Strategic Environmental Assessment (SEA) of the Loch Lomond and the Trossachs National Park Partnership Plan 2018-2023

Volume 1: Environmental Report

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List of abbreviations

C&LU	Conservation and Land Use (NPPP theme)
EC	European Commission
EIA	Environmental Impact Assessment
EU	European Union
FRM	Flood Risk Management
HES	Historic Environment Scotland
HRA	Habitat Regulations Assessment
LDP	Local Development Plan
LLTNP	Loch Lomond and the Trossachs National Park
LUS	Land Use Strategy
NFM	Natural Flood Management
NPA	National Park Authority
NTS	Non-Technical Summary
NPPP	National Park Partnership Plan
NWCN	National Walking and Cycling Network
RD	Rural Development (NPPP theme)
RLUP	Regional Land Use Partnership
PVA	Potentially Vulnerable Area
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
SRDP	Scotland Rural Development Programme
SuDS	Sustainable Urban Drainage Schemes
VE	Visitor Experience (NPPP theme)
WFD	Water Framework Directive

Contents

1. Introduction

This document is an Environmental Report prepared as part of the Strategic Environmental Assessment (SEA) of the Loch Lomond and the Trossachs National Park Partnership Plan (NPPP) 2018-2023. It should be read in conjunction with the plan document itself and the separate SEA Environmental Report Appendices volume. A standalone Non-Technical Summary (NTS) of the Environmental Report has also been prepared which some readers may wish to refer to.

1.1 Purpose of the SEA

The Loch Lomond and the Trossachs National Park Authority (the NPA) have developed a National Park Partnership Plan (NPPP) for the period 2018-2023. This plan will replace the current NPPP which was adopted in 2012 and will expire at the end of 2017. Further information on the NPPP 2018-2023 and the proposals therein are provided in Chapter 2.

As part of the process of developing the new plan, the NPA have been undertaking a Strategic Environmental Assessment (SEA) of the emerging NPPP 2018-2023. The NPA commissioned Collingwood Environmental Planning Limited (CEP) to undertake the environmental assessment of the draft plan and prepare the draft Environmental Report in March 2017. The NPA has undertaken minor updates to the Environmental report to reflect the final NPPP.

SEA is a requirement of the European Commission (EC) SEA Directive (2001/42/EC) – the SEA Directive – and the Environmental Assessment (Scotland) Act 2005 – the 2005 Act. The approach taken to this SEA has been informed by relevant EC and Scottish legislation as well as statutory and non-statutory SEA guidance. This report constitutes an Environmental Report in accordance with the requirements set out in the SEA Directive and the 2005 Act. This chapter describes the purpose of SEA and the Environmental Report, outlines the report's structure and content and where to locate relevant SEA statutory requirements.

The 2005 Act is Scotland's national legislative framework on SEA for implementation of the EU SEA Directive. In Scotland, SEA is a requirement for all public plans, programmes and strategies which may have a significant effect on the environment. The overall purpose of SEA is to protect the environment and promote sustainable development. Further specific objectives of SEA, in the context of the NPPP 2018-2023, are outlined in Box 1.1 below.

Box 1.1: Overall objectives of the NPPP 2018-2023 SEA

- Provide for a high level of environmental protection and enhancement;
- Ensure that the likely significant effects on the environment of implementing the NPPP 2018-2022 are identified, described, evaluated and taken into account before the plan is adopted;
- Evaluate reasonable alternatives, taking into account the objectives and geographical scope of the NPPP 2018-2023, to identify their likely significant environmental effects and inform the nature, content and scope of the preferred plan going forward; and
- Facilitate the process of consultation and engagement for stakeholders, statutory consultees and members of the public to comment on the potential environmental implications of the proposed NPPP 2018-2023.

The purpose of this Environmental Report is to set out key findings from the SEA process undertaken to date and the proposed next steps. It presents a summary of the environmental assessment of the NPPP 2018-2023 outcomes and priorities and is intended to support members of the public, the statutory Consultation Authorities and other stakeholders in responding to the consultation on the plan and its potential environmental effects. To meet this objective, this Environmental Report includes the information set out in Box 1.2 below.

Box 1.2: Key information included within this Environmental Report

- A summary of the relationship between the NPPP 2018-2023 and other relevant plans, programme and strategies (PPS);
- The environmental protection objectives established at the international, national, regional and local level of relevance to the NPPP 2018-2023 and information (where relevant) on how these have been incorporated with the SEA framework;
- An overview of the current environmental baseline and an indication of how this is likely to evolve in the absence of the NPPP 2018-2023;
- The characteristics of the environment within the Loch Lomond and the Trossachs National Park (LLTNP) area most likely to be affected by implementation of the NPPP 2018-2023;
- The key environmental issues and problems in the LLTNP that the NPPP 2018-2023 should seek to address;
- The potential environmental effects of implementing the NPPP 2018-2023 and of its reasonable alternatives;
- The measures envisaged to mitigate adverse and enhance beneficial environmental effects;
- The measures proposed to monitor the significant environmental effects of implementing the NPPP 2018-2023; and
- The next steps in the SEA process.

Further information on the consultation on the NPPP 2018-2023 and this accompanying Environmental Report, including details of how to respond, are provided at section 1.3 below.

1.2 SEA steps undertaken prior to this Environmental Report

The NPPP qualifies for SEA by virtue of section 5(3) of the 2005 Act[1]. It is required by a legislative provision from the National Parks (Scotland) Act 2000[2] and covers most (if not all) of the topics listed at section 5(3)(a)(i) of the 2005 Act; e.g. agriculture, forestry, energy, town and country planning, transport and tourism. Accordingly, Screening was not required and the SEA proceeded directly to the Scoping stage.

The NPPP 2018-2023 SEA Scoping Report was submitted to the Scottish Government SEA Gateway on 21st March 2016. The report included an outline of the plan, a summary of its relationship with other relevant plans, programmes and strategies (PPS), a summary of the environmental baseline, trends and key environmental issues in the Park, details of the proposed scope and level of detail for the assessment and the proposed methodology for the SEA.

Scoping responses were received from the three statutory Consultation Authorities for SEA: the Scottish Environment Protection Agency (SEPA); Scottish Natural Heritage (SNH); and Historic Environment Scotland (HES). Responses were broadly supportive of the proposed approach and level of detail though several minor modifications have been made as a result.

1.3 Consultation on this Environmental Report

The twelve-week consultation period on this Environmental Report, its Non-Technical Summary and the separate appendices volume, which accompany the NPPP 2018-2023, ran from 10th April to 3rd July 2017.

The 2005 Act requires that the general public and the three statutory SEA Consultation Authorities (SEPA, SNH and HES) are consulted on the draft NPPPs and its accompanying Environmental Report. Each of the SEA Consultation Authorities responded to the Environmental Report and were broadly

[1] http://www.legislation.gov.uk/asp/2005/15/section/5
[2] http://www.legislation.gov.uk/asp/2000/10/section/11

in agreement with the assessment findings. Each of the Consultation Authorities comments can be found in Appendix 1.

1.4 Compliance with the SEA Directive and 2005 Act

Schedule 3 of the 2005 Act lists the information that must be included in SEA Environmental Reports[3]. Table 1.1 below lists these requirements and cross-references them to where they can be found in this Environmental Report and its appendices.

Table 1.1: Summary of SEA requirements and where they are covered in the Environmental Report

Information to be included in Environmental Reports as per Schedule 3 of the Environmental Assessment (Scotland) Act 2005	Relevant sections in the Environmental Report
Schedule 3(1): an outline of the contents and main objectives of the plan, programme or strategy and of its relationship with other qualifying plans, programmes and strategies.	Chapter 2, sections 4.1 and 4.2, Appendices 2 and 3.
Schedule 3(2): the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	Sections 4.2 and 4.3, Chapter 7, Appendix 3.
Schedule 3(3): the environmental characteristics of areas likely to be significantly affected.	Chapter 4, Appendix 3.
Schedule 3(5): the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	Section 4.1, Chapter 5, Appendix 2.
Schedule 3(6): the likely significant effects on the environment of the plan and reasonable alternatives.	Chapters 6, 7 and 8, Appendix 4.
Section 3(7): the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	Section 8.3, Appendix 4.
Section 3(8): an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of expertise) encountered in compiling the required information.	Chapters 7, 8 and 10.
Section 3(9): a description of the measures envisaged concerning monitoring in accordance with section 19.	Chapter 9.
Section 3(10): a non-technical summary of the information provided under paragraphs 1 to 9.	Separate document and at the front of the ER.

1.5 Compliance with the EU Habitats Directive 92/43/EC

At the Scoping stage, the draft NPPP 2018-2023 was considered against the requirements of the Conservation (Natural Habitats &c) Regulations 1994 (as amended). It was deemed that a Habitat Regulations Assessment (HRA) would be required given the plan's potential to affect Natura 2000 sites in the Park (see Figure 4.2). The HRA process has been undertaken independently of this SEA and will be reported on separately.

[3] http://www.legislation.gov.uk/asp/2005/15/schedule/3

2. The National Park Partnership Plan 2018-2023

2.1 Introduction

The NPPP 2018-2023 sets out proposals for how the NPA and a wide range of other organisations and interests can work together over the next five years to look after, enhance and make the most of the special landscape of the Loch Lomond and the Trossachs National Park (LLTNP). This section of the Environmental Report should be read in conjunction with the NPPP document which provides full details of the vision, themes, outcomes and priorities proposed.

This chapter provides a brief overview of the National Park area, outlines the purpose of the NPPP and provides some further details of the NPPP's proposals (outcomes, priorities etc).

2.2 The Loch Lomond and the Trossachs National Park area

Shown on Figure 2.1 below, the LLTNP covers an area of 720 square miles. It is in close proximity to Glasgow and other major settlements in the central belt and west of Scotland.

The Park is predominantly upland in nature dominated by highland landscapes comprising hills, upland glens and steep glen sides[4]. It is also heavily wooded (relative to Scotland as a whole) with 30% of the Park's land area made up of forests and woodlands[5].

The Park is served by several trunk roads connecting to the west (A83), north (A82 and A84) and east (A85) of Scotland. The West Highland Line (railway) runs through the west of the Park with stops in Arrochar and Tarbet, Ardlui, Crianlarich and Tyndrum. There are also regular train connections from Glasgow Queen Street to Balloch in the south of the Park.

The Park is served by several strategic routes as part of the national walking and cycling network[6] (a designated national development in the latest National Planning Framework) as well as numerous locally designated core paths[7]. The environmental characteristics of the Park of relevance to the NPPP are outlined in Chapter 4 and Appendix 3.

2.3 The purpose of the NPPP

The NPPP sets out the overall vision, outcomes and priorities for managing the National Park, providing the strategic plan to coordinate the activities of the NPA and the various partner organisations that support the delivery of the Park's objectives. The specific purpose of "National Park Plans" is defined in the National Parks (Scotland) Act 2000[8]. The coordination purpose of the plan helps to align resources and ensure the delivery of multiple benefits.

2.4 Introduction to the NPPP 2018-2023

Like the extant NPPP, the NPPP 2018-2023 is structured around the following three themes:

1. Conservation and land management;
2. Visitor experience; and
3. Rural development.

[4] http://www.snh.org.uk/pdfs/publications/review/140.pdf
[5] http://scotland.forestry.gov.uk/images/corporate/pdf/fcs-nwss-loch-lomond.pdf
[6] http://www.snh.gov.uk/docs/A2078355.pdf
[7] http://www.lochlomond-trossachs.org/park-authority/publications/core-paths-plan/
[8] http://www.legislation.gov.uk/asp/2000/10/section/11

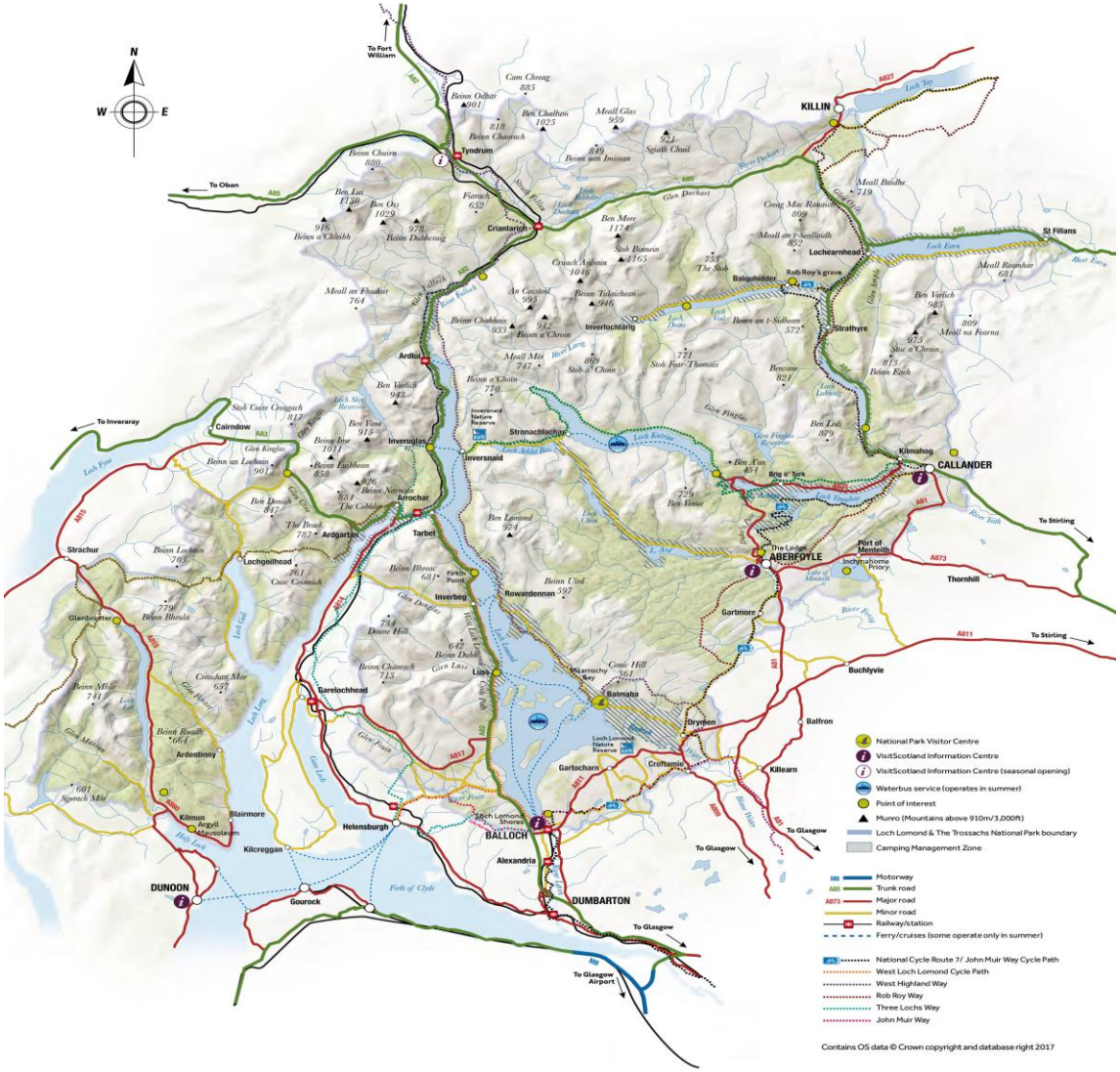

Figure 2.1: Overview of the Loch Lomond and the Trossachs National Park

Each of the NPPP's three themes is illustrated by a **vision** statement (see Box 2.1). The substantive parts of the NPPP are the 13 **outcomes** it aims to achieve (see Table 2.1) underpinned by a suite of more detailed **priorities**. The priorities provide a strategic focus for the activities of the NPA and the various partner organisations. They are too numerous to list here; readers should refer to the plan document to see the full range of proposals within the new NPPP.

Box 2.1: NPPP 2018-2023 vision statements

Vision for conservation and land management: *Nature, heritage, land are valuables assets, managed and enhanced for multiple benefits for all.*

Vision for visitor experience: *There is a high quality, authentic experience for people from all backgrounds. There are many opportunities to enjoy recreation activities and appreciate the area's outstanding natural and cultural heritage within an internationally-renowned landscape.*

Vision for rural development: *Businesses and communities thrive and people live and work sustainably in a high quality environment.*

The outcomes and priorities have been the focus for the environmental assessment in this SEA. The outcomes have been subject to a compatibility analysis with the SEA objectives (Chapter 6) and the priorities have been assessed in more detail against the SEA objectives and assessment criteria to identify the potential environmental effects of the NPPP 2018-2023 (Chapter 8).

