Strategic Transport Projects Review (STPR2)
Consultancy Support Services Contract

STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES

Habitats Regulations Appraisal of the Second Strategic Transport Projects Review

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Jacobs AECOM

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GLOSSARY	
TERMINOLOGY	**DESCRIPTION**
Assessment	An umbrella term for description, analysis, and evaluation.
Baseline	The existing conditions which form the basis or start point of the environmental assessment.
Biodiversity	Biological diversity, or richness of living organisms present in representative communities and populations.
the Court of Justice of the European Union (CJEU)	An institution of the European Union, with thirteen judges appointed by its member governments, meeting in Luxembourg. Established in 1958, it exists to safeguard the law in the interpretation and application of Community treaties.
Effect	The result of change or changes on specific environmental resources or receptors.
European Site	These include Special Areas of Conservation (SACs) designated under the Habitats Directive (92/43/EEC) and Special Protection Areas (SPAs) designated under the Birds Directive (2009/147/EEC). In addition, Candidate and Possible SACs, and Potential SPAs should be included in appraisals as they are afforded the same level of protection as European sites under domestic policy. These sites are designated due to the presence of specific habitats and species of internationally important biodiversity value, otherwise known as 'qualifying interest features.'
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities, as used, for example in a Phase 1 Habitat Survey.
Habitats Regulations Appraisal	Under the Habitats Regulations, all competent authorities must consider whether any plan or project will have a 'likely significant effect' on a European site. If so, they must carry out carry out an 'appropriate assessment' (AA) to determine whether adverse effects on integrity will arise. This entire process is known as Habitats Regulations Appraisal (HRA).
Habitats Directive	EC Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
Hydrological	The exchange of water between the atmosphere, the land and the oceans.
Infrastructure Investment Plan (IIP)	Scottish Government document which sets out why there is a need to invest, how the Scottish Government invests and what strategic, large scale investments are intended to be taken forward within each sector over the next 10 to 20 years.

GLOSSARY	
TERMINOLOGY	**DESCRIPTION**
Land-take	Acquired land which is necessary to construct the project and associated infrastructure and to undertake the essential environmental mitigation measures.
Likely Significant Effect	Likely significant effects (LSEs) is used to define an effect on the qualifying features (habitats and/or species that are the reason for designation) of a European site. For this purpose, and as a result of case law (see Table 1) 'likely' means 'possible'. Moreover, a 'significant' effect is one which could undermine the conservation objectives of a European site.
Mobility as a Service (MaaS)	MaaS is a type of service that through a joint digital channel enables users to plan, book, and pay for multiple types of mobility services (for example bus and train journeys). The concept describes a shift away from privately-owned transport modes and towards mobility provided as a service. This is enabled by combining transportation services from public and private transportation providers through a unified gateway that creates and manages the trip. Users can pay per trip or a monthly fee for a limited distance. The key concept behind MaaS is to tailor the transport service to traveller needs.
Mitigation	Measure to avoid, reduce or offset potential adverse impacts.
Net Zero	Net zero refers to achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere. There are two different routes to achieving net zero, which work in tandem: reducing existing emissions and actively removing greenhouse gases.
Net Zero Targets	Scotland has net zero greenhouse gas emissions target for 2045 and an interim 2030 target to reduce emissions by 75 per cent compared to 1990 levels. This covers all greenhouse gas emissions.
Place	The Place Principle recognises that: Place is where people, location and resources combine to create a sense of identity and purpose and is at the heart of addressing the needs and realising the full potential of communities. Places are shaped by the way resources, services and assets are directed and used by the people who live in and invest in them. A more joined-up, collaborative, and participative approach to services, land and buildings, across all sectors within a place, enables better outcomes for everyone and increased opportunities for people and communities to shape their own lives.
Potential Effect	The effect on an aspect of the environment that may occur in the absence of mitigation.

