA Objectives 1 'Biodiversity', 5 'Land use', 8 'Air', 11 'Cultural heritage' and 12 'Landscape'. This is because the new development to facilitate the achievement of this NRP objective could have either positive or negative effects at the place level (depending on the nature and location of proposals).

3.2.7 It should be noted that the uncertainties identified are considered to be consistent with an assessment of this nature and no amendments to the NRP objectives have been suggested in response to the uncertainties.

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Table 3.1 Compatibility Appraisal of the NRP Objectives and SA Objectives

NRP Objective We need to:	SA Objectives											
	1. Biodiversity, Flora and Fauna	2. Population and Society	3. Economy	4. Human Health	5. Land Use, Geology and Soil	6. Water	7. Flood Risk and Coastal Change	8. Air	9. Climatic Factors	10. Material Assets	11. Cultural Heritage	12. Landscape
Proactively develop resilient ecological networks to maintain and enhance the wider resilience of Wales' ecosystems...Reversing this trend, by better managing existing areas and creating new ones will also provide important wider benefits for society.	+	?	?	+	+	+	+	+	+	+	+	+
Reduce the pollution levels in our air and enhance air quality	+	+	+	+	+	0	0	+	+	+	+	+
Improve the quality and ensure the quantity of our water	+	+	+	+	?	+	+	+	+	+	?	?
Support pollinators	+	+	+	+	+	0	0	0	0	+	0	+
Better manage our soil and safeguard our best and most versatile agricultural land to improve soil quality, productive capacity and its resilience to degradation	+	?	?	+	+	+	+	0	+	+	+	+

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NRP Objective We need to:	SA Objectives											
	1. Biodiversity, Flora and Fauna	2. Population and Society	3. Economy	4. Human Health	5. Land Use, Geology and Soil	6. Water	7. Flood Risk and Coastal Change	8. Air	9. Climatic Factors	10. Material Assets	11. Cultural Heritage	12. Landscape
Ensure the good ecological and environmental status of our freshwater and marine ecosystems with healthy populations of fish species, supporting productive fisheries	+	0	+	+	+	+	+	0	+	+	+	+
Manage issues across the land/sea interface, especially marine litter	+	0	+	+	+	+	+	0	0	+	+	+
Improve the management of existing woodlands and look at the more widespread use of trees	+	+	+	+	+	+	+	+	+	+	?	?
Increase waste prevention and promote reuse, recycling and recovery. .	+	+	+	+	+	+	0	?	+	+	?	?
Reduce consumption of non-renewable sources of energy, through improved energy efficiency and enhanced generation and uptake of renewable energy	?	+	+	+	?	+	+	?	+	+	?	?
Adapt to and mitigate climate change	?	+	+	+	+	+	+	+	+	+	?	?
Ensure the sustainable extraction of minerals, maximise the use of recycled aggregates and promote	+	+	+	+	+	+	+	+	+	+	+	+

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NRP Objective We need to:	SA Objectives											
	1. Biodiversity, Flora and Fauna	2. Population and Society	3. Economy	4. Human Health	5. Land Use, Geology and Soil	6. Water	7. Flood Risk and Coastal Change	8. Air	9. Climatic Factors	10. Material Assets	11. Cultural Heritage	12. Landscape
the efficient use of aggregate material												
We also need to continue to improve biosecurity, including in respect to animal health, plant health and invasive non-native species.	+	+	+	+	+	+	0	0	+	+	+	+

Key

+	**Compatible**	?	**Uncertain**
0	**Neutral**	-	**Incompatible**

3.3 Gap Analysis of the NRP Objectives

3.3.1 At an earlier stage of the NRP's development, an emerging draft version of the policy was reviewed against the SA objectives. This exercise provided a structured method for testing the wording of the NRP objectives in order to identify any gaps or other suggested changes to their wording to ensure that they fully reflected the principles of sustainable development.

3.3.2 The gap analysis highlighted the potential for additional objectives relating to flood risk (climate change adaptation), water supply and sustainable mineral extraction. These recommendations have been incorporated into the final version of the NRP.

3.3.3 The need to promote healthy outcomes and to conserve and enhance landscapes were also highlighted as potential additional objectives alongside other potential gaps. Whilst these recommendations have not been incorporated into the final text of the NRP as objectives, it is apparent from the compatibility assessment presented in **Table 3.1** that a number of the NRP objectives will contribute towards either outcome.

3.3.4 An additional objective concerning embedding the concept of nature-based solutions in all plans, programmes and projects in Wales was also suggested. This was not incorporated in the final NRP in order to avoid duplication with the Area Statements, which are seen as the core strategic document to implementing the NRP in a local context.

3.4 Appraising the NRP National Priorities

3.4.1 The NRP includes three national priorities:

- Delivering nature-based solutions;
- Increasing renewable energy and resource efficiency; and
- Taking a place-based approach.

3.4.2 The matrices at **Appendix A** present the SA of the three priorities in the final NRP against the SA objectives. The results are discussed below.

3.4.3 Unsurprisingly, Priority One '*Delivering nature-based solutions*' is seen as making a significant positive contribution to a range of SA objectives, as follows:

- SA Objective 1 'Biodiversity' because the pursuit of nature-based solutions is seen as having synergies with the conservation and enhancement of biodiversity;
- SA Objective 4 'Human health', because the NRP identifies the potential for increasing green infrastructure (including woodland) in and around towns (and access to it) which will provide opportunities to improve physical and mental well-being;
- SA Objective 5 'Land-use, geology and soils', because nature-based solutions could include the restoration of degraded soils and adoption of soil conservation practices. The use of land for multiple benefit is also consistent with the concept of nature-based solutions;
- SA Objective 6 'Flood risk', because the concept of nature-based solutions is compatible with the objective of minimising flood risk; and
- SA Objective 10 'Material assets', because nature-based solutions will contribute to the management of natural resources that can be seen as material assets, including minerals.

3.4.4 The potential for significant positive effects (with some uncertainty) was identified in relation to SA Objective 2 'Population and society' because the significance of the benefit would be dependent on the extent to which solutions (for example, new woodland) were targeted at areas of deprivation.

3.4.5 More broadly, uncertainties around the location, scale and pace at which nature-based solutions would come forward has been highlighted in the SA. The SA also recognises that Area Statements

will provide the evidence base to inform local and strategic development plans and that they could identify opportunities to achieve nature-based solutions; however, Area Statements will take time to come forward, being due for publication in Dec 2019.

3.4.6 The SA of Priority Two '*Increasing renewable energy and resource efficiency,*' highlighted the following:

- Uncertain effects, for example in relation to 'Biodiversity' (SA Objective 1), 'Air' (SA Objective 8) and 'Cultural heritage' (SA Objective 11), because, in common with any other form of development, the inappropriate siting of renewable energy schemes can have an adverse effect on environmental interests;
- Significant positive effects in relation to SA Objective 2 'Population and society' because of the potential for the existing dwelling stock to be made more energy efficient and for new affordable homes to incorporate sustainable design and construction principles, both actions that could be pursued under this priority;
- Significant positive effects in relation to 'Economy' (SA Objective 3), because of the potential for employment generation and investment associated with renewable energy development and moving to a circular economy; and
- Significant positive effects in relation to 'Climatic factors' (SA Objective 9) given the role of renewable energy and the circular economy in contributing towards mitigating climate change.

3.4.7 A number of significant positive effects were identified in relation to Priority Three '*Taking a place-based approach'* and the potential for synergies with adopting nature-based solutions (Priority One) were also identified. The role of Area Statements will be critical to realising such opportunities.

3.4.8 The potential for significant positive effects were identified in relation to:

- SA Objective 1 'Biodiversity', as it is assumed that the place-based approach will be used to promote the nature-based approach;
- SA Objective 2 'Population and society', although the significance of the benefit would be dependent on the extent to which solutions were targeted at areas of deprivation, hence some uncertainty is also identified;
- SA Objective 3 'Human health', linked to the provision of green infrastructure;
- SA Objective 4 'Land use geology and soils, linked to restoration of degraded soils and adoption of soil conservation practices;
- SA Objective 7 'Flood risk and coastal change', as place/nature-based solutions can have a role in helping to manage flood risk at the local level.