Table 2.1: NPPP 2018-2023 outcomes

Theme	Outcomes
Conservation and land management	• **Outcome 1** The Park's natural resources are enhanced for future generations important habitats are restored and better connected on a landscape scale. • **Outcome 2** The Park's special landscape qualities and sense of place are conserved and enhanced with more opportunities to enjoy and experience them. • **Outcome 3** The natural environment of the Park is better managed to help mitigate and address the impacts of climate change. • **Outcome 4** New landscape-scale partnerships deliver better integrated management of the land and water environment, providing multiple benefits for nature and people.
Visitor experience	• **Outcome 5:** The National Park has a wide variety of well promoted and managed outdoor recreation opportunities providing for a range of abilities and interests. • **Outcome 8:** The most popular parts of the National Park which experience pressures are well managed to ensure that the quality of environment, visitor experience and community life are protected and enhanced. • **Outcome 6** There are more opportunities to enjoy water based recreation and sporting activities across the Park's lochs, rivers and coasts while maximising safety for all users and protecting the quality of water environments. • **Outcome 7** The Park's visitor economy is thriving with more businesses and organisations working together to create a world class destination. • **Outcome 9** People from a wider range of backgrounds are enjoying, valuing and helping manage the National Park. It is used as a place for people to realise the personal health and wellbeing benefits of connecting with nature
Rural development	• **Outcome 10** The National Park's towns and villages and countryside are enhanced through investment in their built and historic environment, public spaces and infrastructure. • **Outcome 11:** The rural economy has been strengthened through sustainable business growth and diversification. • **Outcome 12:** Population decline is being addressed by attracting and retaining more skilled working age and young people within the National Park. • **Outcome 13:** of the park's communities are supported to influence and deliver actions that improve their quality of life and place.

3. SEA methodology

3.1 Overview of the SEA of the NPPP 2018-2023

This section outlines the overall approach adopted in the SEA of the NPPP 2018-2023. More detailed information on specific tasks undertaken in the environmental assessment and Environmental Report stage of the SEA is provided elsewhere in this Chapter. Details of the approach taken to scoping and early consultation with statutory consultees is provided in the Scoping Report which is available via the Scottish Government SEA database[9] or on request from the NPA.

The overall objective of the SEA Directive 2001/42/EC is:

> *"to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans…with a view to promoting sustainable development"* (Article 1).

Further details on the legislative framework for SEA in the EU and Scotland is provided in Chapter 1. The approach to the SEA of the NPPP 2018-2023 has been designed to comply with the SEA Directive and the 2005 Act. The development of the approach has also drawn on: relevant SEA guidance (especially the Scottish Government's guidance[10]); the knowledge and experience of the SEA team at CEP (Dr Peter Phillips; Dr William Sheate); and input from members of the LLTNPA planning team.

The overall approach to the SEA has been designed to ensure that the LLTNPA team developing the NPPP are provided with useful environmental information, in a timely manner, to support the plan-development process. This has included:

- **An analysis of provisions within the proposed new (2018-2023) NPPP vs. provisions in the existing (2012-2017) NPPP:** this helped to highlight potential gaps and clarification points for the NPA as well as identifying SEA recommendations (mitigation and enhancement) aimed at the operational / management level (see Table 8.5);
- **Suggested alterations to the wording of key priorities within the NPPP 2018-2023:** based on the findings of the environmental assessment, a number of suggested revisions to the wording of key NPPP priorities were suggested to help improve the overall environmental intent and strategic direction of the new NPPP. These suggestions are outlined in section 8.3 (Table 8.4) of this Environmental Report; and
- **The findings of the environmental assessment undertaken on the NPPP 2018-2023:** the full range of results from the environmental assessment have been communicated to the NPPP team via this Environmental Report and also via a meeting to discuss the findings.

The SEA of the NPPP has adopted an SEA objective-led methodology. This sort of approach assesses the overall NPPP, its constituent elements (i.e. the various outcomes and priorities under each theme) and reasonable alternatives to the NPPP against a set of aspirational environmental or SEA objectives. The SEA objectives are detailed in full at section 5.1 below.

The development of the SEA objectives has been informed by the review of other relevant plans, programmes, strategies (PPS) and environmental objectives (section 4.1; Appendix 2), the key environmental issues facing the Park (section 4.2; Appendix 3) and comments received from the statutory Consultation Authorities during the scoping consultation (Appendix 1).

The assessment considers the degree to which the various provisions being assessed (e.g. the priorities) are likely to support the SEA objectives or work against / conflict with them. In the case of the former there is potential for the NPPP to contribute to significant positive environmental effects

[9] http://www.gov.scot/Topics/Environment/environmental-assessment/sea/SEAG
[10] http://www.gov.scot/Resource/0043/00432344.pdf

and in the latter, significant negative effects. The assessment methodology is described further at section 3.3 below.

The assessment is supported by environmental baseline information and trends (Chapter 4 and Appendix 3), an understanding of the key environmental issues / problems and opportunities of relevance to the NPPP (section 4.2, Appendix 3) and the expert knowledge of the CEP SEA team. The environmental effects predicted through the SEA objectives-led assessment are then evaluated against significance criteria, in order to determine their likely significance. NPPP specific significance criteria have been developed with reference to key provisions from the SEA legislation, notably Schedule 2 of the 2005 Act[11], as described at section 5.2.

3.2 Timing of the SEA

The SEA process commenced in December 2015 with scoping and preparation of an SEA Scoping Report. This was undertaken in conjunction with the early stages of plan-development (e.g. early stakeholder engagement, agreeing the position and approach for the new NPPP, drafting NPPP discussion papers). The Scoping Report was submitted to the Scottish Government SEA Gateway in March 2016. Scoping responses from the statutory Consultation Authorities were subsequently received in April 2016.

Following scoping, there was a period of delay in the implementation of the SEA programme due to internal resource issues at the NPA. In February 2017, the NPA commissioned CEP to undertake the environmental assessment of the draft NPPP 2018-2023 and produce the draft Environmental Report. Environmental information and feedback produced through this assessment process then informed the final consultation version of NPPP, as outlined in section 3.1 above.

Consultation on the Environmental Report ran until **3rd July 2017**, after which the Environmental Report and comments from the consultation were taken into account in finalising the NPPP. The impact of the SEA informing and influencing the NPPP will then be documented in an SEA post-adoption statement to be published alongside the finalised, adopted NPPP 2018-2023 in 2018. Full details of next steps following this Environmental Report are provided at Chapter 10.

3.3 SEA approach and methodology

Temporal and geographical scope of the assessment

The temporal and geographical scope of an SEA is defined by the plan or programme subject to assessment. Consideration of temporal / geographical scope informs the approach taken to a range of SEA tasks including the level of detail and scope for the environmental baseline and the timescales considered in the assessment of environmental effects.

The **geographical scope** for the assessment is the whole of the National Park area (see Figure 2.1). Some aspects of the NPPP 2018-2023 relate to specific areas / sites or landscape types. These spatially explicit aspects of the plan have been reflected in the assessment where relevant. The SEA has given some consideration to potential interactions between the NPPP and activities within adjacent local authority areas, however, the focus of the assessment has been within the Park.

The **temporal scope** for the assessment has been taken as the lifetime of the plan; i.e. from 2018 to 2023. This has important implications for several aspects of the SEA (e.g. considering the timescales over which environmental effects might be realised and how these can be monitored and considering the timescales set by environmental objectives and targets identified in the PPS review).

A strategic approach

[11] http://www.legislation.gov.uk/asp/2005/15/schedule/2

The NPPP 2018-2023 is a highly strategic document. The NPPP's priorities – the provisions considered in the detailed assessment of the plan – set out the NPA's strategic intent for the 2018-2023 period but without the detailed policies and actions that will deliver the priorities. In effect, the detailed operational aspects of the plan setting out how it will be implemented remain to be agreed (e.g. through discussions with individual partner organisations).

Given the lack of detailed operational and implementation provisions in the NPPP therefore, the assessment has focussed on identifying broad areas of environmental risk (negative effects) and opportunity (positive effects) associated with the plan. Accordingly, collation of environmental baseline information and other scoping tasks have been undertaken in a manner befitting this strategic level of assessment.

The strategic nature of the plan and its assessment mean that there is a high degree of uncertainty concerning the likely significant environmental effects of the NPPP 2018-2023. Where relevant, detailed SEA mitigation and enhancement recommendations have been developed to help inform operational decisions (Table 8.4). Implementation of these recommendations should help to address the inherent uncertainty and ensure that negative effects are mitigated and positive effects enhanced.

Updating Environmental Report

Prior to undertaking the updated environmental assessment of the NPPP 2018-2023, a number of the SEA assessments were reviewed in line with comments received from the statutory Consultation Authorities. SNH, SEPA and HES were all broadly content with the assessment findings and level of detail for the assessment. A common comment from all three Consultation Authorities related to many of the assessments highlighting unknown environmental effects with a suggestions that consideration should be given to how these effects can be monitored to ensure that unforeseen adverse effects can be identified and mitigated. Monitoring measures of the Plan are currently being considered and the proposed approach to monitoring will be explained in the Post Adoption Statement.

Environmental assessment of the NPPP proposals and alternatives

The environmental assessment of the NPPP 2018-2023 involved several separate tasks as outlined below:

1. **Testing the compatibility of NPPP outcomes with SEA objectives:** within each of its three themes, the NPPP sets out the various outcomes it aims to achieve (Table 2.1). These delineate the overall ends that the plan is aiming towards and so it is important to assess their compatibility with environmental objectives. The compatibility of each NPPP outcome with each SEA objective was assessed to determine the overall environmental coherence of the plan. The assessment was summarised in a matrix with comments explaining the rationale for individual assessments where relevant / necessary. The following scoring system was used: 1) compatible; 2) potential for conflict; 3) compatibility uncertain; and 4) no identified conflict or compatibility.
2. **Assessment of alternative approaches to the NPPP:** the nature of the NPPP is such that there are a limited number of reasonable alternatives given the objectives and geographical scope of the plan (i.e. as per the requirements for consideration of alternatives in the 2005 Act[12]). This is due to the "Sandford Principle" for National Park management which prioritises the conservation of natural heritage over other objectives (e.g. economic development, recreation)[13]. Accordingly, there are no reasonable alternatives to the NPPP which, the NPA highlight, strikes an appropriate (and fine) balance between conservation

[12] http://www.legislation.gov.uk/asp/2005/15/section/14
[13] http://www.nationalparks.gov.uk/students/whatisanationalpark/aimsandpurposesofnationalparks/sandfordprinciple

and sustainable use of the Park's natural and cultural heritage. Despite this, it has been possible to consider the Business as Usual (BAU) alternative which in this case is the continued implementation of the extant NPPP 2012-2017; the requirement of the National Parks (Scotland) Act 2000 to have a National Park Plan in place[14] means that there is no "do minimum" or "no plan" alternative. An environmental SWOT (strengths, weaknesses, opportunities and threats) analysis of the new NPPP vs the old NPPP has been undertaken against the headline SEA objectives / topics. At an appropriately high level (i.e. recognising the constrained nature of the alternatives assessment in this case), the SWOT analysis identified key areas of environmental risk and opportunity concerning the implementation of the NPPP 2018-2023 over the extant NPPP (as a form of alternatives assessment).

3. **Assessment of the NPPP 2018-2023:** a detailed assessment of the NPPP was undertaken on the basis of the various priorities proposed under the plan's three themes: (1) Conservation and Land Use; (2) Visitor Experience; and (3) Rural Development. Six priorities were screened out of the assessment on the basis that they were likely to result in no / minimal effects or because they overlapped other aspects of the plan to the extent that the assessment would be duplicated (see Appendix 5 for further details). Each priority was assessed against each of the 13 headline SEA objectives. Potential effects were teased out using assessment criteria (Table 5.1). The significance of the identified effects was then evaluated using the significance criteria (Table 5.2) informed by the various evidence used in the SEA (environmental baseline information and trends, key environmental issues, PPS review etc). The three themes were assessed separately with assessment results summarised in matrices. The detailed assessment matrices in Appendix 5 include a comments column explaining the rationale for individual assessments. The summary matrices in Chapter 8 include the individual assessment scores only. Once priorities in each theme had been assessed separately, interactions across the themes were considered to identify potential cumulative effects of the plan as a whole.
4. **Developing SEA recommendations:** following on from the assessment of the NPPP, SEA recommendations were developed to enhance positive effects and mitigate negative effects. SEA recommendations were developed at two levels: (1) suggested amendments to the wording of NPPP priorities – these recommendations could highlight issues in the plan and help to ensure that desired environmental outcomes are realised; and (2) operational mitigation and enhancement measures – these more detailed recommendations are intended to support the implementation of the NPPP, addressing the inherent uncertainty associated with the strategic nature of the priorities. SEA recommendations in (1) and (2) are linked explicitly to significant environmental effects identified in the assessment and the aspect(s) of the plan likely to cause the effects.

[14] http://www.legislation.gov.uk/asp/2000/10/section/11

4. Environmental objectives, baseline and context

4.1 Relationship with other relevant plans, programmes, strategies and environmental objectives

A key requirement of SEA is undertaking a review of other relevant plans, programmes and strategies (PPS) and environmental protection objectives. The purpose of this review is partially concerned with good plan-making and partially with SEA and consideration of environmental issues. In the former, the PPS review builds up an understanding of the policy context that the NPPP will operate in on adoption and any constraints, opportunities or synergies this may raise. In the latter, the PPS review helps to provide a range of environmental information for the SEA and potential for interaction with other PPS:

- **Environmental objectives:** many PPS are, in part, oriented towards environmental protection. For example, the LLTNPA Local Development Plan (LDP) includes specific objectives on conservation of natural and cultural heritage alongside more development focussed objectives[15]. The Park's Biodiversity Action Plan – Wild Park 2020 – has an explicit focus on environmental protection and enhancement[16]. Extracting environmental objectives and targets from other relevant PPS therefore identifies the strategic intent of related environmental policies. Where relevant, these objectives can be incorporated within the SEA framework as SEA objectives and assessment criteria (see Chapter 5). Understanding the strategic intent of related environmental policies can also help to illustrate potential future environmental problems. By appraising environmental objectives and targets against related environmental trends (see section 4.2), it is possible to identify where objective and targets are unlikely to be met and therefore where future environmental problems are likely to arise (e.g. greenhouse gas mitigation targets). This is all useful information for the assessment by helping to evaluate significance.
- **Key environmental issues:** other relevant PPS can be a useful source of environmental baseline information as well as highlighting key environmental issues for consideration in the assessment (e.g. as part of the evidence base when evaluating environmental effects). For example, Wild Park 2020 contains five "wild challenges" capturing the key biodiversity issues in the Park that other relevant strategic actions (e.g. within the LDP) should work to address. As explained above, the dynamic assessment of environmental objectives / targets with trends data can help to identify emerging environmental issues that should ideally be addressed early on.
- **Potential cumulative effects:** a widely-recognised benefit of SEA is its ability to identify cumulative effects; the strategic nature of the assessment means that the potential impacts of multiple strategic actions can be considered simultaneously. This concept also applies to the impacts of multiple individual plans combining to cause *inter-plan* cumulative effects (e.g. LDPs from adjacent Local Authorities could combine to cause cumulative effects on key transboundary issues like landscape and biodiversity). The review of other relevant PPS provides an important opportunity to identify potential risks (and opportunities) associated with *inter-plan* cumulative effects.

Appendix 2 lists the PPS that have been considered in the SEA, divided by SEA topic where relevant. A separate category for cross-cutting PPS has also been included. These PPS were reviewed in line

[15] http://www.lochlomond-trossachs.org/planning/planning-guidance/local-development-plan/
[16] http://www.lochlomond-trossachs.org/rr-content/uploads/2016/07/Wild-Park-2020-Nature-Conservation-Action-Plan.pdf

with the rationale above. In particular, the review has helped to identify related environmental protection objectives and targets etc that have been incorporated, where relevant, within the SEA framework (see Chapter 5). It has also helped to identify environmental baseline information, indicators (see section 9.1), trends and key environmental issues that have informed the assessment of the NPPP 2018-2023.