GLOSSARY	
TERMINOLOGY	**DESCRIPTION**
Ramsar site	Ramsar sites are wetlands of international importance, listed under the Convention on Wetlands of International Importance (Ramsar Convention 1971). It is not Scottish Government policy to afford them the same protection as European Sites (see Scottish Government's Ramsar policy[1]).
Receptor	In this context, an element that is susceptible to being affected (either directly or indirectly) by the project. Examples include habitats, species, people, properties, landscape and archaeological remains.
Scottish Transport Appraisal Guidance (STAG)	Transport Scotland's formal option appraisal toolkit and methodology to guide the development and assessment of transport options in Scotland. STAG provides an evidence-based and objective-led framework for: identifying transport problems and/or opportunities in a study area; setting objectives to address the transport problems/opportunities and identifying and appraising options in a consistent manner with the potential to meet the objectives. STAG is integral to the investment decision making process at the Strategic Business Case stage. The four stages of STAG are: Initial Appraisal Case for Change (formerly Pre-Appraisal), Preliminary Options Appraisal (formerly Part 1), Detailed Options Appraisal (formerly Part 2) and Post-Appraisal (Monitoring and Evaluation).
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at, or restored to, a favourable conservation status.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive 2009/147/EC) to protect important bird habitats.
Stakeholder	A person or group that has an investment, share or interest in something.
Strategic Transport Projects Review (STPR2)	A review of the Scottish transport network undertaken by Transport Scotland. It aims to identify a range of potential interventions of national significance, which may be taken forward to improve the strategic transport network. Through selecting which transport projects of national significance should be progressed, the STPR2 would also affect regional and local transport networks.

[1] https://www.gov.scot/publications/implementation-of-scottish-government-policy-on-protecting-ramsar-sites/

GLOSSARY	
TERMINOLOGY	**DESCRIPTION**
Zone of Influence (ZoI)	The zone within which an impact pathway may affect a receptor. For example, with regards to air pollution; beyond 200 metres, the contribution of vehicle emissions from the roadside to local pollution levels is not significant. Therefore, the ZoI for air pollution from vehicular emissions is up to 200 metres from the roadside.

1. Introduction

1.1. Background

In early-2019, Transport Scotland commenced the second Strategic Transport Projects Review (STPR2) to help inform the Scottish Government's transport investment programme in Scotland over the next 20 years (2022-2042). The STPR2 will help to deliver the vision, priorities and outcomes for transport set out in the National Transport Strategy (NTS2) (Transport Scotland, 2020). It will align with other national plans such as Climate Change Plan Update (Scottish Government, 2020), the second Cleaner Air For Scotland strategy (Scottish Government, 2021), the National Strategy for Economic Transformation (NSET) (Scottish Government, 2022) and the Revised Draft National Planning Framework 4 (NPF4) (Scottish Government, 2022).

The NTS2 outlines four priorities for the Scottish transport system: that it reduces inequalities; takes climate action; helps deliver inclusive economic growth; and improves Scotland's health and wellbeing. The STPR2 is a Scotland-wide evidence based review, which follows the Scottish Transport Appraisal Guidance (STAG), of the strategic transport network across all transport modes, including walking, wheeling, cycling, bus, ferry, rail and the trunk road network.

1.2. Legislative Context

Under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), more commonly referred to as the 'Habitats Regulations', a network of sites has been designated across Scotland and its marine environment for the purposes of nature conservation. This network comprises sites known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA). SACs are designated for the protection of habitats and non-avian animal species of conservation concern. SPAs are designated to protect rare or vulnerable species of bird, as well as all regularly occurring migratory bird species.

The UK left the European Union (EU) on 31 January 2019 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). This established a transition period, which ended on 31 December 2020. The Withdrawal Act retains the body of existing EU-derived law within our domestic law. During the transition period EU law applied to and in the UK. The most recent amendments to the Habitats Regulations – the Conservation of Habitats and Species (EU Exit) (Scotland) (Amendment) Regulations 2019 (Scottish Government, 2019) – make it clear that the need for Habitat Regulations Appraisal (HRA) has continued after the end of the Transition Period.

Prior to the UK's exit from the EU, Scotland's SACs and SPAs were part of a wider European network of such sites known as the 'Natura 2000 network'. They were consequently referred to as 'European sites'. Now that the UK has left the EU, Scotland's SACs and SPAs are no longer part of the Natura 2000 network but form a part of a UK-wide network of designated sites referred to as the 'UK site network'. However, it is current Scottish Government policy to retain the term 'European site' to refer collectively to SACs and SPAs (including any which are designated following the UK's exit from the EU).

Ramsar sites are not considered by the Scottish Government to be 'European sites' except insofar as they may be covered already by other European site designations, for example

SAC or SPA[2]. Therefore, Ramsar sites are not considered any further within this HRA report.