3.4.9 Where uncertainties have been identified, these relate to the extent to which projects associated with the implementation of the NRP would be targeted at areas that would benefit most and also the timescales over which projects would come forward.

3.5 Gap Analysis of Illustrative Policies

3.5.1 As described in **Section 2.4** of this report, a high level gap analysis was undertaken on an earlier working draft of the NRP. The analysis compared the topics in the section entitled '*Delivering through our policies*' of the NRP and their content against the SA objectives.

3.5.2 Overall, the analysis concluded that all of the SA objectives appeared to relate to one or more of the topics covered in this section of the working draft NRP. No gaps in the NRP were therefore identified on this basis.

3.5.3 It was concluded that the NRP makes the link with the built environment through the land-use planning system but this will largely be in the context of new development (whether it be on greenfield land or through the use of previously developed land and buildings). A conclusion from

this analysis was that the NRP could also include a commitment to retrofit nature-based solutions into the existing built environment as a cross-cutting theme; this could be both at the neighbourhood and building scale. Area Statements could be tasked with identifying opportunities to achieve this, where they would not be identified through other plans and programmes.

3.5.4 Although the NRP does not have an objective relating to landscape and the historic environment, the section on 'Delivering through our Policies' does include a section on landscape and the historic environment and the link with Area Statements. It highlights the on-going work at the national level, including the Future Landscape Wales review process and measures introduced by the Historic Environment (Wales) Act 2016.

3.5.5 Some detailed recommendations on the scope of the illustrative policies were made and **Table 3.2** updates the gap analysis based on the content of the final NRP, indicating whether or not earlier recommendations were reflected in the final NRP.

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Table 3.2 Gap Analysis of Illustrative Policies

NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
Economic Policy	This section identifies the linkages with economic policy. The Welsh Government will support businesses to improve their resource efficiency and, in doing so, improve the competitiveness and resilience of the economy.	3. Economy 5. Land Use, Geology and Soil 9. Climatic Factors 10. Material Assets	This section was not in the version of the NRP that the gap analysis was undertaken on.	The linkages with national economic policy are essential to delivery of the NRP's priorities.
Renewable Energy	This section highlights that Wales' natural resources provide an abundance of opportunities for a low carbon economy and the need to manage them wisely in a way that enhances natural resources and ecosystems. It then outlines the direction of policy aimed at increasing the contribution that renewable energy makes to meeting future energy requirements.	3. Economy 9. Climatic Factors 10. Material Assets	The section on renewable energy sets out actions to increase the contribution of renewable energy to meeting Wales' future energy needs. **It was previously suggested that the section could be amended to highlight the need to avoid/mitigate potential effects associated with the deployment of renewable energy and the opportunities for nature-based solutions. This amendment would ensure that the text for this topic would then be consistent with the sections on agriculture and food, and water and flooding**. The SA of the equivalent NRP Priority highlights potential effects for relevant SA objectives. The section also provides an opportunity to identify opportunities for enhancement of the natural environment associated with renewable energy schemes, for example, through ecologically sensitive design of sea walls associated with tidal lagoons and improvements to biodiversity in proximity to solar farms.	The suggested additions were not incorporated in the final NRP. However, the final version of the NRP does identify that Area Statements, the National Development Framework and Local Development Plans will provide evidence to identify locations where particular energy solutions might be appropriate.
Resource Efficiency	This section sets out the intention to identify a route map for a more resource efficient circular economy, building on success in recycling and taking forward the Welsh Government's aim to be the best in the world. It also identifies the intention to develop a circular economy package for investment in economic opportunities. It identifies the need to build on opportunities for green	3. Economy 5. Land Use, Geology and Soil 6. Water 9. Climatic Factors 10. Material Assets	**It was previously suggested that this section could be amended to highlight the need to reduce Wales' ecological footprint.** The circular economy provides the direction of travel but the concept of ecological footprinting provides a goal in terms of the target.	The suggested addition was not incorporated in the final NRP.

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NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
	growth outlined in the Waste Prevention Programme. The intention to work with SMART Cymru to embed resource efficiency within its programme of innovation support to SMEs is noted. The intention to use public procurement to identify collaborative opportunities for resource efficient manufacturing in Wales (including remanufacturing).			
A National Infrastructure Commission for Wales (NIFCfW)	The NRP sets out the intention to establish the NIFCfW to advise on significant projects and for the NIFCfW to take account of the Welsh Ministers Duties under the Environment (Wales) Act 2016.	Given the scope of the Commission and the projects it could be advising on, all SA objectives are considered to be relevant.	The intention to ensure that the NIFCfW's remit includes reference to the Welsh Ministers' duties under relevant legislation is supported. It will also be important to ensure that proposals for infrastructure are developed with this legislation in mind from the outset and this will need to be reflected in relevant policy and guidance, including any specific guidance on Developments of National Significance. **It was suggested that consideration could be given within this section to include blue green infrastructure within the remit of NIFCfW** (elevating its importance and its role in contributing towards ecosystem resilience).	The NRP confirms that the body will analyse economic and environmental infrastructure needs and take into account the relationship with social infrastructure.
Regulatory Reform	The NRP sets out the intention to reform legislation as it relates to natural resources to ensure that it contributes to the objectives of the NRP.	Given the scope of existing regulation, all SA objectives are considered to be relevant.	**It was suggested that this section could be amended to include reference to the support and widespread use of Natural Capital and Ecosystem Services as examples of innovative methods to encourage and incentivise private sector funding and investment to contribute to ecosystem resilience.**	The NRP references Ecosystem Services as an innovative mechanism for funding additional actions.
Agriculture and Food	The NRP identifies the need to increase the opportunities available to farmers for commercial payments for the wider services farms can provide but also highlights the impacts that farming and the food sector can have on natural resources and the need to avoid / mitigate these impacts.	1. Biodiversity, Flora and Fauna 2. Population and Society 3. Economy 4. Human Health 5. Land Use, Geology and Soil 6. Water	**It was suggested that this section could be amended to highlight that an estimated 400,000 tonnes of food is wasted every year by households in Wales and the opportunity for anaerobic digestion of food waste, which also provides the opportunity for diversification of farms.**	The NRP makes reference to anaerobic digestion as an opportunity for diversification.

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NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
		9. Climatic factors		
Animal Health and Welfare	The NRP identifies priorities associated with animal health and welfare and the benefits this can bring, including improvements to water and soil quality.	2. Population and Society 3. Economy 5. Land Use Geology and Soils 6. Water	No additional comments were made on the draft NRP.	No additional comments.
Trees and Woodland	The NRP sets out measures to increase tree cover and woodlands, recognising the wider benefits that it brings, together with the need to protect existing woodlands, trees and hedgerows.	1. Biodiversity, Flora and Fauna 3. Economy 5. Land Use Geology and Soil 10. Material Assets 12. Landscape and Seascape	Appropriately located trees and woodland can play a role in improving air quality. This is acknowledged in the section of the NRP on Local Environmental Quality and Community Wellbeing.	No additional comments.
Water and Flooding	The NRP identifies opportunities for nature – based solutions to water management and flood risk.	1. Biodiversity, Flora and Fauna 2. Population and Society 4. Human Health 6. Water 7. Flood Risk and Coastal Change 9. Climatic Factors 10. Material Assets 12. Landscape and Seascape	This section could be amended to highlight the role of lower tier plans in helping to secure nature-based solutions, including Water Resources Management Plans, Drought Plans, Flood Risk Management Plans and associated guidance. There are over 1,300 metal mine sites in Wales. Metal mine pollution affects many rivers across Wales, due to Zinc, Lead and Cadmium discharges. Nine of the ten worst metal mine polluted catchments in the UK are in Wales, with 700km of river affected. **It was suggested that this section could be amended to include the role of nature-based solutions in tackling this legacy,** e.g. a pilot scale mine-water treatment system at Cwm Rheidol uses a combination of manure and cockle shells to aid in the precipitation and removal of the metals from mine water. The role of passive treatment systems could be highlighted in the NRP.	The suggested additions were not incorporated in the final NRP.