Figure 4.1 below illustrates the relationship of the NPPP with other key PPS / categories of PPS, NPA partner organisation activities and monitoring / data collection.

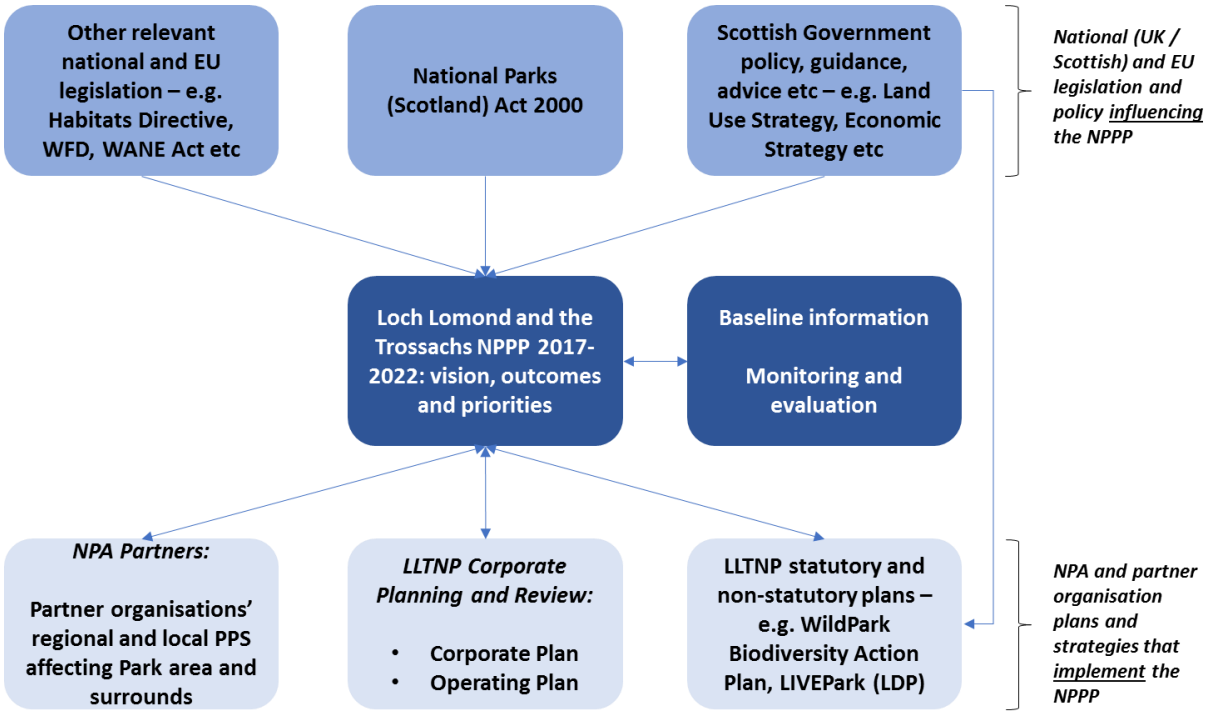

Figure 4.1: Schematic representation of the relationship between the NPPP and other relevant PPS

4.2 Summary of key environmental issues

A summary of the environmental baseline information of relevance to the SEA of the NPPP 2018-2023 is provided in Appendix 3. This has been subject to some minor updates following comments from the statutory Consultation Authorities at scoping.

Figures 4.2 and 4.3 show the location and extent across the Park of natural and cultural heritage designations respectively. Proposed indicators for monitoring the significant environmental effect of the NPPP are outlined at section 9.1.

The key environmental issues emerging from the analysis of environmental baseline data and information, trends and environmental objectives are set out in the sub-sections below. These capture the most critical environmental issues (problems and opportunities) that should be considered in the development of the NPPP 2018-2023 and in its SEA.

The baseline, trends analysis and key environmental issues have informed the scope and content of the SEA framework (Chapter 5) and the assessment of the NPPP and reasonable alternatives (Chapters 7 and 8).

Biodiversity, flora and fauna

- **Over-grazing:** unsustainable levels (densities) of wild deer, feral goats and livestock in some upland and woodland areas is suppressing the development and regeneration of semi-natural habitats, leading to reduced tree cover and soil erosion. The Park has 27 designated sites assessed as being in "unfavourable" condition due to grazing pressures.
- **Invasive Non-Native Species (INNS):** despite successes in some areas / catchments (e.g. the Tay and Forth catchments), the spread of INNS (e.g. Himalayan balsam) remains an important management issue in the Park, acting to displace native wildlife. The Park has 25 designated sites assessed as being in "unfavourable" condition due to pressures from INNS.
- **Visitor pressure:** high visitor numbers and wild camping in the busiest parts of the Park (especially loch shores) continue to put habitats and wildlife under pressure (e.g. unauthorised felling of trees for firewood, pollution with human waste) during spring and summer months. The new camping development strategy YOURPark[17] aims to address these issues but the effectiveness of full implementation of the new byelaws remains to be seen.
- **Expansion of native woodlands:** the Scottish Government's ambitious woodland expansion targets[18,19] raise an opportunity for woodland creation in the Park in line with "right tree right place" principles. The expansion and improved management of native woodlands in particular can help to enhance biodiversity (and landscape).
- **Habitat networks:** there remains an important opportunity to consolidate, restore and enhance the full range of natural and semi-natural habitats across the Park to enhance habitat networks and promote ecological connectivity.
- **Sustainable forest management:** there is an opportunity and interest in increasing the amount of woodland under continuous cover forestry (CCF) systems. This would reduce the amount of clear fell and associated soil erosion and landscape impacts.

Geology and soils

- **Sustainable forest management:** see *biodiversity, flora and fauna*.
- **Peatland restoration:** there is an important opportunity to restore and maintain peatlands across the Park (e.g. blanket bog) to help prevent soil erosion and deliver multiple benefits (e.g. water purification, carbon storage).

Water

- **Water quality:** issues remain in the Park caused by unsustainable abstractions, morphology pressures and land management issues linked to diffuse pollution. Three river and 12 loch waterbodies in the Park still fail to achieve "good" status in line with Water Framework Directive (WFD) objectives.
- **Flooding:** the magnitude and frequency of flood events is expected to increase with climate change. This raises issues for communities, businesses and infrastructure at various locations across the Park including the Loch Lomond and Loch Earn basins, the Forth and Teith and coastal flooding around Loch Long (all these areas are Potentially Vulnerable Areas – PVAs).

[17] http://www.thisisyourpark.org.uk/your-park-camping-development-strategy/
[18] http://www.gov.scot/Resource/0051/00513102.pdf
[19] http://www.gov.scot/Topics/farmingrural/Rural/Forestry

- **Natural flood management:** in line with Scottish Government guidance on sustainable flood risk management[20] (FRM) and the extant Flood Risk Management Strategies (FRMS) intersecting the Park, there is an important opportunity for the NPA to promote natural flood management techniques, especially through support for integrated land management at the regional and whole estate / farm level.

Climatic factors

- **Peatland restoration:** see *geology and soils*.

[20] http://www.gov.scot/Resource/Doc/351427/0117868.pdf

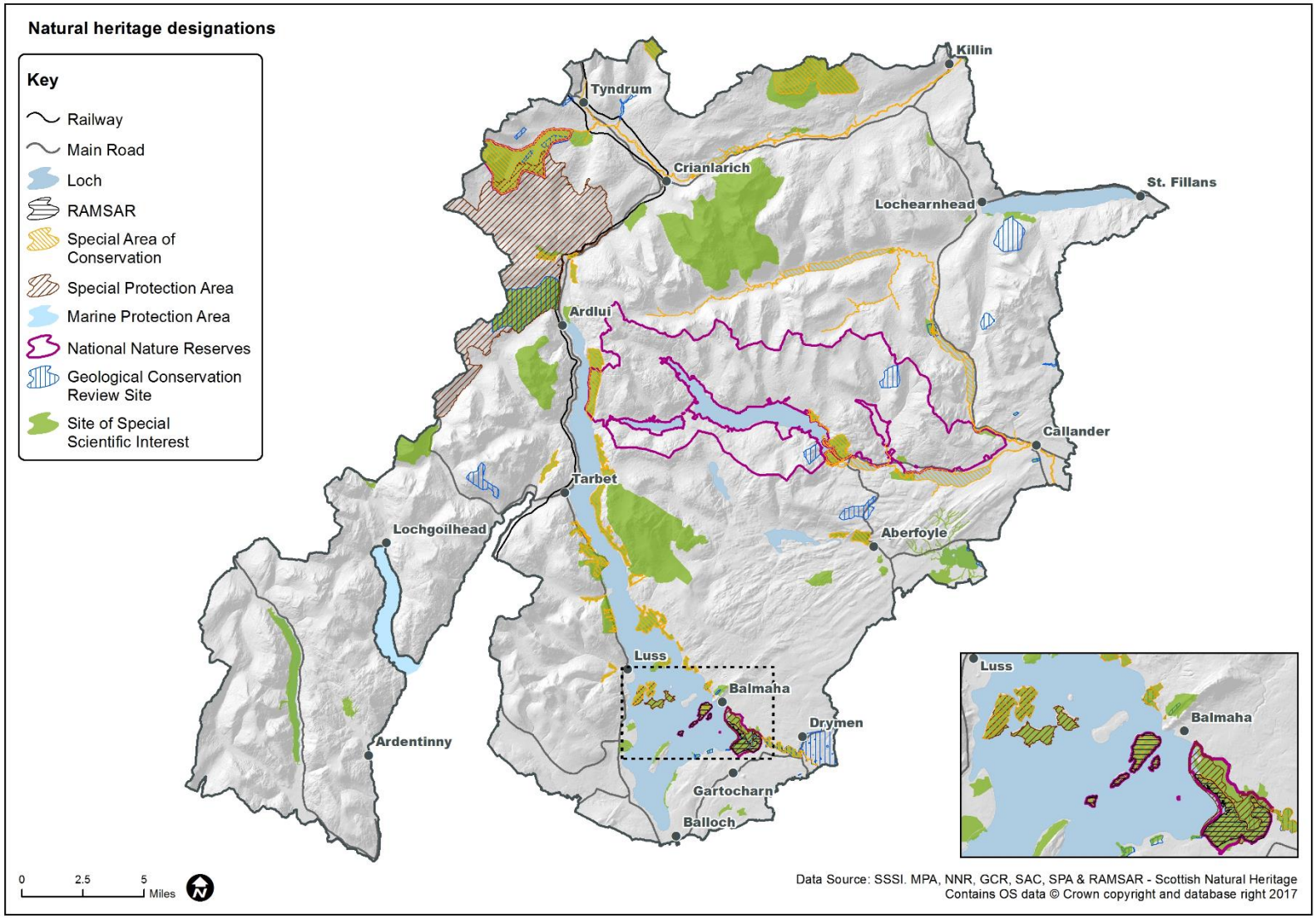

Figure 4.2: Location and extent of international, EU and national level natural heritage designations across the Park

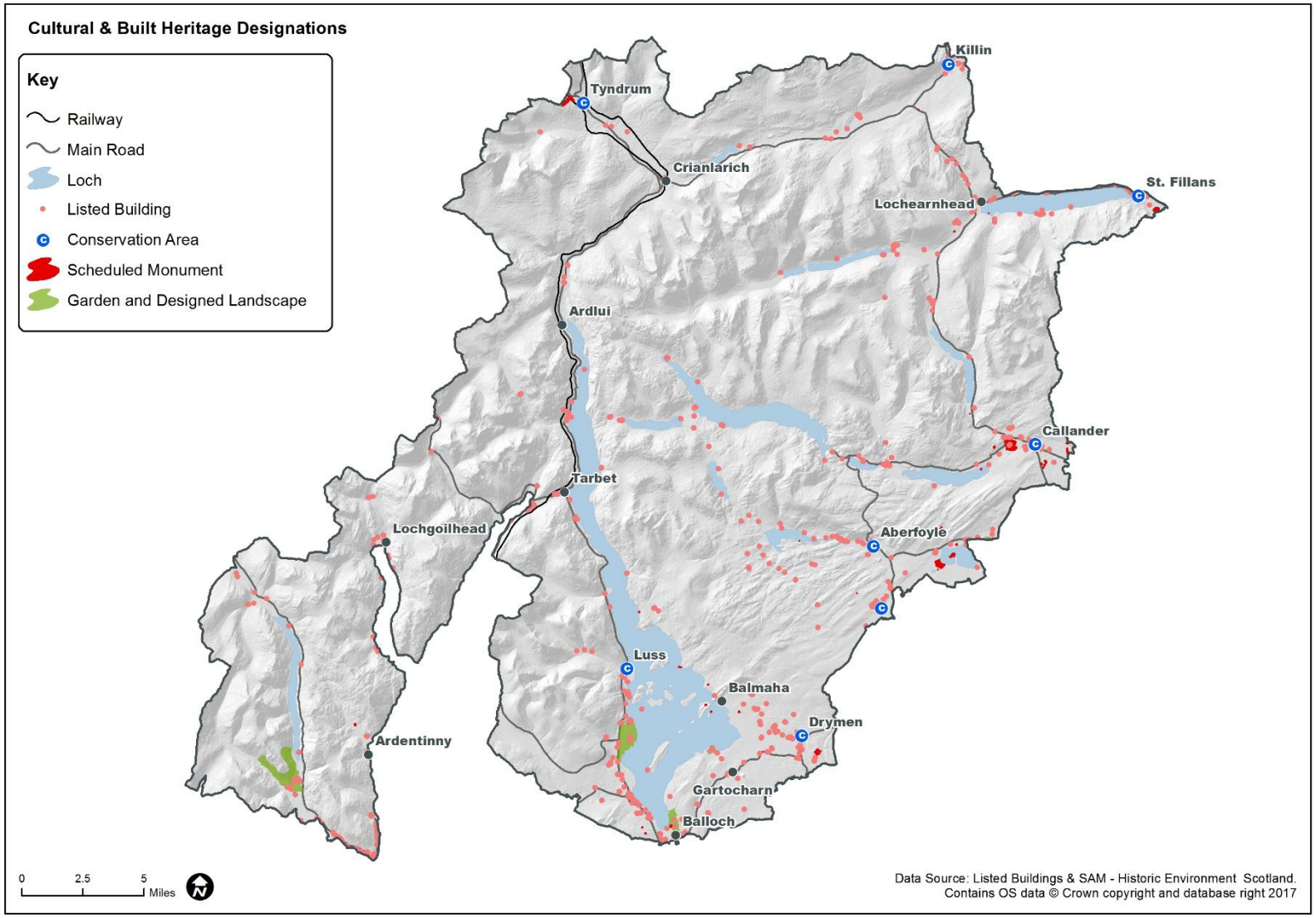

Figure 4.3: Location and extent of cultural heritage designations across the Park

Climatic factors (continued)

- **Flooding:** see *water*.
- **Natural flood management:** see *water*.
- **Sustainable transport:** see *material assets*.
- **Other climate risks:** whilst flooding is quantifiably the most important climate risk affecting Scotland[21], the Park is also exposed to other climate risks that are harder to predict and quantify. Overgrazing (see *biodiversity*) on prone slopes can increase the risk of landslides during prolonged and / or intense periods of heavy rainfall[22]. In the Park, landslides have affected the A82 at the Rest and be Thankful and the A85 at Glen Ogle.
- **Changing climate space and pests and diseases:** rapid changes in seasonal temperatures and rainfall patterns continue to put the Park's wild species populations under the dual pressure of needing to adapt to changing climate space (a warmer wetter climate) and the emergence and spread of new plant diseases (e.g. ash dieback).

Landscape and cultural heritage

- **Sustainable forest management:** see *biodiversity, flora and fauna*.
- **Restructuring of forest estate:** large scale restructuring of some forests and woodlands will be required over the coming years to address new and emerging tree diseases, especially ash dieback and *Phytophthora ramorum* affecting Japanese larch. The impact on the Park's landscapes is unclear at present, dependent on the tree species that are used to replace these vulnerable species.
- **Ensuring the integrity of cultural heritage assets:** demand for various new development across the Park (see *population and human health*) means that there is a need to manage this pressure on parts of the Park with important cultural heritage assets (see Figure 4.3).