The Habitats Regulations or, for reserved matters, Conservation of Habitats and Species Regulations 2017 (as amended), require that any development plan or proposal which is not directly connected with or necessary to the conservation management of a European site, and which is likely to have a significant effect on such as site, must be subject to an 'appropriate assessment' of the implications for the conservation objectives of that site. Generally, such plans or proposals may only be approved if the 'competent authority' has ascertained, by means of an appropriate assessment, that there will be no adverse effect on the integrity of the European site(s), with no reasonable scientific doubt about their absence.

The procedure to be applied is known as 'Habitats Regulations Appraisal'. In the past, the term 'appropriate assessment' has been used to describe both the overall process and a particular stage of that process. The term 'Habitat Regulations Appraisal' has come into use in order to refer to the process that leads to an appropriate assessment, thus avoiding confusion. Throughout this document, HRA is used to refer to the overall procedure required by the Habitats Regulations.

In addition to fully designated European sites, the Habitats Regulations also apply to those sites in the earlier stages of the designation process and which are referred to as 'candidate' or 'proposed' European sites.

For the remainder of this document, the term 'European site' is used to refer to fully designated SACs, SPAs and candidate or proposed European sites.

Since the STPR2 constitutes a 'plan' within the meaning of the Habitats Regulations, it is necessary for a HRA to be completed. This must establish whether the STPR2, including its recommendations, could result in adverse effects on the integrity of any European sites.

1.3. Relevant Case Law

As a consequence of the UK's exit from the EU, it was necessary for various amendments to be made to the Habitats Regulations. These changes were required to ensure that the UK continues to maintain the same standard of protection afforded to European sites. The Habitats Regulations remain in force, including the general provisions for the protection of European sites and the procedural requirements to undertake HRA. The changes made were only those necessary to ensure that they remain operable following the UK's exit from the EU.

Scottish Government published guidance on the changes to the Habitats Regulations in December 2020 (Scottish Government, 2020). This guidance has been considered when preparing this document. However, as made clear by Scottish Government, the procedural requirements for HRA remain unchanged.

Although the UK is no longer part of the EU, a series of prior rulings of the Court of Justice of the European Union (CJEU) are relevant and have been considered when preparing this document. These rulings and their implications for the HRA of the STPR2 are summarised in Table 1.

[2] Implementation of Scottish Government policy on protecting Ramsar sites - gov.scot (www.gov.scot)

Table 1 - Case law relevant to the HRA of the STPR2

CASE	RULING	RELEVANCE TO THE HRA OF THE STPR2
People Over Wind and Sweetman v Coillte Teoranta (C-323/17)	The ruling of the CJEU in this case requires that any conclusion of 'no likely significant effect' on a European site must be made prior to any consideration of measures to avoid or reduce harm to the European site. The determination of likely significant effects should not, in the opinion of the CJEU, constitute an attempt at detailed technical analyses. This should be conducted as part of the appropriate assessment (CJEU, 2018).	NatureScot has published guidance on the implications of this ruling for HRA (NatureScot, 2019). It will be necessary to distinguish between those recommendations which are intended to avoid or reduce harmful effects on a European site and those recommendations of the STPR2 that may incidentally provide some degree of mitigation, but which are intrinsic or essential parts of the Plan itself. NatureScot advises that intrinsic parts of a plan can be considered at the screening stage of HRA. If it can be concluded that a specific element of the STPR2 will have no adverse effect on any European site, in the absence of mitigation, it will be possible to conclude 'no likely significant effects', and that element will be 'screened out' of appropriate assessment.
Waddenzee (C-127/02)	The ruling in this case clarified that appropriate assessment must be conducted using best scientific knowledge, and that there must be no reasonable scientific doubt in the conclusions drawn. The Waddenzee ruling also provided clarity on the definition of 'significant effect', which would be any effect from a plan or project which is likely to undermine the conservation objectives of any European site (CJEU, 2004).	This ruling should be read in conjunction with Case C-6/04, below.