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NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
The Common Agricultural Policy (CAP)	The NRP highlights that the CAP will need to be replaced. It identifies the opportunity that the replacement of CAP provides to develop a more strategic approach and integrated package of investment and land based support which puts land managers at the heart of a sustainable and vibrant rural economy. The opportunity to reward land managers for the ecosystem services they provide is highlighted, including carbon storage and clean water provision.	2. Population and Society 3. Economy 6. Water 9. Climatic Factors	The NRP will inform and direct the design and delivery of the package of measures that will replace CAP. **It was previously suggested that this section could be amended to include reference to Natural Capital and Ecosystem Services with the potential to also include the currently missing text on PES** (as an expansion to the market based mechanisms). In designing the package of measures there will be an opportunity to ensure that wider objectives in the NRP are achieved.	The NRP references the potential role of the Ecosystem Services approach in achieving broader objectives in the sector.
Tourism	The NRP highlights the importance of tourism to the economy and the importance of the environment for outdoor activities. The need to take full account of the major asset represented by Wales's natural environment and how to use its characteristics for growing tourism sustainably are highlighted.	2. Population and Society 3. Economy 5. Land Use Geology and Soils 12. Landscape and Seascape	**It was previously suggested that this section could be amended to highlight some of the impacts of the tourism sector, including its carbon footprint and the opportunities to adopt nature-based solutions to address these impacts**. **It was also suggested that the text could acknowledge the role of Natura 2000 sites in the tourism sector and the need to ensure that activity does not adversely affect their integrity. The opportunity for tourism revenue to help manage and enhance such sites was also highlighted.** **It was noted that 20% of tourism expenditure can be attributed to the historic environment and therefore it was suggested that the section could highlight built heritage and the historic landscape as tourism assets.**	The suggested additions were not incorporated in the final NRP.
Local Environmental Quality and Community Wellbeing	The role of nature-based solutions in tackling health and community issues is highlighted in this section. A series of actions to promote nature-based solutions are set out, including investment in green infrastructure.	2. Population and Society 4. Human Health 6. Water 8. Air	**It was suggested that the opportunity to provide green infrastructure that provides multiple benefits could be highlighted (for example, in relation to biodiversity and climate change (cooling and shading).**	The NRP incorporates this suggestion.
Landscapes and Our Historic Environment	This section of the NRP highlights the role the Future Landscape Wales review process provides for future policy development. The need to align future policy	11. Cultural Heritage 12. Landscape and Seascape	**It was suggested that the role of nature-based solutions in managing the landscape could be highlighted in this section.**	The NRP incorporates this suggestion.

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NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
	with the new framework set by the Environment (Wales) Act 2016 and Well-being of Future Generations (Wales) Act 2015 are identified. The Historic Environment (Wales) Act 2016 is also important in setting the context for future policy.			
Fisheries and Marine	This section of the NRP covers a range of topics, from the role of the marine environment in supporting the economy and coastal communities, to the need to restore and manage inland and marine ecosystems. The links to the Welsh National Marine Plan and legislation are highlighted.	1. Biodiversity 2. Population and Society 3. Economy 6. Water 9. Climatic Factors 12. Landscape and Seascape	This section covers a broad range of topics. It highlights the need for the coastal and marine environment to be managed in ways that provide multiple benefits. **It was suggested that, consistent with other sections (e.g. on agriculture and food), the section could identify some of the potential effects associated with development and the opportunity for nature-based solutions.**	The suggested additions were not incorporated in the final NRP.
Transport	This section signposts the Wales National Transport Strategy and Finance Plan, the need to achieve modal shift and actions to enhance the resilience of ecosystems and restore biodiversity.	1. Biodiversity 8. Air 9. Climatic Factors 10, Material Assets	This section identifies the potential for the highway estate to contribute towards ecosystems and biodiversity, which is supported. **It was suggested that this section could also identify the opportunity for the highway estate to contribute to other objectives (for example, in relation to flood risk and water quality (associated with surface water runoff). The importance of integrating nature-based solutions in the planning and development of new transport related infrastructure could also be highlighted.** **It was also suggested that reference could be made to the aviation sector and the need to manage its environmental impacts. Similarly, the role of inland waters in relation to transport / tourism could be acknowledged.**	Reference to water and flood management has been included in the final NRP. The reference to the use of nature-based solutions in the sector has been incorporated. No references to the aviation sector have been made in the final NRP.
The Land-use Planning System	This section of the NRP identifies relevant legislation and national policy. The future role of Area Statements and their relationship to Local Development Plans is identified.	Given the scope of existing legislation/policy in relation to the land use planning system, all SA objectives are considered to be relevant.	This section of the NRP focusses on policy linkages at the national level and lower tier plans. **It was suggested that, consistent with other sections in this part of the NRP, the section could highlight some of the key challenges associated with new built development,** for example, loss of resources, including best and most versatile agricultural land, resource use (associated with construction and operational phases of development) and the role of nature-based solutions in tacking these problems.	The suggested addition was not incorporated in the final NRP.

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NRP 'Delivering through our policies' topic	Scope	SA Objective (s)	Commentary from SA of Draft NRP (if applicable)	Comments on the Final NRP
Education	This section of the NRP identifies the opportunity for the Welsh Government to promote environmental awareness and more considered future decision making.	All objectives are considered to be relevant.	This is a new section in the NRP. A recommendation from another exercise undertaken as part of the SA of the draft NRP was that it could reference Education for Sustainable Development and Global Citizenship.	The recommendation has been included in the final NRP.

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3.6 Gap Analysis of the NRP National Priorities and the 'Taking Wales Forward' Priorities

3.6.1 A gap analysis was also undertaken in relation to the NRP national priorities and the '*Taking Wales Forward*' priorities. This analysis provided another perspective on the extent to which the illustrative coverage in the emerging NRP was sufficient to cover the breadth of the Taking Wales Forward priorities or whether additional elements or actions might be needed.

3.6.2 When the appraisal was undertaken on a draft of the NRP, of the four '*Taking Wales Forward*' priorities, three were considered to be supported by the NRP priorities, the fourth '*Ambitious and learning'* was not explicitly supported. It was noted that there is a link to this goal through the concept of Education for Sustainable Development and Global Citizenship. The final NRP includes a section on this and also identifies other linkages with the education sector.

3.6.3 In appraising earlier drafts of the NRP, it was also concluded that the section on Agriculture and Food could highlight the role of urban agriculture in helping to contribute to the 'Healthy and Active' and the 'United and Connected' national priority. The final NRP has not been amended to reflect this suggestion.

3.6.4 **Table 3.3** below updates this exercise to reflect the content of the final NRP. It demonstrates that the priorities in the final NRP support all of the four national priorities from '*Taking Wales Forward*'. Key points from the table are:

- Priority One of the NRP (Delivering nature-based solutions) will contribute to the national priority of '*Prosperous and secure'* by helping to create resilient ecosystems that contribute to favourable conditions for economic activity. The measures set out in the NRP under this priority will also help ensure that ecosystems are resilient to climate change, providing a long term contribution towards this objective. The potential to develop ecosystem services within the economy will also contribute towards this objective.
- The drive towards a circular economy and efficiency in the use of resources (Priority Two of the NRP) could provide opportunities for links between education and industry, consistent with the achievement of the national priority of '*Ambitious and learning.*'; and
- Taking a place-based approach (Priority Three of the NRP) could help achieve many of the key themes identified under the national priority of '*Prosperous and secure.'* If employment arising from schemes is targeted it could contribute to improved skills and experience for the local workforce, contribute to a prosperous future for Welsh agriculture and support community-led projects.