Population and human health

- **Population stability and housing:** the Park's population has decreased and is projected to decrease further with a shift towards an older demographic. Access to affordable housing remains a critical part of the challenge for retaining and growing the younger population. However new housing needs to be delivered in a sustainable manner especially in terms of protecting the Park's natural and cultural heritage assets and ensuring provision of adequate ancillary infrastructure (see *material assets*).

Materials assets

- **Sustainable infrastructure:** demand for new development in the form of housing and visitor accommodation and facilities requires a sustainable approach to infrastructure provision, especially in terms of flooding and water infrastructure (e.g. ensuring that development does not increase flood risk, ensuring adequate provision of drainage / sustainable urban drainage schemes (SuDS) and waste water infrastructure).
- **Visitor pressure:** high numbers of visitors to the most accessible and popular places in the Park put pressure on recreational and other facilities (e.g. footpaths, car parks, waste / litter management). There is a continuing need to address these issues through the right combination of engagement and education, investment (e.g. in new facilities) and, where necessary, management measures and regulation.

[21] https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Scotland-National-Summary.pdf
[22] http://www.sciencedirect.com/science/article/pii/S1877705816305616

- **Transport:** the vast majority of visitor journeys to the Park continue to be made by car. There remains a need to promote public transport options and encourage visitors to travel by alternative modes. There are also opportunities to make travel to and within the Park "part of the experience" (e.g. linking longer distance cycle routes to public transport, investing in the seasonal waterbus service).
- **Population stability and housing:** see *population and human health*.

4.3 Likely evolution of the environment without the NPPP 2018-2023

SEA legislation requires consideration of the likely evolution of the baseline environment without the implementation of the plan or programme[23]. In the case of the NPPP, there isn't a "no plan" scenario as such as National Park Plans are a legal requirement of the National Parks (Scotland) Act 2000[24] (see Figure 4.1). Given this, the likely evolution of the baseline environment has been inferred from the assessment of the Business as Usual (BAU) scenario; i.e. a continuation of the extant NPPP 2012-2017. The BAU scenario has been considered within the assessment of reasonable alternatives to the NPPP 2018-2023 in section 7.2 below. Consideration of the BAU alternative identifies what might happen to the baseline environment in the absence of the new plan. Extrapolation of the baseline can also be inferred from the trends analysis undertaken as part of the environmental baseline (Appendix 3), from the SEA of the extant NPPP (Environmental Report dated April 2012) and from the significant environmental effects monitoring of the extant NPPP carried out for SEA.

[23] http://www.legislation.gov.uk/asp/2005/15/schedule/3/enacted
[24] http://www.legislation.gov.uk/asp/2000/10/section/11

5. The SEA Framework

5.1 SEA objectives

As explained at section 3.3, the SEA has adopted an objectives-led assessment methodology whereby the NPPP 2018-2023 has been assessed in terms of its potential to support or conflict with environmental objectives. Headline SEA objectives and sub-objectives / assessment criteria have been identified and developed to account for the key environmental issues of relevance to the NPPP. Where relevant, they also reflect environmental protection objectives identified in the PPS review (see section 4.1 and Appendix 2). The full suite of SEA objectives and sub-objectives / assessment criteria, as revised following scoping consultation, is provided at Table 5.1 below.

Table 5.1: SEA headline objectives and sub-objectives / assessment criteria

Headline SEA objectives	SEA sub-objectives / assessment criteria
Biodiversity, flora and fauna	
1. Furthering biodiversity by conserving and enhancing the diversity of species	• Prevent loss of priority species • Minimise disturbance to and avoid deterioration in populations of priority species and their habitats • Increase area of habitat managed for priority species • Prevent impacts of non-native and invasive species
2. Further biodiversity by conserving and enhancing the diversity of habitats	• Increase creation and management of priority habitats • Prevent loss of priority habitats • Minimise disturbance to and avoid deterioration of priority habitats • Ensure Natura 2000 sites are in favourable condition
3. Conserve and enhance the integrity of ecosystems	• Prevent fragmentation of habitats • Ensure management and development does not create new barriers to species movement • Promote habitat networks
Geology and soils	
4. Conserve and enhance land form, soils and related natural processes and systems	• Respect landform, geology and geomorphology • Minimise risk of coastal erosion • Avoid interference with natural fluvial processes • Conserve geodiversity • Conserve soil resources • Conserve and restore the ability of peatland and all other soil types to act as carbon sinks / support carbon sequestration • Conserve the Park's best and most versatile agricultural land
Water	
5. Conserve and enhance the water environment including coastal, river and loch systems	• Maintain and improve water quality • Reduce risk of point and diffuse source water pollution • Manage flood risks • Manage water abstraction • Promote use of Sustainable Urban Drainage Systems • Ensure good ecological status of water bodies
Air and noise	
6. Maintain and improve air quality	• Minimise need for travel by private car and reduce journey lengths • Minimise emissions of atmospheric pollutants from all relevant sectors (e.g. transport, agriculture, tourism) • Avoid potentially polluting developments
7. Reduce noise and light pollution	• Minimise noise and light intrusion
Climatic factors	
8. Reduce the causes of	• Reduce energy consumption

Headline SEA objectives	SEA sub-objectives / assessment criteria
climate change (mitigation)	• Reduce emissions contributing to climate change • Encourage more efficient energy use • Promote use of renewable energy • Maximise energy efficiency of existing infrastructure and new development • Encourage walking, cycling and the use of public transport
9. Reduce the effects of climate change (adaptation)	• Respond to predicted climatic changes through adaptation measures • Reduce exposure to climate risks and promote resilience
Landscape and cultural heritage	
10. Conserve and enhance the landscape character, local distinctiveness, and scenic value of the Park	• Maintain and enhance landscapes and their special qualities including the Park's wild land areas • Prevent negative impacts on landscape character • Ensure development is sited and designed to contribute positively to landscape character • Regenerate degraded developments
11. Protect and (where appropriate) enhance the Park's cultural, historic and built environments	• Protect scheduled ancient monuments, historic buildings, designed gardens and landscapes, archaeological sites, townscapes, historic landscapes, Conservation Areas and maritime archaeology • Ensure high quality new building design • Maintain the character of settlements • Prevent loss of locally distinctive architecture • Promote historical and cultural associations between people and places • Promote Gaelic and Scots language • Preserve traditional skills
Population and human health	
12. Protect and improve the health and wellbeing of residents and visitors to the Park	• Provide for local housing needs • Ensure community access to services • Encourage healthy lifestyles • Provide local employment opportunities • Prevent the loss and fragmentation of access networks and open space • Create new access opportunities • Promote appropriate use of green infrastructure for health benefits
Material assets	
13. Promote sustainable use of resources	• Reduce consumption of fossil fuels • Encourage use of local products • Conserve mineral resources • Optimise recycling and reusing • Promote sustainable use of water • Promote efficient use of land • Promote sustainable reuse of vacant buildings • Increase reuse and recycling of materials • Reduce the amount of residual waste disposed to landfill in each sector

5.2 Significance criteria

The environmental assessment of the NPPP 2018-2023 consists of evaluating the priorities and reasonable alternatives against the SEA objectives / assessment criteria and summarising the assessment in matrices. Indicators, baseline data, trends analysis and summary of key environmental issues provides supporting evidence for the assessment when evaluating the potential significance of the environmental effects identified. To aid this evaluation process, generic

significance criteria from Schedule 2 of the 2005 Act[25] have been translated into evaluation of significance guidelines specific to the NPPP; e.g. to help distinguish a major positive effect from a minor effect. Table 5.2 summarises these criteria, taking into account the 2005 Act's requirements in Schedule 3 to include secondary, synergistic, short / medium / long-term, permanent and temporary, positive and negative effects, and whether they are likely to be reversible or irreversible, probable or improbable, frequent or rare[26]. The completed assessment matrices are presented in Chapters 7 and 8 and Appendix 4.

Table 5.2: SEA significance criteria

Effect score / significance	Description
Major Positive (++)	An NPPP priority or alternative that is very likely to lead to a significant opportunity / improvement, or a series of long-term improvements, leading to large-scale and permanent benefits to the SEA objective being assessed. A major positive effect is also likely to have cumulative and indirect beneficial impacts and / or improve conditions outside the specific Park area (i.e. positive transboundary effects).
Minor Positive (+)	An NPPP priority or alternative likely to lead to moderate improvement in both short and long-term, leading to large scale temporary, or medium scale permanent benefits to the SEA objective being assessed. Even where beneficial effects are felt to be temporary, they should not be easily reversible (to detriment of the SEA objective) in the long-term.
Neutral (0)	An NPPP priority or alternative which is unlikely to have any beneficial or negative impact / effect on the objective being assessed in either the short, or long-term. Neutral scoring should only be used where it is very likely that the effect will be neither positive, nor negative. A neutral score is not the same as 'uncertain', where an appraiser is not sure if an effect is likely to be positive or negative, or 'mixed', where the appraiser feels that the effects are likely to be both positive and negative (see below for more detail).
Minor Negative (-)	An NPPP priority or alternative which is likely to lead to moderate damage / loss in both short and long-term, leading to large-scale temporary, or medium scale permanent negative impact on the SEA objective being assessed. This also relates to NPPP priorities / alternatives which may have limited cumulative and indirect detrimental impact and / or limited degradation of conditions outside the specific policy or project area. It is also likely that it will be possible to mitigate or reverse a minor negative effect through policy or project intervention.
Major Negative (--)	An NPPP priority or alternative which is likely to lead to a significant or severe damage / loss, or series of long-term negative effects, leading to large-scale and permanent negative impacts on the SEA objective being assessed. This also relates to NPPP priorities / alternatives which may have significant cumulative and indirect detrimental impacts and / or degrade conditions outside the Park area (i.e. negative transboundary effects) and / or that are likely to threaten environmental thresholds / capacities in areas already under threat. The detrimental effects of the priority / alternative will be hard to reverse and are unlikely to be easily mitigated through policy or project intervention. Any damage or detrimental effect in or to environmentally sensitive areas, issues or landscapes which are recognised and / or protected locally, regionally, nationally or internationally should be scored as a major negative.
Mixed (e.g. ++/-, +/-- etc)	The effect is likely to be a combination of beneficial and detrimental effects, particularly where effects are considered on sub-issues, areas or criterion. For example, an NPPP priority / alternative may enhance the viability of certain protected species or habitats (such as native woodlands), but through this damage existing (non-native) habitats which may themselves be important. Such mixed effects will be hard to predict, but could be significant in the long-term, or in combination with other effects (cumulative).

[25] http://www.legislation.gov.uk/asp/2005/15/schedule/2
[26] http://www.legislation.gov.uk/asp/2005/15/schedule/3

Effect score / significance	Description
Uncertain (?)	The effect of an NPPP priority / alternative is not known, or is too unpredictable to assign a conclusive score. The appraiser is not sure of the effect. This may be the case where a priority / alternative covers a range of issues, or where the manner in which it is implemented will have a material impact on the effects it will have.

6. Testing the compatibility of NPPP outcomes with the SEA objectives

6.1 Purpose of testing compatibility

The purpose of testing the outcomes from the NPPP 2018-2023 against the SEA objectives (Table 5.1) is to identify potential synergies and areas of inconsistency / potential conflict between what the plan is trying to achieve and the aspirations for the environment, as per the SEA objectives. This information can help to refine the overall strategic direction of the plan as well as highlighting key issues to look out for in the detailed assessment of the preferred alternative (Chapter 8).

6.2 NPPP outcomes and assessment of compatibility

Table 6.1 below presents a summary of the overall findings of the compatibility assessment of the NPPP 2018-2023 outcomes vs. the SEA objectives. The NPPP outcomes have been listed in short form only. Please refer to Table 2.1 to see the outcomes listed in full. A detailed matrix of the compatibility assessment is provided in Appendix 4. This includes detailed comments explaining the rationale for the assessments. Key headline messages from the assessment are outlined below:

- **Mixed compatibility with biodiversity SEA objectives:** all C&LU outcomes exhibit strong support for biodiversity objectives; however outcomes promoting increased activity across the Park are more uncertain due to the potential for disturbance / damage to habitats and wild species populations. Whilst Outcome 8 is designed explicitly to address this tension, careful implementation and monitoring of any increases in tourism and wider economic development activities is required to ensure that conflicts are minimised.
- **Development activities causing emissions:** many of the Visitor Experience and Rural Development outcomes will promote increased activity in the Park, attract more visitors and hopefully increase the Park's resident population. All these outcomes are likely to increase transport demand to / from / within the Park. This has the potential to increase noise, congestion, emissions of air pollutants (NO_x, PM_{10} etc) and emissions of greenhouse gases. This issue will need to be managed carefully to minimise emissions and ensure that the Park's existing good air quality is maintained (see Appendix 3).
- **Mixed compatibility with landscape and cultural heritage SEA objectives:** many of the NPPP outcomes will work towards the protection and enhancement of landscape quality etc; e.g. integrated land management (Outcome4) should help to ensure that the aggregated effect of holding level land management contributes to landscape outcomes at the catchment level. For the various outcomes that promote new development in the Park (e.g. Outcome 5, Outcome 6, Outcome 10 etc), whilst it is anticipated that projects will be small and sensitive to landscape constraints, there remains the need to manage the cumulative effect of multiple small scale developments in a sensitive and proactive manner.
- **Strong support for health and wellbeing SEA objectives:** 10 of the 13 outcomes exhibit strong support for the SEA objective on health and wellbeing. However, support from three of four C&LU outcomes is uncertain. Whilst there is a growing body of scientific evidence demonstrating linkages between "nature connectedness" and health and wellbeing outcomes[27], careful targeting of related activities (e.g. awareness raising, engagement projects) are likely to be required to ensure that this is realised. As such, compatibility between certain C&LU outcomes has been scored as "uncertain" at present.

[27] http://www.sciencedirect.com/science/article/pii/S0169204616302237

Table 6.1: Compatibility assessment of NPPP 2018-2023 outcomes with headline SEA objectives

Key to scoring of compatibility assessment

✓ NPPP outcome compatible with SEA objective

✘ Potential for conflict between NPPP outcome and SEA objective

? Compatibility uncertain

0 No identified conflict or compatibility

SEA Objectives	NPPP 2018-2023 outcomes												
	C&LU: Habitat restoration & connectivity	C&LU: Landscape enhancement & experience	C&LU: Land use & climate change	C&LU: Integrated land management	VE: Range of recreation opportunities	VE: Visitor management at key sites	VE: Increase in water recreation opportunities	VE: Thriving visitor economy	VE: Health and outreach	RD: Towns and villages	RD: Rural economy	RD: Growing economically active population	RD: Sustainable communities
1. Furthering biodiversity by conserving and enhancing the diversity of species	✓	✓	✓	✓	?	✓	?	?	✓	0	?	?	?
2. Further biodiversity by conserving and enhancing the diversity of habitats	✓	✓	✓	✓	?	✓	?	?	✓	0	?	?	?
3. Conserve and enhance the integrity of ecosystems	✓	✓	✓	✓	?	✓	?	?	✓	0	?	?	?
4. Conserve and enhance land form, soils and related natural processes and systems	✓	✓	✓	✓	?	✓	0	?	?	?	?	0	?
5. Conserve and enhance the water environment including coastal, river and loch systems	✓	✓	✓	✓	?	✓	✘	?	?	0	?	?	✓
6. Maintain and improve air quality	0	0	✓	✓	?	✓	?	?	✓	?	?	?	?
7. Reduce noise and light pollution	0	0	0	?	✘	✓	✘	?	?	?	?	?	?