CASE	RULING	RELEVANCE TO THE HRA OF THE STPR2
Commission of the European Communities v UK (C-6/04)	The opinion of Advocate-General Kokott of 9th June 2005 in this case clarified that, while there must be no reasonable scientific doubt in the conclusions of appropriate assessment, "it would… hardly be proper to require a greater level of detail in preceding plans [rather than planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated at one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure" (CJEU, 2005).	A balance must be achieved when carrying out HRA of plans such as the STPR2. In certain cases, it will be necessary for assessment to be carried out in greater detail at subsequent stages (for example, during the design and consenting stage(s) of a particular project).

CASE	RULING	RELEVANCE TO THE HRA OF THE STPR2
Holohan and Others v An Bord Pleanála (C-461/17)	The conclusions of the Court in this case were that consideration must be given during appropriate assessment to: • effects on qualifying habitats and/or species of a SAC or SPA, even when occurring outside of the boundary of a European site, if these are relevant to the site meeting its conservation objectives; and, • effects on non-qualifying habitats and/or species on which the qualifying habitats and/or species depend and which could result in adverse effects on the integrity of the European site (CJEU, 2018).	This relates to the concept of 'functionally-linked habitat', that is, areas outside of the boundary of a European site which supports its qualifying feature(s). In addition, consideration must be given to non-qualifying features upon which qualifying habitats and/or species rely. These concepts must be included and addressed in the HRA of the STPR2, to the extent possible for a high-level plan of this type.
T.C Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)	The ruling of the CJEU in this case determined that compensatory measures cannot be used to support a conclusion of no adverse effect on site integrity (CJEU, 2014).	Compensation can only be considered at the relevant stage of HRA (that is, once the tests of no alternatives and imperative reasons of overriding public interest have been completed) and not during appropriate assessment. Compensation must be delivered when appropriate assessment concludes that there will be adverse effects on site integrity.

1.4. Structure and Purpose of this Document

This HRA report describes the HRA of the STPR2 carried out by Jacobs/AECOM on behalf of Transport Scotland. It is structured as follows:

- **Chapter 1** – provides an introduction to the STPR2 and the requirements of the Habitats Regulations;
- **Chapter 2** – describes the methodology by which the HRA has been carried out;
- **Chapter 3 and Appendix B** – provide the scope of the impact pathways and European sites considered relevant to the STPR2;
- **Chapter 4 and Appendix A** – explore Likely Significant Effects (LSEs) resulting from

the recommendations proposed in the STPR2;
- **Chapter 5** – discusses an in-combination assessment;
- **Chapter 6** – draws the conclusions; and
- **Chapter 7** – provides the references used within the report.

Ultimately, the purpose of this document is to provide a written record of a robust and legally-compliant HRA of the STPR2.

1.5. Quality Assurance

All ecologists involved in the HRA of the STPR2 are members, at the appropriate level, of the Chartered Institute of Ecology and Environmental Management (CIEEM) and adhere to their strict Code of Professional Conduct.

2. Methodology

2.1. Overview of the HRA Process

The Habitats Regulations do not prescribe a particular methodology for carrying out an appraisal of plans. NatureScot recommend an approach, as described in (NatureScot, 2015) which is outlined as a series of thirteen steps. However, with cognisance of recent case law (refer to Table 1) clarifying when mitigation can be taken into account in the HRA process, Jacobs/AECOM has revised the process to constitute nine stages (see Figure 1).