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Table 3.3 Gap Analysis of the NRP Priorities and the 'Taking Wales Forward' Priorities

NRP National Priorities	Scope	Relevant National Priorities from '*Taking Wales Forward*'	Commentary
Delivering Nature – Based Solutions	• Support the development of resilient ecological networks to maintain and enhance the resilience of Wales' ecosystems. • Support climate change adaptation and mitigation, and flood risk management. • Improve infrastructure, such as green infrastructure and water treatment systems, for example sustainable urban drainage, swales and reed beds. • Improve land and water management such as integrated coastal zone management and adaptation, integrated water resources management, natural flood management, better soil management for carbon storage and sequestration, water quality and continued productivity, for example peat bog management, streamside corridors and strategic hedge planting on farms.	Prosperous and secure Healthy and active Ambitious and learning United and connected	Delivering nature-based solutions will contribute to the national priority of '*Prosperous and secure'* by helping to create resilient ecosystems that contribute to favourable conditions for economic activity. The measures set out in the NRP under this priority will also help ensure that ecosystems are resilient to climate change, providing a long term contribution towards this objective. The potential to develop ecosystem services within the economy will also contribute towards this objective. Improvements to green infrastructure will contribute towards the national priority of '*Healthy and active*'. Whilst not covered explicitly under this priority, the NRP makes links with Education for Sustainable Development and Global Citizenship (ESDGC). Promoting the concept of nature-based solutions will therefore contribute towards the achievement of the national priority of '*Ambitious and learning*'. The nature-based solutions approach could also contribute to the national priority of '*United and connected*'. Combined with the place-based approach, nature-based solutions could provide opportunities for volunteering and the third sector to deliver and manage solutions locally. Improving land and water management will lead to more resilient infrastructure, helping to maintain connectivity, also contributing to this objective.
Increasing Renewable Energy and Resource Efficiency	• As well as looking at the ways in which we manage our land and seas, we also need to look at how we can manage our natural resources more efficiently. • Reduce the pressures that face our natural resources and also provide new jobs and market opportunities, and reduce operating costs and exposure to market volatility. • Build on our success on renewable energy and recycling. Developing a more resource efficient economy has a crucial role to play in green growth. • Moving towards a more circular economy in Wales, where raw materials are kept in productive use for longer is already reducing the demand for material. • Reduce our impact on our natural resources whilst providing opportunities for jobs and sustainable economic growth and helping address risks to long-term supply chain security.	Prosperous and secure Healthy and active Ambitious and learning United and connected	This priority will include providing for opportunities for jobs and sustainable economic growth and helping address risks to long-term supply chain security. This will contribute to the national priority of '*Prosperous and secure'.* This NRP priority could contribute to the national priority of *'Healthy and active*' through the continued pursuit of measures to improve the energy efficiency of the existing dwelling stock. Improved energy efficiency measures, combined with appropriate ventilation, could help reduce fuel poverty and improve health by reducing exposure to the cold and air pollution. The drive towards a circular economy and efficiency in the use of resources could provide opportunities for links between education and industry, consistent with the achievement of the national priority of '*Ambitious and learning*'. The drive towards a circular economy and efficiency could provide opportunities for international cooperation in research, investment and trade opportunities consistent with the national priority of '*United and connected*'.

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NRP National Priorities	Scope	Relevant National Priorities from '*Taking Wales Forward*'	Commentary
Taking a Place-based Approach	• A fundamental aspect of our approach to managing natural resources sustainably is our focus on collaborative working to deliver better results at a local level. • Communities are best placed to shape and understand local priorities and opportunities and to find practical solutions that bring the widest possible benefits. • Ensure that local people benefit fully from the natural resources in their locality. • Enable collaboration at the right scale (be that site, regional, catchment landscape or ecosystem) and the right locations. Area Statements will play a key role in identifying local opportunities and constraints linked to the national priorities.	Prosperous and secure Healthy and active Ambitious and learning United and connected	Taking a place-based approach could help achieve many of the key themes identified under the national priority of '*Prosperous and secure'.* If employment arising from schemes is targeted, it could contribute to improved skills and experience for the local workforce, contribute to a prosperous future for Welsh agriculture and support community-led projects. Taking Wales Forward recognises the link between mental health and employment and if the place-based approach includes targeted employment then this could contribute to the national priority of *'Healthy and active*'. Place-based initiatives that provide training and employment would also be consistent with the achievement of the national priority of '*Ambitious and learning*'. Ensuring that local people benefit from the natural resources in their locality is consistent with the national priority of '*United and connected*'. There may also be potential to manage place-based responses as community assets consistent with the aims of the national priority.

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3.7 Appraising the NRP against the Well-being Goals

3.7.1 The national priorities set out in the final NRP have been appraised against the well-being goals established in the Well-being of Future Generations (Wales) Act 2015. The well-being goals are outlined in **Table 3.4**. The results of the appraisal are contained in **Table 3.5**.

Table 3.4 The Well-being Goals from the Well-being of Future Generations (Wales) Act 2015

Goal	Description
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.

3.7.2 The analysis presented in **Table 3.5** highlights that the NRP's priorities could make a significant contribution to the well-being goals. The extent of the contribution will depend on the nature and location of development but also considerations around how projects are implemented.

3.7.3 A direct relationship is apparent between the NRP's priorities and the following well-being goals:

- '*A prosperous Wales*' – movement towards a circular and de-carbonised economy, whilst optimising employment are consistent with this goal;
- '*A resilient Wales*' – the creation of resilient ecosystems and nature-based solutions to adapt to climate change will contribute to this goal;
- '*A Wales of cohesive communities*' – nature-based and place-based solutions that deliver wider environmental benefits and deliver resilient infrastructure could contribute towards communities that are attractive, viable, safe and well-connected; and
- '*A Globally responsible Wales*' – seeking nature-based solutions at the appropriate level and seeking to increase resource efficiency are consistent with this goal.

3.7.4 The NRP priorities will also provide the opportunity to contribute to the following well-being goals:

- '*A healthier Wales*' – for example, improving energy efficiency in the existing dwelling stock could have broader health benefits;
- '*A more equal Wales'* - nature-based and place-based solutions could contribute towards this goal if projects are targeted, for example, any employment or other community involvement (including management); and
- '*A Wales of vibrant culture and thriving Welsh language* - the contribution to this well-being goal would depend on the extent to which implementing organisations are bound by the Welsh

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Language (Wales) Measure 2011 and the extent to which they would promote and develop the use of Welsh and encourage good bilingual practice.

3.7.5 On the basis of the above, it is concluded that the NRP will assist the Welsh Government in demonstrating that it is working towards its legal duties under the Well-being of Future Generations (Wales) Act 2015.

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Table 3.5 The NRP Priorities and the Well-being Goals