Key to scoring of compatibility assessment

✓ NPPP outcome compatible with SEA objective

✘ Potential for conflict between NPPP outcome and SEA objective

? Compatibility uncertain

0 No identified conflict or compatibility

SEA Objectives	NPPP 2018-2023 outcomes												
	C&LU: Habitat restoration & connectivity	C&LU: Landscape enhancement & experience	C&LU: Land use & climate change	C&LU: Integrated land management	VE: Range of recreation opportunities	VE: Visitor management at key sites	VE: Increase in water recreation opportunities	VE: Thriving visitor economy	VE: Health and outreach	RD: Towns and villages	RD: Rural economy	RD: Growing economically active population	RD: Sustainable communities
8. Reduce the causes of climate change (mitigation)	✓	✓	✓	✓	?	?	?	?	?	✓	?	?	✓
9. Reduce the effects of climate change (adaptation)	✓	✓	✓	✓	0	0	0	?	?	?	?	?	✓
10. Conserve and enhance the landscape character, local distinctiveness and scenic value of the Park	?	✓	?	✓	?	✓	?	?	?	✓	?	?	0
11. Protect and (where appropriate) enhance the Park's cultural, historic and built environments	?	✓	?	✓	?	✓	?	?	?	✓	?	?	✓
12. Protect and improve the health and wellbeing of residents and visitors to the Park	?	✓	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓
13. Promote sustainable use of resources	0	0	✓	✓	?	✓	?	?	0	✓	?	?	✓

7. Assessment of alternative approaches to the NPPP

7.1 Identification of alternatives

As noted in Section 4.3, there is no 'do nothing' alternative scenario in this case, given the legal obligation of the NPA to have an extant National Park Plan. There is therefore only a 'do minimum' alternative, which is a continuation of the existing plan or 'business as usual' (BAU). An analysis was undertaken to compare the components of the plan with the extant plan, in order to identify similarities and differences between them, and therefore the implications for implementing the plan compared to the BAU.

In identifying 'reasonable alternatives' as required by the SEA Directive and the SEA Act 2005 (see Chapter 1) it is necessary to take into account the objectives and the geographical scope of the plan. An undue emphasis on economic development activity, for example, is likely to be incompatible with the purposes of the National Park and the NPPP. The NPPP sets priorities for delivery by other partners and plans / programmes / projects and therefore needs to be deliverable within the remit and funding opportunities available. The compatibility assessment undertaken in Chapter 6 was helpful therefore in identifying the extent to which certain types of activity have the potential to be in conflict with certain SEA objectives.

7.2 Assessment of alternatives

In this section the BAU alternative (continuation of the extant NPPP 2012-2017) is assessed relative to the preferred alternative (the NPPP 2018-2023 – see Chapter 2), drawing on the analysis undertaken and described in section 7.1 above. In addition, a further discussion of alternatives is provided in relation to the potential environmental effects of having an enhanced emphasis on certain priorities from the more development / recreation focussed themes (Visitor Experience and Rural Development).

SWOT analysis of the NPPP 2018-2023 over the extant NPPP 2012-2017

The assessment of the BAU and preferred alternatives has been undertaken using an environmental SWOT (strengths, weaknesses, opportunities and threats) analysis approach (see section 3.3 for full details). Using the headline SEA objectives and topics as a framework, a SWOT analysis of the new plan (preferred alternative) with the extant plan (BAU alternative) has been undertaken. The SWOT is presented in Table 7.1 below. Key findings from the SWOT analysis include:

- **The new NPPP 2018-2023 exhibits more strengths than weaknesses when compared to the extant plan:** several innovations and new provisions within the NPPP 2018-2023 constitute important strengths over the extant plan. In particular, support for a catchment based approach to the delivery of many measures (e.g. INNS, waterbody restoration) is preferable as planning and delivering intervention at the ecosystem scale can be more effective[28]. The proposed **Regional Land Use Partnerships** (RLUPs) are an important innovation in this regard as they can provide a mechanism for collaborative land use planning at the regional (e.g. catchment) level;
- **The main weakness of the new plan over the extant plan is its lack of specificity combined with its very strategic nature:** given limited resources and the framing of the priorities in the plan, it is unclear how intervention will be prioritised. For example, in the extant NPPP, waterbody restoration and natural flood management measures are focussed in the **Forth and Tay catchments**. The new plan does not appear to include any such prioritisation and it is unclear if there will be sufficient resources to deliver the ambitious waterbody restoration

[28] https://catchmentbasedapproach.org/about

measures across all catchments during the plan period. This key weakness is likely to be addressed by using the new NPPP as a discussion document to formalise arrangements and agreements with partner organisations on an individual basis (e.g. using individual partnership agreements as per the extant NPPP). However, it would be preferable if resource availability (and constraint) is articulated clearly in the plan document to help manage expectations;

- **The new NPPP 2018-2023 raises several important environmental opportunities:** as with strengths (see above), several innovations and new provisions within the NPPP raise significant opportunities for environmental enhancement over the extant plan. The new **RLUP** mechanism is important (as explained above) especially when linked to existing NPPP support for whole farm / estate planning (**support for land managers to deliver benefits**). Crucially, the land use management priorities articulated at the regional level via **RLUPs** have the potential to be picked-up and delivered "on the ground" by individual farmers and land managers using existing NPA support mechanisms at this level. Also, it is important to note that coherent planning of certain land management actions at the landscape scale can deliver additional benefits over discrete actions at the field / farm level[29] (e.g. enhancement of ecological networks). New health focussed measures within the NPPP 2018-2023 also raise important opportunities for ***population and human health***;
- **Notwithstanding the above, the new NPPP 2018-2023 also raises several environmental threats when compared to the extant plan:** a new (somewhat utilitarian) focus on delivering multiple benefits from nature, whilst an important policy objective from the Scottish Government Land Use Strategy[30] (LUS), runs the risk of eroding critical stocks of natural capital (e.g. focus on productive, functional habitats / land covers only) unless an overarching objective on protecting and enhancing ecosystem health is incorporated alongside this. This protection is implicitly provided by the Sandford Principle[31] but it may be useful to set this out explicitly in the new NPPP itself (Table 8.4). Other key threats raised by the new NPPP relate to: potential conflicts between ***landscape*** and ***biodiversity*** objectives; promotion of water recreation development on larger lochs may negatively affect ***biodiversity*** and ***landscape***; and the new more stringent visitor management measures may erode certain personal freedoms (***population and human health***), negatively impacting the image of the National Park.

Alternative emphasis within Visitor Experience and Rural Development themes

Given the remit of the NPA there is a need to balance the three priorities of conservation, visitors and development. Where there is a risk of conflict, the Sandford Principle is clear that NPA's should:

> *"attach greater weight to the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the area"*[32].

Consequently, an alternative that had an increased emphasis on Rural Development and / or the economic aspects of Visitor Experience would be unlikely to be a 'reasonable alternative', given the nature and scope of the plan and its objectives.

Furthermore, given the current uncertainty over funding (e.g. access to EU funds such as the SRDP) it would also be 'unreasonable' to have a stronger set of activities / measures under the Conservation and Land Use and Visitor Experience themes.

Also, a stronger emphasis on visitors, for example, would potentially conflict with conservation objectives and / or require significant mitigation measures, which also have a cost implication that

[29] http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=2&ProjectID=18555
[30] http://www.gov.scot/Resource/0050/00505253.pdf
[31] http://www.nationalparks.gov.uk/students/whatisanationalpark/aimsandpurposesofnationalparks/sandfordprinciple
[32] http://www.nationalparks.gov.uk/students/whatisanationalpark/aimsandpurposesofnationalparks/sandfordprinciple

may not be sustainable given the resource constrained environment faced by the NPA and other public bodies.

Table 7.1: SWOT analysis of the NPPP 2018-2023 over the extant NPPP 2012-2017

Note: the SWOT points in the table below relate to the proposed new NPPP (the preferred alternative) relative to the extant NPPP (the BAU alternative). For example, points in the *strengths* cell refer to the environmental strengths of the new NPPP over the extant NPPP.

Strengths	Weaknesses
• ***Water, soil, population and human health, climatic factors, material assets:*** focus on the delivery of multiple benefits from nature (e.g. natural flood management, recreation, timber and food production). • ***Biodiversity, water, climatic factors:*** use of a strategic, catchment based approach to the delivery of many measures (e.g. INNS, waterbody and peatland restoration). • ***Biodiversity, water, landscape:*** more robust visitor management measures (YOURPark) will help to protect sensitive loch shore habitats in the Park. • ***Biodiversity, landscape, water, soil:*** new support for Deer Management Groups (e.g. via management plans and impact assessments) has the potential to deliver a range of benefits across the Park.	• ***Potentially all SEA topics:*** limited prioritisation of activity across themes, outcomes and priorities may hinder delivery of the Plan (e.g. given limited resources, continued austerity, risk of spreading resources too thinly rather than focussing on key priority issues).
Opportunities	**Threats**
• ***Potentially all SEA topics:*** inclusion of collaborative land use planning at the regional scale (**Regional Land Use Partnerships**) presents an opportunity to identify land use management priorities at more strategic levels (i.e. catchment / landscape scale) and link these to practical on the ground delivery via existing farm / estate level mechanisms (**support for land managers to deliver benefits**). • ***Population and human health, soil, landscape:*** support for new and existing Heritage Lottery Fund (HLF) projects (e.g. The Mountains and The People, Callander Landscape Partnership) has the potential to leverage in additional funding and deliver various benefits around the Park. • ***Population and human health:*** measures to promote the Park as a resource for health improvement (e.g. **establish a National Park Health Partnership**) raise an important opportunity to help tackle health issues in the Glasgow and Clyde Valley city region and the wider central belt of Scotland.	• ***Potentially all SEA topics:*** limited articulation of deliverable / on the ground actions and policies may hinder delivery of the Plan. • ***Biodiversity, landscape:*** somewhat utilitarian focus on ecosystem services and enhancing benefits from nature (e.g. specific objectives on timber and food production) may mean that some habitats / land covers are prioritised over others, with potential risks to overall ecosystem health. • ***Biodiversity, landscape:*** new focus on **protecting wild land qualities of upland areas** may act to preclude sustainable expansion of some upland habitats (e.g. upland birchwoods) due to incompatibility with prevailing landscape aesthetic. • ***Population and human health:*** more robust visitor management measures (YOURPark) may inadvertently reduce access for some groups (irresponsible **and** responsible wild campers) eroding certain personal freedoms. • ***Biodiversity, water, landscape:*** development of new recreational infrastructure and increased use of sea lochs and larger freshwater lochs may result in disruption of habitats and wild species populations.

In hypothetical terms, however, it is possible to consider the potential implications of an NPPP with a stronger focus on the developmental aspects of the plan. Within the Visitor Experience theme, for example, introducing a stronger focus on **water recreation** would increase the magnitude, range, certainty and potential overall significance of the minor negative effects identified under these priorities (Table 5.2, Appendix 5).

A stronger focus here could equate to more relaxed policy (e.g. within the LDP) on loch side development including more access / egress points, moorings, ancillary facilities etc, a relaxed approach to different types of uses (e.g. motor boating) and stronger promotion of large scale water based events. In all cases, this would likely result in increased disruption of sensitive aquatic / riparian habitats and wild species populations (***biodiversity***), degradation of loch shore fringe, loch island, sea loch foreshore and glen side landscapes[33] (***landscape***), increased emissions of air pollutants / greenhouse gases and increased noise (***air and noise***, ***climatic factors***).

Further, key effects that have been evaluated as 'neutral' in the current assessment (Table 5.2, Appendix 5) may be 'upgraded' to minor negative. For example, the magnitude of disruption to individual habitats and wild species populations (see above) may increase to the extent that cumulatively, the overall integrity of loch / river ecosystems is disrupted (***biodiversity*** – ***conserve and enhance the integrity of ecosystems***).

Clearly, the above scenario is very unlikely to happen under the NPPP 2018-2023 for the reasons outlined above (i.e. what constitutes a 'reasonable alternative' given the National Parks legislation and the Sandford Principle). However, it helps to illustrate what could happen under a counterfactual situation, e.g. in the case that the area was not a designated National Park and / or if the Sandford Principle was not an explicit requirement of the implementing legislation for National Parks.

7.3 Conclusion

The SEA has used a SWOT analysis approach to assess the plan along with the BAU alternative (the 'do-minimum' option). Under current circumstances and given the remit of the NPA and the objectives and scope of the NPPP, the NPA concluded that there were no other alternatives that could be considered 'reasonable' for further assessment. This has been illustrated above with reference to a hypothetical 'alternative emphasis' scenario that would see greater weight attached to priorities within the Rural Development and Visitor Experience themes.

The findings of the SWOT analysis of the new plan (preferred alternative) over the old plan (BAU alternative) show that the proposed NPPP 2018-2023 has significant advantages over the extant plan (e.g. integration of collaborative land use management planning across scales, general usage of catchment based approaches, support for deer management).

The key weakness of the new plan concerns its highly strategic nature and lack of prioritisation / focus across theme and priorities; i.e. it is unclear if / how activity will be prioritised **spatially** across the Park or **thematically** across themes, outcomes and priorities. Without this focus, there is a risk that limited resources may be spread too thinly to deliver desired environmental outcomes.

[33] http://www.snh.org.uk/pdfs/publications/review/140.pdf

8. Assessment of the proposed NPPP 2018-2023

This chapter presents a summary of the assessment of the NPPP 2018-2023 (section 8.1) including key areas of potential cumulative effects (section 8.2) and proposed mitigation and enhancement measures (section 8.3). Detailed assessment matrices, per NPPP theme, are provided in Appendix 5. Readers should note that six proposed priorities from the NPPP have not been assessed as part of this SEA (see section 3.3 and Appendix 5 for further details). There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impacts on the assessment findings.

8.1 Summary of the assessment

Assessment of Conservation and Land Use (C&LU) priorities

A summary of the assessment of the Conservation and Land Use (C&LU) priorities is presented in Table 8.1 below. The full assessment (including detailed notes explaining the rationale for assessment against the significance criteria etc) is provided in Appendix 4 Table A4.1.

Overall, the assessment has identified the potential for C&LU priorities to give rise to a range of mainly positive environmental effects though with key areas of uncertainty dependent on how the priorities are implemented. This is to be expected given the strategic nature of the priorities and SEA recommendations have been made to the NPA at section 8.3 to help ensure that as many of these positive effects are realised upon implementation of the NPPP 2018-2023.

An outline of specific points relating to the C&LU priorities assessment is provided below:

- **C&LU priorities likely to cause the most significant positive effects:** several priorities were assessed as having the potential to cause ***several major positive effects***, especially **woodland enhancement and expansion**, **waterbody and peatland restoration** and **support for Deer Management Groups (DMGs)**:
    - **Woodland**: the spatial focus on upland and riparian areas means that key UK BAP Priority habitats in the Park are likely to benefit (e.g. upland birch / oak woods), supporting ***biodiversity SEA objectives***. This will also help to address soil erosion issues (e.g. planting heavily grazed slopes, cleuchs etc in upland areas) and riparian planting (including floodplain woodland) can help to promote natural fluvial processes / flooding regimes[34], supporting ***soil*** and ***water SEA objectives***. Woodland measures are also expected to provide major benefits to ***climatic factors (adaptation) SEA objectives*** (see Table 8.1).
    - **Waterbody and peatland restoration**: the importance of blanket bog as an integral part of the Park's upland landscapes[35] and core wild land areas[36] means that action taken to restore degraded peatland habitats will also support ***landscape SEA objectives***. The proposed catchment based approach to waterbody restoration, in conjunction with other C&LU measures including **Regional Land Use Partnerships (RLUPs)** and **support for land management planning**, raises an important opportunity to address the Park's remaining WFD issues, especially rural diffuse pollution and morphological pressures, supporting ***water SEA objectives***. Waterbody and peatland measures are also expected to provide major benefits to ***biodiversity***, ***soil*** and ***climatic factors SEA objectives*** (see Table 8.1).

[34] https://www.forestry.gov.uk/pdf/FRMG004_Woodland4Water.pdf/$FILE/FRMG004_Woodland4Water.pdf
[35] http://www.snh.org.uk/pdfs/publications/review/140.pdf
[36] http://www.snh.gov.uk/docs/A1329851.pdf

- **Support for DMGs**: supporting DMGs and the associated positive impacts in terms of managing grazing / browsing pressure is expected to provide various environmental benefits, especially in terms of ***biodiversity***, ***climatic factors*** and ***landscape SEA objectives*** (see Table 8.1).