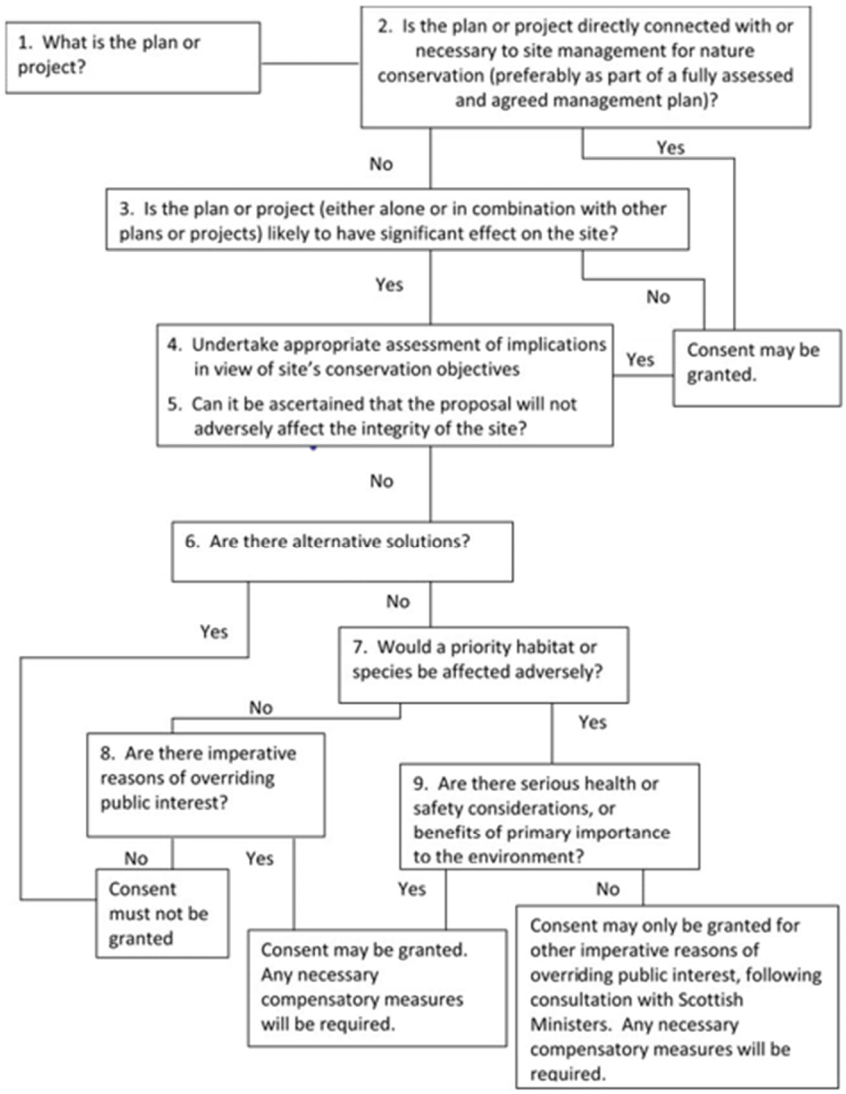

Figure 1 - Stages of the HRA process NatureScot online HRA guidance[3]

[3] https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra; accessed 19/12/22. Note that consultation with NatureScot is mandatory where appropriate assessment is being undertaken.

HRA Stages

The HRA process is made up of the following four stages:

- HRA Stage 1 – scoping and data gathering;
- HRA Stage 2 – test of LSEs (also known as 'screening');
- HRA Stage 3 – appropriate assessment; and
- HRA Stage 4 – avoidance and mitigation.

Due to the high-level nature of the STPR2 only HRA Stage 1 and Stage 2 have proven necessary. Further details of the process required in this report is provided below:

2.2. HRA Stage 1 – Scoping and Data Gathering

It is necessary to identify which European sites may be relevant to the HRA by virtue of there being potential pathways for impacts arising from the recommendations of the plan.

There is no pre-defined guidance that dictates the physical scope of an HRA of a plan document. Therefore, in considering the geographic scope of the HRA for the STPR2, the source-pathway-receptor model was used, rather than simply relying on arbitrary 'zones'. The source-pathway-receptor approach is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for an effect to occur. Where an impact is predicted to occur, this does not necessarily imply that the effect is significant.

To further clarify, a source would be an impact which arises due to a recommendation contained within the STPR2. This could be, for example, waterborne pollution generated during construction activities. A pathway is a connection between the impact source and a European site. An example would be the aforementioned pollution travelling downstream via a water course. In the case of HRA, the receptor is a qualifying feature of a European site, or something on which a qualifying feature relies (for example, habitat). Accordingly, waterborne pollution (sources) generated during construction may travel several hundred metres (or further) downstream via a watercourse (pathway) to the spawning habitat of a fish species which is the qualifying feature of a European site (receptor). Should the impact be sufficiently large, this may cause reduced breeding success of the fish, and have a significant effect, for example where this causes the favourable conservation status of the species to be lost.

Once the scope of the HRA has been established, data gathering can take place. This involves collecting information on relevant European sites, their conservation objectives and any known threats or pressures acting on the sites.

The scoping and data gathering stages of the HRA of the STPR2 are reported in **Chapter 3** and **Appendix B** of this document. A map of European sites covered by this HRA is contained in **Appendix C**.