NRP National Priorities	Scope	Relevant Well-being Goals	Commentary
Delivering Nature – Based Solutions	• Support the development of resilient ecological networks to maintain and enhance the resilience of Wales' ecosystems. • Support climate change adaptation and mitigation, and flood risk management. • Improve infrastructure, such as green infrastructure and water treatment systems, for example sustainable urban drainage, swales and reed beds. • Improve land and water management such as integrated coastal zone management and adaptation, integrated water resources management, natural flood management, better soil management for carbon storage and sequestration, water quality and continued productivity, for example peat bog management, streamside corridors and strategic hedge planting on farms.	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	Delivering nature-based solutions will contribute to the national goal of '*A prosperous Wales'* by helping to create resilient ecosystems that contribute to favourable conditions for economic activity. The measures set out in the NRP under this priority will also help ensure that ecosystems are resilient to climate change, providing a long term contribution towards this goal. The potential to develop ecosystem services within the economy may also support this goal. Supporting the development of resilient ecological networks to maintain and enhance the resilience of Wales' ecosystems will work towards the achievement of the national goal of '*A resilient Wales*'. Improvements to green infrastructure will contribute towards the national goal of '*A healthier Wales*'. The NRP identifies the opportunity for health trails, green gyms and tranquillity. Nature-based solutions, combined with the place-based approach could provide the opportunity to achieve the national goal of '*A more equal Wales',* for example, by targeting projects to areas of deprivation and ensuring that people benefit in the long term from enhanced infrastructure but also involving local people in delivering schemes to enhance skills and employment prospects. Using nature-based solutions to tackle existing problems of pollution, flood risk and infrastructure capacity/resilience will contribute to attractive, viable, safe and well connected communities, consistent with the national goal of '*A Wales of cohesive communities'*. NRW will have a key role in the design and delivery of nature-based solutions and Area Statements. NRW is subject to the Welsh Language (Wales) Measure 2011 and has a Welsh Language Standards Policy. Nature-based solutions could provide the opportunity to seek out opportunities to promote and develop the use of Welsh through the production of Area Statements and design and implementation of projects. This will help to achieve the national goal of '*A Wales of vibrant culture and thriving Welsh language*'. The pursuit of nature-based solutions to tackle issues like climate change mitigation and develop specific measures like carbon storage and sequestration will contribute to the national goal of '*A globally responsible Wales*'.
Increasing Renewable Energy and Resource Efficiency	• As well as looking at the ways in which we manage our land and seas, we also need to look at how we can manage our natural resources more efficiently. • Reduce the pressures that face our natural resources and also provide new jobs and market opportunities, and reduce operating costs and exposure to market volatility. • Build on our success on renewable energy and recycling. Developing a more resource efficient economy has a crucial role to play in green growth.	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	This priority will include providing for opportunities for jobs and sustainable economic growth and helping address risks to long-term supply chain security and will contribute to a low carbon society. This will support the national goal of '*A prosperous Wales*'. Increasing renewable energy and resource efficiency will be central to achieving the national goal of '*A resilient Wales'.* Increasing renewable energy will require careful consideration of individual renewable energy schemes to avoid inappropriate siting that could have an effect on the environmental interests that support resilience. This NRP priority could contribute to the national goal of *'A healthier Wales*' by the continued pursuit of measures to improve the energy efficiency of the existing dwelling stock. Improved energy efficiency measures, combined with appropriate ventilation, could help reduce fuel poverty and improve health by reducing exposure to the cold and air pollution.

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NRP National Priorities	Scope	Relevant Well-being Goals	Commentary
	• Moving towards a more circular economy in Wales, where raw materials are kept in productive use for longer is already reducing the demand for material. • Reduce our impact on our natural resources whilst providing opportunities for jobs and sustainable economic growth and helping address risks to long-term supply chain security.	A globally responsible Wales	Moving towards a circular economy and increased use of renewables will provide opportunities for employment. This priority could therefore contribute to the national goal of '*A more equal Wales*'. In implementing this priority, links will need to be made with education and training providers within Wales to optimise outcomes. Increasing renewable energy and resource efficiency could contribute to communities that are attractive by reducing the long term need for land-fill. There is also an opportunity to promote local renewable energy schemes that could provide environmental improvements. This could contribute to the goal of '*A Wales of cohesive communities*' (which includes making communities more attractive) but the linkage between the NRP Priority and this national goal is perhaps not as strong as the relationship with others. Increasing renewable energy and resource efficiency could contribute to the national goal of '*A Wales of vibrant culture and thriving Welsh language*' but it would depend on how projects were implemented and the extent to which organisations like the Carbon Trust Wales and Energy Saving Trust etc. need to have regard to the Welsh Language (Wales) Measure 2011 or implement voluntary schemes. The drive towards a circular economy and efficiency could provide opportunities for international cooperation in research, investment and trade opportunities consistent with the national priority of '*A globally responsible Wales*'.
Taking a Place-based Approach	• A fundamental aspect of our approach to managing natural resources sustainably is our focus on collaborative working to deliver better results at a local level. • Communities are best placed to shape and understand local priorities and opportunities and to find practical solutions that bring the widest possible benefits. • Ensure that local people benefit fully from the natural resources in their locality. • Enable collaboration at the right scale (be that site, regional, catchment landscape or ecosystem) and the right locations. Area Statements will play a key role in identifying local opportunities and constraints linked to the national priorities.	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	Taking a place-based approach could help achieve many of the key themes identified under the goal of '*A prosperous Wales'.* If employment arising from schemes is targeted it could contribute to improved skills and experience for the local workforce, contribute to a prosperous future for Welsh agriculture and support community-led projects. Taking a place-based approach to identify local issues and solutions will contribute the national goal of '*A resilient Wales*'. The place-based approach will be fundamental to achieving biodiverse natural environments with healthy functioning ecosystems that support social, economic and ecological resilience and have the capacity to adapt to change in line with this goal. Taking Wales Forward recognises the link between mental health and employment and if the place-based approach includes targeted employment then this could contribute to the national goal of '*A healthier Wales*'. Place-based initiatives that provide training and employment would also be consistent with the achievement of the national priority of '*A more equal Wales*'. The principle of ensuring that local people benefit from the natural resources in their locality is also consistent with this goal. Taking a place-based approach is also consistent with the national goal of achieving '*A Wales of cohesive communities*'. As with the other priorities, taking a place-based approach provides the opportunity to contribute to the national goal of '*A Wales of vibrant culture and thriving Welsh language*'. This is perhaps the priority where the linkage is strongest. As noted earlier, NRW is subject to the Welsh Language (Wales) Measure 2011 and has a Welsh Language Standards Policy. The contribution to this goal would depend on the geographical scale of 'the place' and the extent to which this corresponds with areas where the Welsh language is spoken. The priority recognises that the appropriate 'place' to tackle an issue will vary and could therefore be geographically extensive, possibly trans-boundary. In any event, it will be important to consider potential impacts beyond the local level (for example, the benefits

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NRP National Priorities	Scope	Relevant Well-being Goals	Commentary
			associated with managing peatland and carbon sequestration). There is therefore the potential for this priority to contribute to the goal of '*A globally responsible Wales*'.

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3.8 Implementing the NRP

3.8.1 Recommendations arising from the SA of the NRP highlight that:

- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the plan making process, rather than draft plans being checked for compatibility with the NRP at the end of the plan development process, near publication;
- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the development of projects, rather than projects being checked for compatibility with the NRP towards completion;
- A checklist with associated guidance could be provided for plan makers to help them integrate the NRP objectives and priorities into their plans and to also enable them to demonstrate that they will contribute to the objectives and priorities of the NRP.

3.8.2 These recommendations could be addressed by NRW in collaboration with other parties through the development and direction contained in the emerging Area Statements.

3.9 Monitoring

3.9.1 The NRP states:

"We will develop an evaluation framework to demonstrate the extent to which we deliver our priorities in the NRP, supported by performance measures aligned to those in the suite of 'National Indicators for Wales."

3.9.2 Aligning the NRP's performance measures with those in the suite of 'National Indicators for Wales' should provide a firm basis for monitoring the implementation of the policy. A scoping exercise undertaken as part of this SA has demonstrated a good synergy between the national indicators and elements of the NRP in terms of monitoring outcomes. Using existing indicators will enable monitoring to be undertaken on a cost effective basis and provide some surety in terms of the long term availability of data, thereby enabling progress to be monitored on a consistent basis over time.

3.9.3 Monitoring actions/behaviours, i.e. the extent to which organisations adopt the principles of the NRP in their projects, plans and programmes, may require a different suite of indicators.

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4. Conclusions

4.1 How has the SA influenced the NRP?

4.1.1 The SA has been an iterative process based on an appraisal of drafts and the final version of the NRP. The SA has:

- Helped to inform the development of the NRP objectives and priorities as well as identify opportunities for SMNR;
- Ensured integration of socio-economic and environmental considerations within the NRP from the outset by identifying positive and negative sustainability effects, supporting an iterative process of policy development;
- Demonstrated whether the NRP contributes to achieving SMNR and the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015;
- Helped enhance the positive effects of the NRP and minimise, mitigate or offset negative effects;
- Helped to shape proposals for monitoring outcomes associated with the NRP (please note that this work will be reported separately); and
- Aided transparency and stakeholder engagement.