- **C&LU priorities where effects are important but uncertain:** several priorities were assessed as having the potential to cause ***several major positive effects***, however the approach to implementation of these measures remains uncertain, meaning that the realisation of these benefits is uncertain also. This applies to the following priorities: **delivering multiple benefits from nature**; **RLUPs**; and **support for land management planning**. All these measures are excellent in principle but will rely heavily on support and consensus from individual land owners and managers (i.e. to effect desired land use management interventions on private land). The rationale behind these measures is based on developing a shared understanding of the benefits (ecosystem services) and management issues / priorities of relevance to natural assets at the landscape (catchment) scale (**RLUPs**) and linking this to delivery at the farm / holding / estate scale (**support for land management planning**). This type of approach is endorsed in the Scottish Government's updated (2016) Land Use Strategy[37] (LUS) and has the potential to deliver benefits for nature (e.g. enhancing ecological connectivity, consolidating high value habitats) and people (enhancing the delivery of key ecosystem services – e.g. flood storage, recreation / access provision). In principle, therefore, the combined effect of these three measures has potential to result in major positive effects across almost all SEA objectives (see Table 8.1) though this is heavily dependent on the effectiveness of implementation.

- **C&LU priorities where effects are mixed:** several priorities have the potential to cause mixed (minor) positive and negative environmental effects though with a degree of uncertainty. This relates especially to: **delivering multiple benefits from nature**; **conserving & enhancing wildness, dark skies etc**; **wild land qualities of upland areas**; and **support for Flood Risk Management (FRM)**. For example:

  - **Delivering multiple benefits from nature:** potential to deliver substantial positive effects as per the above. However, a very utilitarian (ecosystem services) approach to nature may mean that certain land use functions are prioritised over others (e.g. productive land uses / provisioning services, regulating services etc).

  - **Wild land / upland landscapes:** there is much debate at present in Scotland and the UK concerning how our land should be used and managed in the future, especially given the potential consequences of Brexit[38]. This is particularly acute in relation to upland areas where debates about landscape aesthetics and the emerging concept of "rewilding" are exposing different views about how our upland areas should be developed and managed in the future[39,40]. The **wild land** and **upland landscape** measures in the NPPP raise both opportunities and threats in this context; maintaining these areas with their current configuration of land covers and habitats will deliver benefits for some aspects of ***biodiversity*** and ***landscape*** (e.g. blanket bog) but potentially at the expense of others (e.g. expanding appropriate forms of native upland woodlands). These trade-offs will need to be reconciled carefully on a case-by-case (catchment / landscape / site) basis to ensure sustainable outcomes.

- **C&LU priorities with potential negative effects:** although the vast majority of the C&LU measures are likely to cause major and minor positive effects, there is potential for some

[37] http://www.gov.scot/Resource/0050/00505253.pdf
[38] http://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2015/future-of-the-natural-environment-after-the-eu-referendum-16-17/
[39] http://www.rewildingbritain.org.uk/
[40] http://www.snh.gov.uk/docs/A2131195.pdf

negative issues to arise also via measures causing mixed effects (see above) and one measure that may cause specific minor negative effects. **Enhancing opportunities to enjoy landscapes** may cause minor negative effects in relation to various aspects of ***biodiversity***. In particular, removing vegetation along roads and railways (for example) to open-up views could result in loss of linear habitats which are important for ecological connectivity and the aspects of ecosystem function that this underpins.

Assessment of Visitor Experience (VE) priorities

A summary of the assessment of the Visitor Experience (VE) priorities is presented in Table 8.2 below. The full assessment (including detailed notes explaining the rationale for assessment against the significance criteria etc) is provided in Appendix 4 Table A4.2.

Overall, the assessment has identified the potential for VE priorities to give rise to mixed effects including many areas of neutral effects (i.e. measures that are unlikely to have any **significant** beneficial or adverse effect on the SEA objective being assessed – see Table 5.2). As with measures in the C&LU theme (Table 8.1), the assessment of VE priorities is also characterised by key areas of uncertainty, dependent on how the priorities are implemented.

An outline of specific points relating to the VE priorities assessment is provided below:

- **Aspects of the environment likely to be most beneficially affected:** the assessment has highlighted several aspects of the environment (as per the SEA objectives) that are likely to be most positively affected by the proposed VE priorities, especially ***air***, ***noise***, ***climate change mitigation***, ***population and human health*** and ***material assets***. Further details below:
    - **Air / noise / climatic factors (mitigation):** all measures that promote / facilitate active travel and / or integrated travel options (e.g. **core paths review, strategic links to NWCN, active and integrated travel**) will help to reduce emissions of transport related air pollutants and greenhouse gases (GHG), contributing positively to relevant SEA objectives. Effects are only likely to be minor positive due to the Park's existing good air quality (though this may alter as anticipated increases in visitor numbers increase transport demand) and the relatively small contribution made by the Park to national level GHG emissions. SEA objectives relating to ***noise and light pollution*** are likely to benefit through potential reduced demand for transport and better management of tranquil loch shores via YOURPark etc.
    - **Population and human health:** the vast majority of the VE measures are expected to contribute positively to SEA objectives on ***population and human health***. Principally, this relates to measures that will increase provision of access and recreation infrastructure as well as promoting and facilitating its use (see above). Of particular importance are the new measures relating to the **Park as a resource for health improvements** and the idea of a **National Park Health Partnership**. These measures have the potential to promote and utilise the Park's many recreational assets as a means of delivering health benefits to a much wider audience (i.e. the affected population is potentially very large – e.g. the Glasgow and Clyde Valley area). Increased use in this regard will however require careful management to avoid undue pressure on key natural assets (see below).
- **VE priorities likely to cause the most significant positive effects:** several priorities were assessed as having the potential to cause ***several major and / or minor positive effects***, especially **YOURPark**, **management of quiet areas on east Loch Lomond and islands** and **best practice for water craft use**. All measures that have the potential to manage various forms of visitor pressure on different aspects of the environment; e.g. promoting / ensuring appropriate use and activities of sensitive loch shores (**YOURPark**, **management of quiet**

areas) will help to protect sensitive habitats and wild species populations, supporting ***biodiversity SEA objectives***. Similar mechanisms will deliver positive effects for ***water*** and ***soil SEA objectives***.

Table 8.1: Assessment of NPPP 2018-2023 Conservation and Land Use (C&LU) priorities – summary matrix

Key to potential environmental effects		NPPP 2018-2023 Conservation and Land Use (C&LU) priorities*													
++	Major positive	Habitats - Woodland enhancement & expansion	Habitats Freshwater and Marine	Habitats -Delivering multiple benefits from nature	Species At risk species (conservation status in decline)	Species -Tackling & reducing INNS	Species-Flagship species	Landscape and Heritage -Conserving & enhancing wildness,, cultural heritage, dark skies etc	andscape and Heritage -Wild land qualities of upland areas	Landscape and Heritage -Enhancing opportunities to enjoy landscapes	Landscape and Heritage Landscape works for habitat improvement	Climate change -Collaboration on joint land/water management	Climate change -Supporting FRM plans delivery	Integrated Land Management -Regional Land Use Partnerships	Integrated Land Management -Support for Deer Management	Integrated Land Management- Support for land managers to deliver benefits
+	Minor positive															
0	Neutral															
-	Minor negative															
--	Major negative															
-/+	Mixed															
?	Uncertain															
SEA Objectives																
Furthering biodiversity by conserving and enhancing the diversity of species		++	++	+ - ?	++	+ +	0	+ - ?	+ - ?	-	+	+	+ - ?	++ ?	++	++ ?
Further biodiversity by conserving and enhancing the diversity of habitats		++	++	+ - ?	+	+ +	0	+ - ?	+ - ?	-	+	++	+ - ?	++ ?	++	++ ?
Conserve and enhance the integrity of ecosystems		++	++	++ ?	+ ?	+ +	0	+ - ?	+ - ?	-	+	++	++ - ?	++ ?	++ ?	++ ?
Conserve and enhance land form, soils and related natural processes and systems		++	++	+ ?	+ ?	0	0	+	+	0	+	++ ?	+ - ?	+ ?	+	+ ?
Conserve and enhance the water environment including coastal, river and loch systems		++	++	++ ?	+ ?	+ + ?	0	+	+	0	+	++ ?	++ - ?	++ ?	+	++ ?
Maintain and improve air quality		0	0	0	0	0	0	- ?	0	- ?	0	0	- ?	0	0	0
Reduce noise and light pollution		+ ?	0	+ ?	0	0	0	+	+	?	+ ?	?	- ?	?	0	?

*There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impact on the assessment findings.

Key to potential environmental effects		NPPP 2018-2023 Conservation and Land Use (C&LU) priorities*													
++	Major positive	Habitats - Woodland enhancement & expansion	Habitats Freshwater and Marine	Habitats -Delivering multiple benefits from nature	Species At risk species (conservation status in decline)	Species -Tackling & reducing INNS	Species-Flagship species	Landscape and Heritage -Conserving & enhancing wildness,, cultural heritage, dark skies etc	andscape and Heritage -Wild land qualities of upland areas	Landscape and Heritage -Enhancing opportunities to enjoy landscapes	Landscape and Heritage Landscape works for habitat improvement	Climate change -Collaboration on joint land/water management	Climate change -Supporting FRM plans delivery	Integrated Land Management -Regional Land Use Partnerships	Integrated Land Management -Support for Deer Management	Integrated Land Management- Support for land managers to deliver benefits
+	Minor positive															
0	Neutral															
-	Minor negative															
--	Major negative															
-/+	Mixed															
?	Uncertain															
SEA Objectives																
Reduce the causes of climate change (mitigation)		++ ?	++	++ ?	+ ?	0	0	+	+	- ?	+	++ ?	+ - ?	++ ?	++	++ ?
Reduce the effects of climate change (adaptation)		++	++	++ ?	+ ?	+ + ?	0	+	+	0	+	++ ?	++	++ ?	++	++ ?
Conserve and enhance the landscape character, local distinctiveness, and scenic value of the Park		++ ?	++	++ - ?	+	+	0	++ ?	++ ?	+ - ?	++	+	+	++	++	++
Protect and (where appropriate) enhance the Park's cultural, historic and built environments		+ - ?	+	+ - ?	?	+	0	++	+	+ - ?	0	0	?	+ ?	?	+ ?
Protect and improve the health and wellbeing of residents and visitors to the Park		+	+ ?	+ ?	0	?	+	+	+	+	?	?	+	+ ?	0	+ ?
Promote sustainable use of resources		+	+	+	+	0	0	?	?	0	+	++	+	++ ?	+	++ ?

*There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impact on the assessment findings.

Table 8.2: Assessment of NPPP 2018-2023 Visitor Experience (VE) priorities – summary matrix

Key to potential environmental effects	
++	Major positive
+	Minor positive
0	Neutral
-	Minor negative
--	Major negative
-/+	Mixed
?	Uncertain

SEA Objectives	NPPP 2018-2023 Visitor Experience (VE) priorities*																
	Path Provision - Improving and extending the NationPark	Active Travel -Raise awareness of access & recreation opps.	Active travel - Strategic links to NWCN	Path Provision -Maximise opps. from path network	Active Travel -Active & integrated travel options	Visitor Management-Implementing YOURPark management zones	Visitor ManagementLoch Lomond islands joint management approach	Visitor Management Litter management	Visitor Management -Parking management	Water Recreation -Promoting water recreation on sea lochs	Water Recreation - Supporting more water recreation on large lochs	Visitor Management - Quiet areas on east Loch Lomond & islands	Water Recreation - Best practice for water craft use	Connectivity -Encourage business to capitalise on trends	Water facilities -nvestment in new visitor facilities & services	Health Improvement -The Park as a resource for health improvement	Health Improvement -Establish a National Park Health Partnership
Furthering biodiversity by conserving and enhancing the diversity of species	0	-	-	-	0	++	+ ?	0	0	-	-	+	+	-	+	- ?	- ?
Further biodiversity by conserving and enhancing the diversity of habitats	0	-	-	-	0	++	+ ?	0	0	-	-	+	+	-	+	- ?	- ?
Conserve and enhance the integrity of ecosystems	0	-	- +	-	0	++ ?	0	0	0	0	0	+	0	-	0	0	0
Conserve and enhance land form, soils and related natural processes and systems	0	-	+ - ?	-	0	+	?	0	0	0	0	+	0	?	0	?	?
Conserve and enhance the water environment including coastal, river and loch systems	0	?	0	?	0	++	+ ?	+ ?	0	- ?	- ?	+	+	- ?	+	0	0
Maintain and improve air quality	+	+	+	+	+	?	0	0	?	?	?	0	0	?	0	?	?
Reduce noise and light pollution	+	+	+	+	+	+	+ ?	0	?	-	-	+	+	- ?	0	?	?
Reduce the causes of climate change (mitigation)	+	+	+	+	+	0	0	0	?	-	-	0	?	- ?	0	?	?
Reduce the effects of climate change (adaptation)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0
Conserve and enhance the landscape character, local distinctiveness, and scenic value of the Park	?	0	?	0	?	? +	? +	0	0	- ?	- ?	0	0	0	?	0	0
Protect and (where appropriate) enhance the Park's cultural, historic and built environments	?	0	?	0	?	0	0	0	0	?	?	0	0	0	?	0	0
Protect and improve the health and wellbeing of residents and visitors to the Park	+	+	+	+	+	+ - ?	+	?	?	+	+	+	?	+	+ ?	++	++
Promote sustainable use of resources	+	+	+	+	+	0	0	+ ?	?	?	?	0	?	+ - ?	+ ?	0	0

*There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impact on the assessment findings.

- **Aspects of the environment that might be negatively affected by VE priorities:** although the VE priorities are expected to deliver a range of benefits for the Park's environment, one outcome from this aspect of the Plan could well be increased visits to the Park e.g. as a result of the *support a thriving visitor economy* and *help deliver health and wellbeing* outcomes in the VE theme (see Chapter 6 and Table 6.1). An increase in visitor numbers will create risks for certain aspects of the environment and in certain locations (e.g. tourism and activity hotspots such as popular loch shores). Whilst this visitor pressure will be managed sustainably (e.g. via **YOURPark**), potential for minor negative effects remain, particularly given ongoing austerity and uncertainty regarding partner resources etc. Key risks relate to: ***biodiversity***, ***soils***, ***noise*** and ***climatic factors (mitigation)***. Some further examples are as follows:
    - **Biodiversity:** all measures that promote increased use of the Park present the risk of increasing disturbance to priority species and their habitats (e.g. the Loch Lomond Woods SAC / SSSI – see Figure 4.2).
    - **Soils:** increased access to and use of the Park will require careful management and related activities (e.g. path maintenance and upgrade works) to ensure that increased use does not contribute to soil erosion, especially in sensitive upland areas.
- **Neutral effects:** over a third of the VE assessments suggest that the priorities will result in neutral effects on the SEA objective assessed (i.e. no significant adverse or beneficial effects in the context of the criteria used – see Tables 5.1 and 5.2). As shown on Table 8.1, there are no particular trends or themes to this result in terms of the VE priorities assessed or the SEA objectives. However, neutral effects should be subject to appropriate monitoring to capture any unexpected adverse effects and / or to identify unexpected positive effects that could potentially be enhanced. Monitoring proposals are introduced in Chapter 9.

Assessment of Rural Development (RD) priorities

A summary of the assessment of the Rural Development (RD) priorities is presented in Table 8.3 below. The full assessment (including detailed notes explaining the rationale for assessment against the significance criteria etc) is provided in Appendix 4 Table A4.3.

Overall, the assessment has identified the potential for RD priorities to give rise to mixed effects including many areas of neutral effects (i.e. measures that are unlikely to have any **significant** beneficial or adverse effect on the SEA objective being assessed – see Table 5.2). As with measures in the C&LU and VE themes (Tables 8.1 and 8.2), the assessment of RD priorities is also characterised by key areas of uncertainty, dependent on how the priorities are implemented.

An outline of specific points relating to the VE priorities assessment is provided below:

- **Aspects of the environment likely to be most beneficially affected:** the assessment has highlighted several aspects of the environment (as per the SEA objectives) that are likely to be most positively affected by the proposed RD priorities, especially ***water*** and ***population and human health***:
    - **Water:** several key RD measures have potential to enhance water related objectives (**climate change adaptation**, **transition to low carbon economy** and **Rural Development Frameworks**); sustainable design (e.g. use of SuDS) and sustainable FRM measures (e.g. use of NFM techniques) have the potential to help manage flood risks, reduce diffuse pollution (from roads, building footprints etc) and reduce water usage. The magnitude of this effect however is likely to be relatively small (minor significance overall) due to anticipated small levels of development (e.g.

housing land supply to 2027 of 916 homes[41]) and / or limited opportunities for retrofitting some measures due to heritage related design constraints.