2.3. HRA Stage 2 – Test of LSEs – Screening

The first step in the sequence of tests is to establish whether an appropriate assessment (AA) is required. This is often referred to as HRA screening. The purpose of HRA screening is to determine, in view of best available scientific knowledge, whether a plan, either alone or in combination with other plans or projects, could have LSEs on the qualifying features (habitats/species) of a European site. For this purpose, and as a result

of case law (see Table 1) 'likely' means 'possible'. Moreover, a 'significant' effect is one which could undermine the conservation objectives of a European site (NatureScot, 2015).

In relation to the STPR2, the objective is therefore to 'screen out' those elements of the Plan – including the recommendations – for which it can be stated, without any detailed appraisal, that significant effects are unlikely on any European site.

Where likely significant effects cannot be excluded, or if there is reasonable scientific doubt, then a recommendation is 'screened in' and the next stage in the process must be initiated and a detailed AA undertaken.

The screening stage of the HRA of the STPR2 is reported in **Chapter 4** of this document.

2.4. A Proportionate Assessment

Project-related HRA often requires bespoke survey work and novel data generation in order to accurately determine the significance of effects. In other words, to look beyond the risk of an effect to a justified prediction of the actual likely effect and to the development of avoidance or mitigation measures.

Advocate-General Kokott (CJEU, 2005) has commented regarding HRA in a multi-tiered planning system that: 'It would …hardly be proper to require a greater level of detail in preceding plans [rather than planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure **to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure**' [emphasis added].

In other words, there is a tacit acceptance that AA can be tiered and that all impacts are not necessarily appropriate for consideration to the same degree of detail at all tiers. For example, when considering loss of functionally-linked habitat different levels of investigation are appropriate to Local Development Plans (LDPs) and subsequent planning applications. The fullest level of detail, including wintering bird surveys, would be necessary for planning applications as that is the last level at which impacts on European sites can be investigated. In contrast, detailed bird surveys would normally be disproportionate for a high-level strategic plan such as the STPR2, given that European sites can be protected in the absence of such surveys by having a strong policy or, in the case of the STPR2, a strong recommendation dictating the need for further investigation and prohibiting interventions until surveys are complete.

In any transport plan, there are numerous policies or recommendations for which there is a limit to the degree of assessment that is possible at this plan level. This is because either:

- The policy or recommendation in question does not contain any specifics as to what will be delivered or where because those elements are to be determined later, so it literally cannot be assessed in detail at the plan level. In these cases, the appropriate assessment focusses on precautionary mitigation that can be included in the plan to ensure that whatever proposals come forward will not result in adverse effects on integrity; or
- The nature of the potential impacts (notably air quality, lighting, noise and visual disturbance during construction, or loss of functionally-linked land) are very closely related to exactly how the intervention will be designed and constructed, or detailed intervention site-specific bird survey data, and therefore cannot be assessed in detail at

the plan level. In these instances, the assessment focusses on the availability of suitable mitigation measures, the extent to which such measures would be achievable and effective and whether an adequate protective framework exists to ensure that further assessment at a lower tier (including consideration of mitigation measures where necessary) is undertaken such that in practice implementation of the policy/recommendation or delivery of the intervention would be possible without an adverse effect on the integrity of any internationally designated sites.

2.5. In-combination Assessment

It is a requirement of the Habitats Regulations that the impacts of any land-use plan being assessed are not considered in isolation but in-combination with other plans and projects that may also affect the European sites in question.

For example, in the context of the STPR2, a reasonable question might be whether the LDPs of local authorities that fall within the spatial coverage of the STPR2 might have an in-combination effect with the STPR2. This synergistic effect may potentially lead to higher recreational pressure in European sites or encourage higher volumes of private car travel along European sites, potentially leading to an increase in atmospheric pollution.

When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation: to ensure that those projects or plans (which in themselves may have minor impacts) are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in-combination assessment is therefore of greatest relevance when the plan or project would otherwise be screened out because its individual contribution is inconsequential.