4.1.2 Given the nature of the NRP and the topics it covers, the SA has not identified the potential for significant negative effects associated with the implementation of the policy. It has, however, identified some gaps (for example, in relation to flood risk (climate change adaptation), water supply and sustainable mineral extraction) and associated recommendations. These recommendations have then been incorporated into the final version of the NRP. The suggestions not taken forward for inclusion in the final text of the NRP related to proposals to provide further clarity on challenges and opportunities. Their absence is not considered material to the national priorities of the NRP.

4.2 Key Findings from the SA of the NRP

4.2.1 The key findings from the SA of the NRP are as follows:

- All of the NRP objectives are identified as having a positive relationship with all of the SA objectives. Although some uncertainties in compatibility between the NRP objectives and SA objectives are identified during the assessment, these are considered to be consistent with an exercise of this nature and no amendments to the NRP objectives have been suggested in response to the uncertainties.
- An additional objective related to embedding the concept of nature-based solutions in all plans, programmes and projects in Wales was suggested from the gap analysis of the draft NRP objectives and the SA objectives. This was not incorporated in the final NRP in order to avoid duplication with the Area Statements, which are seen as the core strategic document to managing natural resources sustainably and collaboratively at the local level.
- The SA of the priorities in the final NRP highlights the potential for significant positive effects through the use of nature-based solutions. Where uncertainties are identified in the SA, these relate to the extent to which projects resulting from the NRP's implementation would be targeted at areas that would benefit most and also the timescales over which projects would come forward.

- A high level gap analysis undertaken on an earlier working draft of the NRP comparing the topics in the section entitled 'Delivering through our policies' of the NRP and their content against the SA objectives did not identify any significant gaps.
- A gap analysis undertaken in relation to the SA objectives and key priorities from '*Taking Wales Forward'* concluded that all of the SA objectives appeared to relate to one or more of the topics covered in Section 4 of the working draft NRP. No gaps in the NRP were therefore identified on this basis. An updated exercise demonstrates that the key priorities in the final NRP support all four national priorities from '*Taking Wales Forward*'; and
- The NRP will support delivery of the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015 and assist the Welsh Government in demonstrating that it is meeting its legal duties under the Act.

4.2.2 Area Statements will be developed by NRW for appropriate areas of Wales to facilitate the implementation of the NRP in a local context. In consequence, it will be important to ensure that the objectives and priorities of the NRP are embedded in plan making, decision making and project development processes in the areas covered by the Area Statements. The SA has highlighted that to support NRP implementation and integration with lower tier plans and projects:

- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the plan making process, rather than draft plans being checked for compatibility with the NRP at the end of the plan development process, near publication;
- Appropriate processes need to be in place to ensure that the objectives and priorities of the NRP are embedded in the development of projects, rather than projects being checked for compatibility with the NRP towards completion; and
- A checklist with associated guidance could be provided for plan makers to help them integrate the NRP objectives and priorities into their plans and to also enable them to demonstrate that they will contribute to the objectives and priorities of the NRP.

4.2.3 These recommendations could be addressed by NRW in collaboration with other parties through the development and direction contained in the emerging Area Statements. To support this, it is recommended that the results of this report are shared with relevant teams within NRW and consideration is given to wider engagement with other interested parties.

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Appendix A
Appraisal Matrices for the Priorities

Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
SA Objective	**Score**	**Commentary**
1. Biodiversity, Flora and Fauna: To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.	+ +	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. The final NRP identifies opportunities to increase green infrastructure in and around urban areas, restore uplands, increase canopy cover and woodland and improve water quality, all of which will maintain and enhance biodiversity. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans. It is assumed that nature-based solutions would be compatible with the SA objective of maintaining and enhancing a biodiverse natural environment with healthy functioning ecosystems. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
2. Population and Society: Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.	++/?	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective, for example the delivery of green infrastructure in and around urban areas, however uncertainty is identified because the significance of the benefit would be dependent on the extent to which solutions were targeted at areas of deprivation. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans and could provide the basis for identifying opportunities to achieve nature-based solutions that also have wider benefits to areas of existing deprivation.

Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
		Uncertainties: There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward and the extent to which they would benefit areas of existing deprivation.
3. Economy: To support an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately.	+	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for synergies with this objective in relation to supporting the transition to a low carbon economy and developing markets for, and generating income from, ecosystem services. **Mitigation:** None identified **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans and could provide the basis for identifying opportunities to achieve nature-based solutions that contribute to this objective. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward and the extent to which they would contribute to a low carbon economy.
4. Human Health: To support and maximise people's physical and mental well-being.	+ +	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. The NRP identifies the potential for increasing green infrastructure (including woodland) in around towns (and access to it) which will provide opportunities to improve physical and mental well-being. Nature based solutions to the management of flood risk will also contribute towards this objective. **Mitigation:** None identified.

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Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
		Assumptions: Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
5. Land Use, Geology and Soil: To maintain and enhance soil and geology as an important resource and support the sustainable use of land for multiple benefits.	+ +	**Assessment of Effects:** Nature based solutions could include the restoration of degraded soils and adoption of soil conservation practices. The use of land for multiple benefit is also consistent with the concept of nature-based solutions. The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
6. Water: To maximise the sustainable management of water resources and help achieve the objectives of the Water Framework Directive and Marine Strategy Framework Directive, taking into account the effects of climate change.	+	**Assessment of Effects:** The concept of nature-based solutions is compatible with the objective of sustainable management of water resources, e.g. it could increase infiltration and ground water recharge, reduce or attenuate storm flows and encourage measures to address diffuse pollution. The pursuit of nature-based solutions is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for synergies with this objective in relation to supporting measures to improve the status of water bodies. **Mitigation:** None identified.

Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
		Assumptions: Over time, Area Statements will provide the evidence base to inform local and strategic development plans, Drought Management Plans and Water Resource Management Plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
7. Flood Risk and Coastal Change: To minimise the risks from flooding and coastal change to Wales' natural resources, economy and communities, taking into account the effects of climate change.	+ +	**Assessment of Effects:** The concept of nature-based solutions is compatible with the objective of minimising flood risk, e.g. a trial study in the Rhondda demonstrated how nature-based solutions could help address existing flood risk.[9] The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including work at the catchment and sub-catchment level. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
8. Air: To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and	+	**Assessment of Effects:** The concept of nature-based solutions is compatible with the objective of enhancing air quality, e.g. woodlands and urban trees can help improve air quality. The pursuit of nature-based solutions is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for improvements to air quality associated with woodland. **Mitigation:** None identified.

[9] https://naturalresources.wales/media/679662/rhondda-case-study-working-with-natural-processes.pdf

Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
Cleaner Air for Europe Directives.		**Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including interventions to address poor air quality. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
9. **Climatic Factors:** To limit the causes and effects of climate change and ensure resilience and adaptation to any consequences of climate change.	+/?	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for ecosystem based adaption. Opportunities include nature-based solutions for enhanced flood alleviation and improved water quality through actions such as the restoration of watersheds, wetlands, woodlands, riverbanks and floodplains; coastal protection that allow natural processes to mitigate sea level rise and storm risk.[10] Better soil management for carbon storage and sequestration could also contribute towards this objective, although the scale of the potential contribution towards sequestration relative to total emissions in Wales is uncertain. The Woodland Carbon Code managed by the Welsh Government Forestry Policy Team provides a mechanism for monitoring woodland carbon projects. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including interventions to address climate change adaptation. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
10. **Material Assets**: To promote the sustainable management and	++	**Assessment of Effects:** The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for

[10] http://gov.wales/docs/desh/publications/161206-nature-based-climate-action-mou-en.pdf

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Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.		
resilience of natural resources.		synergies with this objective in relation to the sustainable use and adaptive management of natural resources, including minerals, natural flood management processes, forestry and woodland and agricultural land. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.
11. Cultural Heritage: To protect and sustainably manage the historic environment including cultural heritage resources, historic buildings and archaeological features.	0	**Assessment of Effects:** Given the scope of this SA objective no significant relationship is identified between it and the NRP priority. **Mitigation:** None identified. **Assumptions:** None identified. **Uncertainties:** None identified.
12. Landscape and Seascape: To maintain and enhance Wales' landscape and seascape character.	+	**Assessment of Effects:** The concept of nature-based solutions is compatible with the objective of maintaining and enhancing landscape character, for example restoration of uplands. The final NRP also identifies opportunities for nature-based solutions associated with coastal zone management and adaptation. The pursuit of nature-based solutions is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for improvements to the landscape, e.g. associated with the restoration of uplands and woodland planting in appropriate locations. **Mitigation:** None identified.