- **Population and human health:** most of the RD measures have potential to contribute to health and wellbeing outcomes, in various ways. For example, the **enhancement of built and historic environments** presents an opportunity to enhance access and open space networks in the Park's towns and villages, helping to promote active travel for short, local journeys. Measures on **climate change adaptation** should build resilience within communities and businesses helping to ensure access to vital services (e.g. food / shops, health) when extreme weather events / climate impacts (e.g. flooding, landslides) cut-off wider access.

- **Aspects of the environment that might be negatively affected:** although the VE priorities are expected to deliver a range of benefits for the Park's environment, the overarching objective of this aspect of the Plan is to increase visits to the Park to e.g. support the rural economy and grow the economically active rural population (see Chapter 6 and Table 6.1). Increased population and economic activity in this regard will undoubtedly create risks for certain aspects of the environment. Principally, this relates to ***noise*** and ***climatic factors (mitigation)*** linked to increased development activity. ***Noise*** related effects are likely to be minor and temporary linked to specific development projects. Likewise, ***climatic factors*** effects are linked to GHG emissions associated with new built development (embodied emissions) and from increased transport demand. However, consolidating development in existing settlements (Arrochar, Balloch etc) should help to manage these emissions by making the most of existing public transport provision.

- **Uncertain effects:** there are many areas of uncertainty inherent to the RD priorities. A particular example is **diversification of land based rural businesses** which could contribute to a range of positive and negative effects, depending on the interests of those involved.

[41] http://www.ourlivepark.com/our-plan/

Table 8.3: Assessment of NPPP 2018-2023 Rural Development (RD) priorities – summary matrix

Key to potential environmental effects		NPPP 2018-2023 Rural Development (RD) priorities*													
++	Major positive	Infrastructure and Active Travel Spatial focus for development at Arrochar etc	Built Heritage Built and historic environment enhancements	Infrastucture and Active TravelActive travel options between communities	Improved Resiliance Climate change adaptation & resilience	Low Carbon Economy Transition to low carbon economy	Low Carbon Economy Energy [illegible]	Rural Diversification Diversification of land based rural business	Rural Diversification Rural Development Frameworks	Business Support Workspace etc for start-ups	Business SupportMore focussed rural business support	Local Services Local service delivery & rural facilities	Local Services Improvingpublic transport links	Supporting Community Lead Action Land reform and community empowerment	Supporting partnership workingCommunities leading on projects etc	Supoporting Capacity of Community Organisations Communities owning & managing assets
+	Minor positive															
0	Neutral															
-	Minor negative															
--	Major negative															
-/+	Mixed															
?	Uncertain															
SEA Objectives																
Furthering biodiversity by conserving and enhancing the diversity of species		0	0	?	0	?	- ?	+ - ?	+	- ?	?	0	?	?	?	0
Further biodiversity by conserving and enhancing the diversity of habitats		0	0	?	0	0	+ - ?	+ - ?	+	0	?	0	0	?	?	?
Conserve and enhance the integrity of ecosystems		0	0	+ ?	0	0	+ - ?	+ - ?	+	0	?	0	0	?	?	?
Conserve and enhance land form, soils and related natural processes and systems		- ?	+ - ?	0	+ ?	0	?	+ - ?	?	0	0	0	0	?	?	?
Conserve and enhance the water environment including coastal, river and loch systems		?	?	0	+	+	?	+	+	?	?	?	0	0	0	0
Maintain and improve air quality		0	?	+	0	?	?	?	?	- ?	?	+	+	0	0	0
Reduce noise and light pollution		-	-	0	-	?	?	?	0	?	0	0	?	0	0	0
Reduce the causes of climate change (mitigation)		-	0	+	0	+ ?	+	+ - ?	-	- ?	?	+	+	?	?	?
Reduce the effects of climate change (adaptation)		?	?	0	+	0	0	+ ?	?	0	0	+	?	?	?	?

*There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impact on the assessment findings.

Key to potential environmental effects		NPPP 2018-2023 Rural Development (RD) priorities*														
++	Major positive	Infrastructure and Active Travel Spatial focus for development at Arrochar etc	Built Heritage Built and historic environment enhancements	Infrastucture and Active TravelActive travel options between communities	Improved Resiliance Climate change adaptation & resilience	Low Carbon Economy Transition to low carbon economy	Low Carbon Economy Energy [illegible]	Rural Diversification Diversification of land based rural business	Rural Diversification Rural Development Frameworks	Business Support Workspace etc for start-ups	Business SupportMore focussed rural business support	Local Services Local service delivery & rural facilities	Local Services Improvingpublic transport links	Supporting Community Lead Action Land reform and community empowerment	Supporting partnership workingCommunities leading on projects etc	Supoporting Capacity of Community Organisations Communities owning & managing assets
+	Minor positive															
0	Neutral															
-	Minor negative															
--	Major negative															
-/+	Mixed															
?	Uncertain															
SEA Objectives																
Conserve and enhance the landscape character, local distinctiveness, and scenic value of the Park		0	+	- ?	+ - ?	?	-	+ - ?	+	?	0	0	0	?	?	?
Protect and (where appropriate) enhance the Park's cultural, historic and built environments		0	++	?	?	?	?	?	+	?	0	0	0	+ ?	+ ?	+ ?
Protect and improve the health and wellbeing of residents and visitors to the Park		+	+	+	+ ?	?	0	?	+	0	0	+	+	+	+	+
Promote sustainable use of resources		+	+ ?	0	0	+ ?	+ ?	+ ?	+ ?	+ ?	0	0	0	+ ?	+ ?	+ ?

*There could be minor differences between the finalised NPPP wording for the priorities and the assessed priorities wording due to final editorial amendments. However, it is not considered that these amendments change or impact on the assessment findings.

8.2 Key areas of potential cumulative effects

There are three main areas in relation to the NPPP 2018-2023 where cumulative effects can occur:

1. Across multiple SEA objectives within a single theme.
2. Across multiple SEA objectives across more than one theme; and
3. As a result of multiple priorities against a single SEA objective.

Cumulative effects occur where sensitive receptors (e.g. people, species, habitats, water courses, landscapes) receive impacts from multiple sources / activities. These impacts can be positive or negative, additive, subtractive, synergistic (greater than the sum of the parts) and short, medium or long-term, permanent or temporary. Given the strategic nature of the NPPP there is a limit to which specific details of potential cumulative effects can be elaborated, since it will depend on delivery through subsequent plans / programme / projects and by partners. It is, however, important to identify at this strategic level the potential areas where cumulative effects could occur so these can be monitored and addressed by lower level plans, programme and projects.

Examples of potential cumulative effects identified from the assessment matrices (see Tables 8.1 – 8.3 above) include:

1. Under the C&LU theme three SEA objectives: ***biodiversity (species)***; ***biodiversity (habitats)***; and ***ecosystems*** are each potentially affected by activities under the priorities **enhancing opportunities to enjoy landscapes** (minor negative scores), along with uncertain or mixed effects from **supporting FRM plans delivery**, and measures supporting **wild land qualities**. This points to the need for careful implementation in the way in which such activities are undertaken, along with mitigation measures where necessary.
2. The C&LU and VE themes, and to a lesser extent the RD theme, interact with the same SEA objectives identified in (1) as well as the soils objectives though activities promoting **access and recreation**.
3. Again, cumulative effects are possible in relation to individual ***biodiversity SEA objectives*** and across multiple types of activities for **promoting access and recreation** (under VE theme), and in relation to ***noise and light pollution*** under the RD theme across multiple activities as part of the **spatial focus for development** (especially promoting development in Arrochar), **enhancing built and historic environments**, **climate change adaptation and resilience**, for example.

Considering the above, there is the potential for multiple cumulative effects on ***biodiversity*** (species, habitats and ecosystems) if **recreation activities** and **rural development** were not properly planned, implemented and managed. These effects could be additive / synergistic and permanent / long-term. However, it is expected that sensitive design and management are part of the NPPP implementation and within the remit of lower level plans, programmes and projects (including the LDP[42] and **Local Development Frameworks** such as that for Buchanan South[43]).

8.3 Proposed mitigation and enhancement measures

It is worth noting that no ***major*** negative adverse effects from the NPPP have been identified. Given the remit of the NPA and the nature of the NPPP, major negative effects would not be expected and would otherwise suggest significant incompatibility of the NPPP objectives with the SEA objectives, which has not been identified (see Chapter 6 and Table 6.1 in particular).

[42] http://www.lochlomond-trossachs.org/planning/planning-guidance/local-development-plan/
[43] http://www.lochlomond-trossachs.org/rr-content/uploads/2016/08/LDP- -Buchanan-South-SG-1.pdf

Where the potential for minor significant negative effects has been identified, these are typically in relation to the sensitive nature of the receiving environment and the potential for human recreation activity or built development to impact upon the natural environment, but where with sensitive design and management such activity or development could take place sustainably and the effects mitigated. The delivery of suitable avoidance and mitigation measures will need to be undertaken by lower level plans and programmes and in relation to individual projects as they come forward, but may also need to be identified and incorporated into specific partnership agreements and / or in relation to specific activities. Operational and management measures have been identified below to help address these environmental risks and guide lower level implementation activities (Table 8.5).

In addition to the more detailed operational / management measures, suggested amendments to the wording of several of the NPPP's priorities were proposed (table 8.4) however they have not been taken forward into the NPPP. It was considered that the amendments to the wording were unnecessary as the National Park must undertake actions inline with the aims of the National Park and that many of the areas requiring mitigation will undergo their own SEA or project level assessment which will be a better opportunity to incorporate the mitigation

Suggested amendments to the wording of NPPP priorities

Amendments to the wording of NPPP priorities have been proposed where the priority has been assessed as: (1) having the potential to cause **minor negative effects**; or (2) having the potential to cause **minor negative effects** but where the effects remain **uncertain**. Table 8.4 details the proposed amendments for each relevant priority in ***bold italicised*** text.

Table 8.4: Proposed amendments to the wording of NPPP priorities

Priority	Summary of potential negative effects	Propose amendments to priority wording	NPPP response
Conservation and Land Use theme priorities			
Delivering multiple benefits from nature including natural flood management, carbon sequestration and storage, timber and food production.	**Biodiversity, landscape:** utilitarian approach to nature (i.e. focus on ecosystem services and multiple benefits) may mean that some habitats and services are prioritised over others where they deliver key priority benefits for people (e.g. flood management, food production, recreation).	Delivering multiple benefits from nature ***(***including natural flood management, carbon sequestration and storage, timber and food production***) whilst working to sustain and enhance overall ecosystem health***.	Not accepted – considered too detailed wording for this plan and would be better considered at relevant strategy sitting under this or project level
Conserving and enhancing wildness qualities, cultural heritage, tranquillity and dark skies.	**Biodiversity:** preservation of a certain landscape aesthetic (linked to e.g. perceptions of wildness) may conflict with actions to improve ecosystem health, especially in upland areas (e.g.	Conserving and enhancing wildness qualities, cultural heritage, tranquillity and dark skies***, whilst considering opportunities to diversify upland habitats where appropriate***.	Not accepted – considered too detailed wording for this plan and would be better considered at relevant strategy sitting under this or project level

Priority	Summary of potential negative effects	Propose amendments to priority wording	NPPP response
	sensitive restoration and expansion of a more diverse mosaic of upland habitats).		
Protecting wild land qualities of upland areas.	See above.	Protecting wild land qualities of upland areas ***whilst considering opportunities to diversify upland habitats where appropriate***.	Not accepted – considered too detailed wording for this plan and would be better considered at relevant strategy sitting under this or project level
Enhancing opportunities to enjoy and experience landscapes, particularly along major transport routes and around settlements.	**Biodiversity:** the critical issue here is the potential for removal of vegetation alongside roads / railways and subsequent loss of linear habitats which are important for ecological connectivity and landscape. This is only a minor risk but something to consider, especially in terms of cumulative effects.	Enhancing opportunities to enjoy and experience landscapes, particularly along major transport routes and around settlements***, in a sustainable manner***.	Not accepted – considered wording is unnecessary as projects in National Park should be working in a sustainable manner and project level assessment would be best place to deal with this
Supporting the implementation of Flood Risk Management Plans that cover the Park.	**Biodiversity, soils, water:** priority could support implementation of traditional engineered FRM approaches (e.g. embankments, flood walls) which can alter watercourse morphology, disrupting natural fluvial processes and riparian habitats.	Supporting the implementation of Flood Risk Management Plans that cover the Park ***and promoting sustainable approaches where possible***.	Not accepted – considered wording is unnecessary as projects in National Park should be working in a sustainable manner and project level assessment would be best place to deal with this
Visitor Experience theme priorities			
Awareness raising of recreational and access opportunities.	**Biodiversity, soils:** measures that promote increased recreational usage of the Park (directly and / or indirectly) have the potential to cause increased disruption of habitats and wild species populations	Awareness raising of ***sustainable***[44] recreational and access opportunities ***and promoting responsible use***.	Not accepted – considered wording is unnecessary as projects in National Park should be working in a sustainable manner and following Scottish Outdoor Access Code so project level assessment would be best place to

[44] Use of the word "sustainable" in this context relates to the need to direct any anticipated or planned increase in usage to paths, other recreational infrastructure etc that can accommodate additional or higher levels of usage and / or ensuring that the necessary upgrades (e.g. path works) are programmed or in place already.

Priority	Summary of potential negative effects	Propose amendments to priority wording	NPPP response
	and contribute to footpath / soil erosion (especially in sensitive upland areas).		deal with this
Strategic links (new and improving existing) to Scotland's National Walking and Cycling Network.	See above.	***Providing s***trategic links (new and improving existing) to Scotland's National Walking and Cycling Network ***in a sustainable***[45] ***manner***.	Not accepted – considered wording is unnecessary as projects in National Park should be working in a sustainable manner and project level assessment would be best place to deal with this
Maximising opportunities from significant network of long distance and local paths, focusing on West Highland Way.	See above.	Maximising ***sustainable***[46] opportunities from significant network of long distance and local paths, focusing on West Highland Way.	Not accepted – considered unnecessary wording for this plan and would be better considered at relevant strategy sitting under this or project level
Promote water-based recreational activities on sea lochs.	**Biodiversity:** similar issues to those described above but in relation to marine habitats and species populations.	Promote ***sustainable***[47] water-based recreational activities on sea lochs.	Not accepted – considered unnecessary wording for this plan and would be better considered at relevant strategy sitting under this or project level
Support more water based recreational facilities for public use on larger freshwater lochs.	**Biodiversity:** similar issues to those described above but in relation to freshwater loch habitats and species.	Support more ***sustainable***[48] water based recreational facilities for public use on larger freshwater lochs.	Not accepted – considered unnecessary wording for this plan and would be better considered at relevant strategy sitting under this or project level
Encourage business to capitalise on growing visitor and recreation trends.	**Biodiversity:** measures that promote increased recreational, tourism, events etc usage of the Park (directly and / or indirectly) have the potential to cause increased disruption of habitats and wild species populations.	Encourage business to capitalise on growing visitor and recreation trends ***where appropriate to the Park's natural and cultural heritage***.	Not accepted – considered wording is unnecessary as projects in National Park should be working in the context of the appropriate Park's natural and cultural heritage and project level assessment would be best place to deal with this

[45] Ibid.
[46] Ibid.
[47] Use of the word "sustainable" in this context relates to the need to direct any anticipated or planned increase in usage and development of loch waterbodies (marine and freshwater) to sites and locations that can accommodate such usage.
[48] Ibid.

Priority	Summary of potential negative effects	Propose amendments to priority wording	NPPP response
Rural Development theme priorities			
Supporting land based rural businesses to diversify / expand.	**Biodiversity, soils, climatic factors (mitigation), landscape and cultural heritage:** poorly planned and / or inappropriate diversification measures have the potential to negatively affect many aspects of the environment (e.g. disruption of habitats and wild species populations, soil erosion, loss / abandonment / change in use of better quality agricultural land, loss / lack of management of traditional landscape features).	Supporting land based rural businesses to diversify / expand ***in a sustainable***[49] ***manner***.	Not accepted – considered unnecessary wording for this plan and would be better considered at relevant strategy sitting under this or project level

Proposed measures to guide lower level implementation

Table 8.5 below outlines a range of more detailed operational and management measures, by priority, to guide lower level implementation of the priorities (e.g. via lower level plans, individual partner agreements). The intention of these more detailed measures is to address the inherent uncertainty in the assessment of the NPPP's strategic priorities; e.g. measures to help ensure that uncertain negative effects are mitigated on implementation.