The STPR2 will occur alongside other strategic planning documents (relevant at the time of HRA assessment), at a national, regional and local level including those in the north of England where there may be potential cross-border impacts. This includes, but is not limited to:

- Revised Draft National Planning Framework 4 (Scottish Government, 2022);
- Inverclyde Local Development Plan (Inverclyde Council, 2019);
- Renfrewshire Local Development Plan 2 (Renfrewshire Council, 2021);
- West Dunbartonshire Local Development Plan 2 (West Dunbartonshire Council, 2020);
- East Dunbartonshire Local Plan 2 (Examination Stage) (East Dunbartonshire Council, 2020);
- Glasgow City Development Plan (Glasgow City Council, 2017);
- East Renfrewshire Local Development Plan 2 (Examination Stage) (East Renfrewshire Council, 2019);
- North Lanarkshire Local Development Plan (Post Examination Modifications Stage) (North Lanarkshire Council, 2018);
- Falkirk Local Development Plan (Falkirk Council, 2020);
- West Lothian Local Development Plan (West Lothian Council, 2018);
- Draft Edinburgh City Plan 2030 (Public Consultation Stage) (Edinburgh City Council, 2021);
- Midlothian Local Development Plan (Midlothian Council, 2017);
- East Lothian Local Development Plan (East Lothian Council, 2018);
- Clackmannanshire Local Development Plan Review (Main Issues Consultation Stage) (Clackmannanshire Council, 2020);
- Fife Local Development Plan (FIFEplan) (Fife Council, 2017);
- City of Dundee Local Development Plan (Dundee City Council, 2019);

- Angus Local Development Plan (Angus Council, 2016);
- Aberdeenshire Local Development Plan (Examination Stage) (Aberdeenshire Council, 2020);
- City of Aberdeen Local Development Plan (Aberdeen City Council, 2020);
- Moray Local Development Plan (Moray Council, 2020);
- Highland-wide Local Development Plan Review (Main Issues Report Stage) (The Highland Council, 2015);
    - Inner Moray Firth Local Development Plan (Main Issues Consultation Stage) (The Highland Council, 2021);
    - Caithness and Sutherland Local Development Plan (The Highland Council, 2018);
    - West Highland and Islands Local Development Plan (The Highland Council, 2019);
- Outer Hebrides (Western Isles) Local Development Plan (Comhairle nan Eilean Siar, 2018);
- Argyll & Bute Local Development Plan 2 (Consultation Stage) (Argyll & Bute Council, 2019);
- Perth and Kinross Local Development Plan (Perth & Kinross Council, 2019);
- Stirling Local Development Plan (Stirling Council, 2018);
- North Ayrshire Local Development Plan (North Ayrshire Council, 2019);
- East Ayrshire Local Development Plan (Main Issues Report Stage) (East Ayrshire Council, 2020);
- South Ayrshire Local Development Plan (Examination Stage) (South Ayrshire Council, 2019);
- Dumfries and Galloway Local Development Plan 2 (Dumfries & Galloway Council, 2019);
- South Lanarkshire Local Development Plan 2 (South Lanarkshire Council, 2020);
- Scottish Borders Local Development Plan 2 (Main Issues Report Stage) (Scottish Borders Council, 2018);
- Orkney Islands Local Development Plan (Orkney Islands Council, 2017);
- Carlisle Local Plan (Carlisle Council, 2016);
- Northumberland Local Plan (Northumberland Council, 2022);
- Shetland Islands Local Development Plan (Shetland Islands Council, 2014);
    - Shetland Islands “Plan Shetland” Local Development Plan (Call for Site Stage) (Shetland Islands Council, 2021).

In addition to the development planning documents noted above, the STPR2 will also sit alongside transport planning policies at a national, regional and local level, for example NTS2, Regional Transport Strategies prepared by the Regional Transport Partnerships, and Local Transport Strategies prepared by local authorities, including those on the Scottish border. For England, this includes the North East Transport Plan (Transport North East, 2021) and the North of England Strategic Transport Plan 2020 - 2035 (Transport for the North, 2019).

2.6. Sources of Guidance and Information

In addition to those sources specifically referenced throughout this document, the following sources of guidance and information were used when carrying out the HRA of the STPR2;

- HRA work undertaken for plans and projects in the area;
- The UK Air Pollution Information System (UK Air Pollution Information System, 2022) which identifies the vulnerabilities of particular European sites to air quality impacts;
- Conservation Objectives, Site Improvement Plans and Supplementary Advice for all European sites, identifying the key threats and pressures for those sites;
- Natura Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (NatureScot, 2014);
- NatureScot Guidance Note: The handling of mitigation in Habitats Regulations Appraisals – the People Over Wind CJEU judgement (NatureScot, 2019);
- The NatureScot SiteLink website (NatureScot, 2022) for information on Scotland's European sites; and
- Multi Agency Geographic Information Centre (MAGIC) website (MAGIC, 2022).