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Priority One: Delivering nature-based solutions to improve our social, ecological and economic resilience.						
		Assumptions: Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to maintain and enhance landscape and seascape. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward.				
Score Key:	+ + Significant positive effect	+ Minor positive effect	0 No overall effect	- Minor negative effect	-- Significant negative effect	? Score uncertain

NB: Where more than one symbol/colour is presented in a box it indicates that the appraisal has identified both positive and negative effects. Where a box is coloured but also contains a '?', this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

Priority Two: Increasing renewable energy and resource efficiency.		
SA Objective	**Score**	**Commentary**
1. **Biodiversity, Flora and Fauna:** To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.	?	**Assessment of Effects:** Increasing renewable energy and moving towards a circular economy could have benefits to biodiversity, flora and fauna which are vulnerable to the effects of non-renewable energy generation. As part of Wales and international commitments towards reducing carbon emissions, increasing the take up of renewables could also contribute toward reducing the long term effects of climate change. Increasing resource efficiency could have benefits to biodiversity, flora and fauna which are vulnerable to the effects of resource extraction, use and disposal. In common with any other form of development, the inappropriate siting of renewable energy schemes can have an adverse effect on environmental interests. The strategic policy and planning framework in Wales provides an opportunity for Natural Resources Wales, Local Planning Authorities and developers to work together to identify opportunities for the deployment of renewable energy schemes in the most appropriate locations.[11] There is potential for technology specific impacts on biodiversity, flora and fauna associated with renewable energy projects during both the construction and operational phases, e.g. many windfarms are proposed on peat. These soils provide habitats for sensitive fauna and flora. Disturbance of the soils could lead to changes in the soil carbon storage and hydrological regime which in turn could affect the flora and fauna.

[11] https://www.naturalresources.wales/media/679404/chapter-5-wellbeing-final-for-publication.pdf

Priority Two: Increasing renewable energy and resource efficiency.		
		Fostering innovation could support either the increase in renewables or resource efficiency so could indirectly have a positive effect on biodiversity. The final NRP does not make any comments on the need to manage the potential for significant negative effects from the deployment of renewable energy infrastructure, which was a suggestion made in an earlier iteration of the SA. Overall an **uncertain effect** is identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this priority will come forward.
2. Population and Society: Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.	++/?	**Assessment of Effects:** Increased resource efficiency could help address issues around water and fuel poverty and moving to a mix of transition and low carbon technologies for energy generation, independent of imported energy could also help secure energy security in the longer term, contributing to resilient communities. Moving to a circular economy would also provide economic benefits, sustainable economic growth and supply chain security. The final NRP also identifies the potential to deliver 20,000 new affordable homes that include use of innovative materials and methods of construction. Whilst a positive relationship to this objective is identified, the scale of intervention is uncertain at this time, hence **a minor positive effect** has been identified in the medium to long term with uncertainty regarding the scale of the effect. **Mitigation:** None identified.

Priority Two: Increasing renewable energy and resource efficiency.		
		Assumptions: Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this priority will come forward.
3. Economy: To support an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately.	++/?	**Assessment of Effects:** The priority of increasing renewable energy and resource efficiency will contribute significantly to this objective as will moving to a circular economy, however as the scale of interventions is uncertain a **significant positive effect** with some uncertainty regarding the scale of the effect has been identified. One estimate, indicates that 2,000 MW of onshore wind capacity could be developed by 2025, supporting 2,000 jobs over the life time of the projects and adding £2 billion to the Welsh economy.[12] **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
4. Human Health: To support and maximise people's physical and mental well-being.	?	**Assessment of Effects:** Improving resource efficiency could have benefits to human health, e.g. associated with tacking fuel poverty and health impacts associated with sub-standard housing. Impacts in relation to health will be dependent on the range of measures pursued under this priority, for example retrofitting the existing housing stock to be more energy efficient would have health benefits whereas interventions in other sectors might not. Renewable energy can

[12] Eftec. (2014) Green Growth Baseline Study for Wales.

Priority Two: Increasing renewable energy and resource efficiency.		
		have a range of technology specific impacts, including health related impacts but these would need to be assessed on a case by case basis (including the potential for cumulative effects) against relevant policy at the local and national level. Given the uncertainties highlighted **an uncertain effect** is identified in relation to this SA objective. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
5. Land Use, Geology and Soil: To maintain and enhance soil and geology as an important resource and support the sustainable use of land for multiple benefits.	?	**Assessment of Effects:** Potential generic effects on soil and geology associated with renewable energy include disturbance or loss of soils and geologically important sites, increased risk of pollution and potential contamination of soils. An **uncertain effect** has therefore been identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.

Priority Two: Increasing renewable energy and resource efficiency.		
6. **Water:** To maximise the sustainable management of water resources and help achieve the objectives of the Water Framework Directive and Marine Strategy Framework Directive, taking into account the effects of climate change.	+/?	**Assessment of Effects:** The priority of increasing resource efficiency will contribute to this objective, however as the scale of interventions is uncertain a **minor positive effect** with some uncertainty regarding the scale of the effect has been identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
7. **Flood Risk and Coastal Change:** To minimise the risks from flooding and coastal change to Wales' natural resources, economy and communities, taking into account the effects of climate change.	0	**Assessment of Effects:** Given the scope of this SA objective no significant relationship is identified between it and the NRP priority. **Mitigation:** None identified. **Assumptions:** None identified. **Uncertainties:** None identified.
8. **Air:** To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and	?	**Assessment of Effects:** Increasing resource efficiency could have benefits in relation to air quality, e.g. through lower emissions to air associated with transport. The scale of such benefits are uncertain. Renewable energy schemes, particularly biomass combustion could still have air quality impacts, which may have associated health impacts. The effects are likely to be greatest for sensitive individuals and those with pre-existing lung illnesses and are likely to last for the duration of the operational phase of the facility. Emission standards should reduce residual

Priority Two: Increasing renewable energy and resource efficiency.		
Cleaner Air for Europe Directives.		health impacts but this would need to be determined on case by case basis. An **uncertain effect** has therefore been identified. **Mitigation:** None identified. **Assumptions: :** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
9. Climatic Factors: To limit the causes and effects of climate change and ensure resilience and adaptation to any consequences of climate change.	+ +/?	**Assessment of Effects:** The priority of increasing renewable energy and resource efficiency will contribute to this objective, however as the scale of interventions is uncertain a **significant positive effect** with some uncertainty regarding the scale of the effect has been identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this objective will come forward.
10. Material Assets: To promote the sustainable management and resilience of natural	+ +/?	**Assessment of Effects:** The priority of increasing renewable energy, resource efficiency and a move towards a circular economy will contribute significantly to this objective, for example the NRP identifies links between the circular economy and use of raw materials in construction,