To focus effort, detailed operational / management measures have been developed for priorities that are likely to cause **major positive effects** or **minor negative effects**. In due course and / or if resources allow, the NPA may wish to use the assessment of the NPPP and detailed notes on assessment rationale (Appendix 5) to develop operational / management measures for priorities with less critical environmental effects (e.g. minor positive effects, uncertain negative effects).

[49] Use of the word "sustainable" in this context refers to the need for diversification strategies to be delivered in such a way that they respect, protect and enhance existing natural and cultural heritage assets.

Table 8.5: Proposed mitigation and enhancement measures to guide lower level implementation of the NPPP 2018-2023

Note: NPPP priorities in column 1 have been listed in short form only. The potential environmental effects in column 2 have been colour coded to distinguish between positive effects (green cells) and negative effects (red cells).

Priority	Summary of potential environmental effects	Proposed mitigation and enhancement measures
Conservation and Land Use theme priorities		
Woodland enhancement & expansion	**Biodiversity:** measures will address priority woodland habitats and increase diversity of woodland mosaic across the Park.	Articulate woodland measures at the regional and farm / estate levels through the production of a Woodland Strategy and proposed Regional Land Use Partnerships (RLUPs) and whole farm / estate plans (e.g. identify existing woodland assets and enhancement opportunities, identify woodland habitat network enhancement opportunities at the regional and farm scale).
	Soils: planting in upland and riparian areas can help to manage soil erosion (e.g. planting on steep slopes, in cleuchs etc).	Careful development of farm forestry is required to ensure that the Park's (limited) areas of better quality soils are retained for food production (e.g. arable land, better quality grazing).
	Climatic factors: carbon sequestration associated with increased above ground biomass. Contribution to ecological networks. Contribution to runoff reduction (reduced likelihood of flooding).	Where appropriate, target tree species and management regime to maximise carbon sequestration effect of new planting and existing woodlands. Ensure that new planting is directed away from areas of carbon rich soils in line with yield class thresholds set out in updated guidance on forests and peatland habitats[50]. Align woodland expansion with Flood Risk Management Strategies and Plans.
Waterbody & peatland restoration	**Biodiversity, soils, water, climatic factors, landscape:** numerous positive effects associated with protection, enhancement and improved management of waterbodies and peatland habitats in the Park.	Ensure that the extent, location and condition of peatland habitats (e.g. blanket bog, lowland raised bog) across the Park is clearly defined and understood to facilitate targeted action. Clarify and articulate the support that will be provided to land managers (e.g. advice, resources) as part of their role restoring the more natural functioning of catchments in the Park. Define clear criteria for prioritising intervention (e.g. by catchment) where resources are constrained.
Enhancing opportunities to enjoy landscapes	**Biodiversity:** potential for removal of vegetation alongside roads / railways and subsequent loss of linear habitats which are important for ecological connectivity and landscape.	Define clear criteria for sustainability of these types of initiative (e.g. number, scale, location, nature of intervention). Describe clear design guidelines to ensure that ecological value of sites is maintained (e.g. in terms of vegetation removal, maintaining habitat and wider landscape integrity).
Collaboration on joint land / water management	**Biodiversity, material assets:** initiatives have the potential to result in key benefits for several priority habitats in the Park (e.g. blanket bog, wet woodland, upland woodlands).	See *waterbody & peatland restoration*.
Support for Deer Management Groups	**Biodiversity, climatic factors, landscape:** improved management of grazing / browsing pressure from deer	Define landscapes and habitats (spatially and thematically) that are particularly sensitive to deer impacts. Spatial targeting of effort / support towards areas with

[50] http://scotland.forestry.gov.uk/images/corporate/pdf/peatland-habitats-supplementary-guidance.pdf

Priority	Summary of potential environmental effects	Proposed mitigation and enhancement measures
(DMGs)	will deliver benefits at various scales.	adverse grazing impacts (e.g. areas with high deer densities, areas with sensitive habitats). Clarify scope of funding / support to implement deer management activities on the ground (e.g. culling, fencing) beyond planning / survey input.
Visitor Experience theme priorities		
Raise awareness of access & recreation opportunities	**Biodiversity, soils:** measures that promote increased recreational usage of the Park (directly / indirectly) have the potential to cause increased disruption of habitats and wild species populations and contribute to footpath / soil erosion (especially in sensitive upland areas).	Direct any anticipated or planned increase in usage to paths, other recreational infrastructure etc that can accommodate additional and / or higher levels of usage. Ensure that the necessary upgrades to infrastructure and other facilities (e.g. path works) are programmed or in place already to accommodate increased use.
Strategic links to NWCN	See *raise awareness of access & recreation opportunities*.	See *raise awareness of access & recreation opportunities*. Ensure continued focus on developing and enhancing the core path network and other active travel linkages between communities.
Maximise opportunities from path network	See *raise awareness of access & recreation opportunities*.	See *raise awareness of access & recreation opportunities* and *strategic links to NWCN*.
Promoting water recreation on sea lochs	**Biodiversity:** potential to cause increased disruption of marine habitats and wild species populations.	Define clear criteria for sustainability of these types of initiative (i.e. publicly accessible boating and recreational facilities such as piers, pontoons and moorings). Criteria should set out the desired and sustainable scope / scale of this ambition (e.g. location, number of sites, capacity of new infrastructure) with reference to environmental constraints and carrying capacity.
Supporting more water recreation on large lochs	**Biodiversity:** potential to cause increased disruption of freshwater (loch) habitats and wild species populations.	Define clear criteria for sustainability of these types of initiative (i.e. publicly accessible boating and recreational facilities, provision of facilities, services, locations etc to encourage established / emerging water based recreation, developing water bus networks). Criteria should set out the desired and sustainable scope / scale of this ambition (e.g. location, number of sites, capacity of new infrastructure, anticipated number of additional waterbus routes / services) with reference to environmental constraints and carrying capacity.
Encourage businesses to capitalise on trends	**Biodiversity:** measures that promote increased recreational, tourism, events etc usage of the Park (directly and / or indirectly) have the potential to cause increased disruption of habitats and wild species populations.	Define clear criteria for sustainability of these types of event to be applied on a case-by-case basis (with appropriate flexibility). Criteria should set out the desired and sustainable / scope of this ambition for different trends and growth markets (e.g. walking, cycling and canoeing, food and drink, business tourism). Criteria should be flexible enough to accommodate new trends (e.g. large scale sporting events).

9. Monitoring proposals

9.1 Monitoring in relation to the assessment

Monitoring the significant environmental effects of implementing the NPPP is an important and ongoing element of the SEA process. Given the inherent uncertainty concerning the NPPP's likely significant effect on the environment (Chapter 8, Appendix 5), monitoring the implementation of the NPPP from an environmental perspective will ensure that actual progress against the environmental objectives, which formed the core of this assessment, can be measured. Where unexpected negative effects are identified, appropriate remedial actions can be identified and implemented.

This environmental monitoring process is likely to take as its starting point the objectives, and supporting indicators, developed for the SEA assessment and the key negative environmental effects predicted. However, the monitoring will also draw heavily on existing monitoring programmes and reporting requirements at the local and national level, undertaken by the Scottish Government and other organisations on its behalf (such as SNH and SEPA), rather than requiring additional and specific monitoring. However, the remit of the NPA and the sensitive nature of the Park is such that additional monitoring and data are likely to be available (e.g. in relation to visitor numbers, path condition).

The majority of the indicators used, however, will be from readily available data sources. It is envisaged that the monitoring is most likely to be on an annual basis, although updates of some indicators will not be available that frequently (e.g. SSSI site condition assessments). The difficulty with such monitoring and deciding on any remedial actions is in determining the relative contribution of the NPPP to changes in environmental outcomes recorded by the indicators (causality). In many cases, non-NPPP factors will have substantial environmental impacts in the same areas (e.g. specific actions delivered under lower level plans and programmes) although the NPPP establishes the overall policy context for activity in the Park.

Table 9.1 below identifies the recommended measures needed to monitor the potentially significant and cumulative negative environmental effects of the NPPP. It will be important that the SEA monitoring of significant effects is integrated, as far as possible, into the monitoring of the implementation of the NPPP and the environmental monitoring is incorporated into the reporting mechanisms required for the NPPP. At this stage, monitoring arrangements have not been fully developed and it will therefore be important to define the monitoring process and timeframe in more detail and also to establish clear responsibilities for monitoring. This will be included in the SEA post adoption statement (see Chapter 10).

Table 9.1: Proposed monitoring of key significant effects identified in the assessment

SEA topic	Potential significant effects	Proposed indicator categories
Biodiversity, flora & fauna	• Increased extent and enhanced condition of priority woodland habitats (e.g. wet woodland, upland birchwoods). • Enhanced condition of peatland habitats (upland and lowland). • Reduction in deer impacts leading to regeneration of woodland habitats. • Reduced disruption to sensitive loch shore habitats and wild species populations.	• Extent and condition of UK BAP habitats and species (including key upland bog / peatland and woodland habitats). • Extent and condition of designated sites (Figure 4.2). • Location and extent of natural / semi-natural habitats. • Biodiversity index: species indicators – e.g. farmland / woodland bird species. • Visitor numbers to the Park or suitable proxies (e.g. number of overnight stays). • Area of park under agri-environment-
	• Removal of vegetation / loss of linear habitats alongside roads and railways.	

SEA topic	Potential significant effects	Proposed indicator categories
	• Disruption of habitats and wild species populations due to increased visitor numbers (especially in loch side and upland locations). • Utilitarian approach to nature may result in degradation of overall ecosystem health.	climate (AEC) schemes. • YOURPark byelaw implementation reporting (e.g. fines, visual inspections).
Geology & soils	• Peatland restoration / preservation of carbon rich soils. • Stabilisation of upland soils / soils on steep slopes due to woodland expansion. • Increased visits to the Park resulting in path and soil erosion.	• Proxies for soil carbon content: extent of soils rich in organic matter; extent of peatlands; soil record books. • Water quality / sediment content (as a proxy for soil erosion). • Areas of highly erodible soils. • Fertiliser application rates to arable and grazing land in the Park. • Visitor numbers to the Park or suitable proxies (e.g. number of overnight stays). • Area of park under agri-environment-climate (AEC) schemes. • Implementation of path upgrade and maintenance programmes. • TMTP path volunteer reporting.
Water	• Catchment scale restoration of river, loch and burn waterbodies. • Reduced sediment loading of waterbodies. • Reduced littering and pollution (including from human waste) of lochs. • Support for sustainable FRM, sustainable drainage (SuDS) measures.	• Overall quality (WFD status) of river and loch waterbodies in the Park. • Likely % compliance of waterbodies across the Park with WFD objectives. • Distribution of nitrate and sediment concentrations in waterbodies across the Park. • Area of park under agri-environment-climate (AEC) schemes. • YOURPark byelaw implementation reporting (e.g. fines, visual inspections). • Flooding related indicators as per *climatic factors*.
Air & noise	• Promotion of active / integrated travel options reducing transport related emissions of air pollutants. • Increased traffic congestion, noise and emissions of air pollutants associated with increased visitor numbers to the Park (by private car).	• Modal choice / split for visits to the Park. • Percentage of Park residents with access to public transport. • Levels of car and van ownership amongst Park residents. • Local authority air quality reporting. • Visitor numbers to the Park or suitable proxies (e.g. number of overnight stays).
Climatic factors	• Woodland expansion (including in upland and riparian areas) helping to reduce runoff and flood peaks. • Promotion of active / integrated travel	• Transport related indicators as per *air & noise*. • Flood hazard extent / depth (especially fluvial flooding).

SEA topic	Potential significant effects	Proposed indicator categories
	• options reducing transport related emissions of greenhouse gases. • Enhanced resilience of communities to climate change and other external stressors.	• Flooding impacts. • Area of park under agri-environment-climate (AEC) schemes. • Carbon equivalent (CO_2e) emissions by sector. • Total greenhouse gas emissions (CO_2e) from the Park. • Socio-economic impacts of climate risks (e.g. levels of service disruption). • New development (e.g. number of houses delivered). • New development adopting sustainable design (e.g. timber construction, micro-renewables)
	• Increased greenhouse gas emissions associated with increased visitor numbers to the Park (by private car). • Embodied carbon emissions associated with new development (e.g. housing).	
Landscape & cultural heritage	• Preservation and enhancement of upland landscapes, including designated wild land areas.	• Landscape Character Areas. • Extent and condition / integrity of core areas of wild land in the Park. • Extent and condition of historic and designed landscapes in the Park. • Area of park under agri-environment-climate (AEC) schemes.
	• Prevailing landscape aesthetic constrains opportunities for sensitive expansion of appropriate / native upland habitats (e.g. upland birchwoods).	
Population & human health	• Increased access to / uptake of outdoor recreation activities. • Enhanced outdoor exercise / activity related health outcomes.	• Delivery of new / upgraded access and outdoor recreation infrastructure (e.g. length of upgraded path). • Visitor numbers to the Park or suitable proxies (e.g. number of overnight stays). • Participation rates in outdoor sporting events held in the Park (e.g. Great Scottish Swim). • Participation rates in different outdoor recreation activities in the Park or suitable proxies (e.g. usage of core path network). • Health outcomes in affected communities.

9.2 Relationship with other assessments

The very strategic nature of the NPPP 2018-2023 means that it has not been possible to predict many of the plan's likely environmental effects with a high degree of certainty (Chapters 7 and 8). However, the strategic nature of the NPPP is also a strength in this regard as it establishes the overall policy framework for several lower level NPA plans, programmes and projects (e.g. LIVEPark LDP, YOURPark visitor management). Accordingly, there is an opportunity to pick-up the environmental issues identified in this SEA in more detail via SEAs (and EIAs) of lower level plans and programmes (and projects). Also, lower level plans and their assessments provide an appropriate decision-making juncture for identifying, assessing and evaluating a greater range of reasonable alternatives (e.g. alternatives to the overall spatial strategy and site allocations as part of the LIVEPark LDP) and for developing more specific mitigation measures. This 'tiered' approach to

environmental assessment ensures that issues are assessed at the appropriate level of detail in relation to the appropriate level of decision-making.

10. Conclusions and next steps

The environmental assessment of the NPPP 2018-2023 set out in this Environmental Report has identified a range of primarily positive and neutral environmental effects that may be caused by the plan's priorities. A compatibility assessment of the NPPP's proposed outcomes against the SEA objectives identified strong areas of compatibility along with some areas of neutral and uncertain compatibility. The findings of the assessment, therefore, reflect the strong environmental focus of the NPPP (and the wider role of the NPA) as enshrined in the National Parks (Scotland) Act 2000.

There are, however, some minor areas of potential environmental risk associated with the NPPP. Principally, this relates to priorities within the plan's Visitor Experience (VE) and Rural Development (RD) themes. This reflects the inherent tension between the NPA's principal role protecting and enhancing the Park's natural and cultural heritage vs. the need to promote recreation, tourism, rural development etc, to ensure that the Park also functions effectively for the people who live and work there (e.g. in terms of promoting a diverse and resilient rural economy, ensuring adequate housing provision to meet various needs). However, these environmental risks are considered to be minor in terms of significance and can largely be mitigated upon implementation or with recourse to the Sandford Principle[51], where necessary.

To address the minor areas of environmental risk identified in the assessment (as well as enhancing the many positive environmental effects), a number of SEA recommendations have been made. The main way will be through detailed operational and management recommendations to support the sustainable implementation of the NPPP.

- The following next steps will then take place **Submission of the finalised NPPP to the Scottish Ministers:** the Scottish Ministers will review the finalised NPPP and either approve it (with or without modifications) or reject it[52]; and
- **Adoption of the finalised NPPP:** once the NPPP has been approved by the Scottish Ministers it will be formally adopted by the NPA. As part of this adoption process, an SEA post-adoption statement will be prepared. The key purpose of this statement is to set out and explain how the SEA and environmental issues have been taken into account in the adopted plan. It will also set out the finalised approach and framework for monitoring the significant environmental effects of the adopted NPPP.

[51] http://www.nationalparks.gov.uk/students/whatisanationalpark/aimsandpurposesofnationalparks/sandfordprinciple
[52] http://www.legislation.gov.uk/asp/2000/10/section/12