Priority Two: Increasing renewable energy and resource efficiency.		
resources.		however as the scale of interventions is uncertain a **significant positive effect** with some uncertainty has been identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
11. Cultural Heritage: To protect and sustainably manage the historic environment including cultural heritage resources, historic buildings and archaeological features.	?	**Assessment of Effects:** Renewable energy projects could impact on heritage assets through disturbance or loss as a result of groundworks or excavation and impacts on the setting of nearby assets. An **uncertain effect** has therefore been identified. **Mitigation:** None identified. **Assumptions:** Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to increase renewable energy and resource efficiency. Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.
12. Landscape and Seascape: To maintain and enhance Wales' landscape and seascape character.	?	**Assessment of Effects:** Negative effects can occur through construction and operation and can be temporary or permanent. Effects can occur in designated landscape areas (of local or national importance) and in non-designated areas, including towns and can include negative effects on

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Priority Two: Increasing renewable energy and resource efficiency.						
		views, visual amenity and on local amenity (for example, from light pollution). An **uncertain effect** has therefore been identified. **Mitigation:** None identified. **Assumptions:** Potential effects associated with renewable energy infrastructure (including the potential for cumulative effects) would be assessed on a case by case basis. **Uncertainties:** There are uncertainties around the locations, scale and pace at which projects that contribute to this SA objective will come forward.				
Score Key:	+ + Significant positive effect	+ Minor positive effect	0 No overall effect	- Minor negative effect	-- Significant negative effect	? Score uncertain

NB: Where more than one symbol/colour is presented in a box it indicates that the appraisal has identified both positive and negative effects. Where a box is coloured but also contains a '?', this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

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Priority Three: Taking a place-based approach		
SA Objective	**Score**	**Commentary**
1. **Biodiversity, Flora and Fauna:** To maintain and enhance a biodiverse natural environment with healthy, functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change.	+ +	**Assessment of Effects:** The pursuit of place-based approach is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. Examples in the final NRP demonstrate how nature-based approaches can be used to manage recreational pressure that might otherwise impact on biodiversity. **Mitigation:** None identified. **Assumptions**: It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans. It is assumed that nature-based solutions would be compatible with the SA objective of maintaining and enhancing a biodiverse natural environment with healthy functioning ecosystems. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level.
2. **Population and Society:** Population and Society: To support attractive, resource efficient, resilient, viable, safe and well-connected communities.	++/?	**Assessment of Effects:** The pursuit of place-based approach is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective, however uncertainty is identified because the significance of the benefit would be dependent on the extent to which solutions were targeted at areas of deprivation. Examples in the final NRP include the provision of green infrastructure that delivers multiple benefits.

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Priority Three: Taking a place-based approach		
		Mitigation: None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans and could provide the basis for identifying opportunities to achieve nature-based solutions that also have wider benefits to areas of existing deprivation. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level and the extent to which they would benefit areas of existing deprivation.
3. Economy: To support an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately.	+	**Assessment of Effects:** The pursuit of a place-based approach is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. **Mitigation:** None identified **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans and could provide the basis for identifying opportunities to achieve nature-based solutions that contribute to this objective. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will be come forward at a local level and the extent to which they would contribute to a low carbon economy.
4. Human Health: To support and maximise people's physical and mental well-being.	+ +	**Assessment of Effects:** The pursuit of a place-based approach is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. The NRP identifies the potential for increasing green infrastructure

Priority Three: Taking a place-based approach		
		(including woodland) in around towns (and access to it) which will provide opportunities to improve physical and mental well-being which could be targeted at places that will benefit most from this approach. Examples include the provision of health trails and green gyms and tranquil areas. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level.
5. Land Use, Geology and Soil: To maintain and enhance soil and geology as an important resource and support the sustainable use of land for multiple benefits.	+ +	**Assessment of Effects:** A place-based approach could include the restoration of degraded soils and adoption of soil conservation practices. The use of land for multiple benefit could benefit specific places. The pursuit of nature-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level.
6. Water: To maximise the sustainable management	+	**Assessment of Effects:** The concept of a place-based approach is compatible with the objective of sustainable management of water resources, e.g. it could increase infiltration and ground

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of water resources and help achieve the objectives of the Water Framework Directive and Marine Strategy Framework Directive, taking into account the effects of climate change.		water recharge, reduce or attenuate storm flows and it could encourage measures to address diffuse pollution. A **minor positive effect** against this objective over the medium to long term is identified because of the potential for synergies with this objective in relation to supporting measures to improve the status of water bodies. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans, Catchment Area Management Strategies, Drought Management Plans and Water Resource Management Plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level.
7. Flood Risk and Coastal Change: To minimise the risks from flooding and coastal change to Wales' natural resources, economy and communities, taking into account the effects of climate change.	+ +	**Assessment of Effects:** The concept of a place-based approach is compatible with the objective of minimising flood risk, e.g. a trial study in the Rhondda demonstrated how nature-based solutions could help address existing flood risk.[13] The pursuit of place-based solutions is appraised as having a **significant positive effect** against this objective over the medium to long term because of the potential for synergies with this objective. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including work at the catchment and sub-catchment level and flood risk management plans.

[13] https://naturalresources.wales/media/679662/rhondda-case-study-working-with-natural-processes.pdf

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		Uncertainties: There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at a local level.
8. Air: To minimise emissions of pollutant gases and particulates and enhance air quality, helping to achieve the objectives of the Air Quality and Ambient Air Quality and Cleaner Air for Europe Directives.	+	**Assessment of Effects:** The concept of a place-based approach is compatible with the objective of enhancing air quality, e.g. woodlands and urban trees can help improve air quality. The pursuit of a palace-based approach is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for improvements to air quality at the place level. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including interventions to address poor air quality. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at the local level.
9. Climatic Factors: To limit the causes and effects of climate change and ensure resilience and adaptation to any consequences of climate change.	+	**Assessment of Effects:** The pursuit of a place-based approach is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for ecosystem based adaption. Opportunities include nature-based solutions for enhanced flood alleviation and improved water quality through actions such as the restoration of watersheds, wetlands, woodlands, riverbanks and floodplains; coastal protection that allow natural processes to combat sea level rise and storm risk.[14] **Mitigation:** None identified.

[14] http://gov.wales/docs/desh/publications/161206-nature-based-climate-action-mou-en.pdf

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		Assumptions: It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans, flood risk management plans including interventions to address climate change adaptation. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at the local level.
10. Material Assets: To promote the sustainable management and resilience of natural resources.	+	**Assessment of Effects:** The pursuit of a place-based approach is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for synergies with this objective in relation to the sustainable use and adaptive management of resources. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at the local level.
11. Cultural Heritage: To protect and sustainably manage the historic environment including cultural heritage resources, historic buildings and archaeological features.	+/?	**Assessment of Effects:** Pursuing a place-based approach could help identify opportunities for projects that help achieve benefits in terms of protecting and managing the historic environment. A **minor positive effect, with some uncertainty** is identified because the extent of such effects is uncertain. **Mitigation:** None identified. **Assumptions:**

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		It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at the local level and whether or not they will include measures that benefit the historic environment.
12. Landscape and Seascape: To maintain and enhance Wales' landscape and seascape character.	+	**Assessment of Effects:** The concept of a place-based approach is compatible with the objective of maintaining and enhancing landscape character. The pursuit of a place-based approach is appraised as having a **minor positive effect** against this objective over the medium to long term because of the potential for improvements to the landscape, e.g. associated with the restoration of uplands and woodland planting. **Mitigation:** None identified. **Assumptions:** It is assumed that the place-based approach will be used to promote nature-based solutions (consistent with the first priority). Over time, Area Statements will provide the evidence base to inform local and strategic development plans, including opportunities to maintain and enhance landscape and seascape. **Uncertainties:** There are uncertainties around the locations, scale and pace at which nature-based solutions will come forward at the local level.

Score Key:	+ + Significant	+	0	- Minor negative effect	-- Significant negative effect	? Score uncertain

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	positive effect	Minor positive effect	No overall effect			

NB: Where more than one symbol/colour is presented in a box it indicates that the appraisal has identified both positive and negative effects. Where a box is coloured but also contains a '?', this indicates uncertainty over whether the effect could be a minor or significant effect although a professional judgement is expressed in the colour used. A conclusion of uncertainty arises where there is insufficient evidence for expert judgement to conclude an effect.

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