3. Scoping

3.1. Potential Impact Pathways

Although the specific impacts which could arise may differ, broadly speaking, interventions promoted by policies, or in the case of the STPR2 brought forward in a particular recommendation, could give rise to various categories of impact. The broad categories of impact sources are set out in Table 2.

Table 2 - Categories of impact source which could arise from the recommendations of the STPR2

IMPACT CATEGORY	BRIEF DESCRIPTION
Direct loss of habitat	The direct loss of habitat from within the boundary of a European site. This may include the loss of a habitat type which is itself a qualifying feature of a site, or the loss of habitat that is used by qualifying species for commuting, foraging and/or sheltering.
Loss of functionally-linked habitat	The loss of habitat which is outside of the boundary of a European site, but which is critical to its functioning. For example, the loss of habitat outside of an SPA which is used for foraging purposes by qualifying bird species which nest within the SPA.
Waterborne pollution	Including, for example, suspended sediment or run-off of water containing other pollutants such as hydrocarbons or chemicals. Effluent discharges would also be included in this category.
Airborne pollution	This encompasses both dust (that is, particles of sufficiently large size to coat vegetation and interfere with photosynthesis) and atmospheric pollutants that can be toxic to vegetation or contribute to nitrogen deposition (and thus eutrophication). The latter mainly constitutes oxides of nitrogen (NOx) associated with combustion such as vehicle exhausts, and ammonia (NH_3) associated particularly with industrial processes and agriculture but also with vehicle exhausts.
Hydrological changes	Impacts which alter the hydrological conditions either within a European site or in an area used by the qualifying features (habitats/species) of a European site. For example, reduced flows in a watercourse due to impoundment, or changes to groundwater flows or volumes due to abstraction. These changes can have multiple effects on habitats and species.

IMPACT CATEGORY	BRIEF DESCRIPTION
Disturbance of qualifying species	This could be physical disturbance, for example due to the movement of vehicles in proximity to qualifying species, or due to noise and/or vibration. The latter may occur at greater distances. Disturbance could arise either during the construction or operational phase of an intervention. Recreational disturbance caused by increased human presence is also included in this category.
Barriers and/or displacement	Barriers to the movement of qualifying species, which can either be physical (for example a dam in a river) or physiological (for example, the attraction of migratory fish towards the outflow of a hydro-electric scheme). Displacement may also occur due to the presence of new infrastructure (for example a wind farm).
Injury or mortality	The direct injury or mortality of a qualifying species, during the construction or operation of a new development. For example, injury or death of a bird due to collision with an operational wind turbine.
Changes to predator-prey dynamics	This could arise in multiple ways but such changes could have detrimental impacts on qualifying species. An example may be the installation of perching sites (for example new security fencing around infrastructure) in an otherwise open area of habitat used by nesting waders. The provision of features which can be used for perching by raptors can increase predation rates of nesting waders.
Spread of invasive non-native species	Invasive non-native species can have detrimental impacts on native species and habitats. Their spread can occur during construction and operation of an intervention, and via multiple pathways (for example via watercourses or on the treads of construction machinery).

3.2. Impact Pathways Relevant to the Plan

There are no standard criteria for determining the ultimate physical scope of an HRA. Rather, the source-pathway-receptor model should be used to determine whether there is any potential pathway connecting development to any European sites. Therefore, the following impact pathways are expected to be relevant to the HRA of the STPR2 given the scope of the recommendations:

- Airborne Pollution;
- Disturbance of Qualifying Species;
- Waterborne Pollution;
- Direct Loss of Habitat;
- Injury/Mortality; and
- Loss of Functionally-Linked Habitat.

Each of the impact pathways are described fully within the Chapter 4 (Test of Likely Significant Effects).

3.3. European Sites Relevant to the Plan

As the STPR2 is a high-level document, the recommendations are intentionally without a lot of detail (as this will be added at lower tiers of the planning process) and therefore determining Zones of Influence (ZoI) is difficult. Some impact pathways have a clearly defined ZoI, for example air quality relating to road interventions. Air quality impacts from linear infrastructure are determined through monitoring to occur only within 200 metres of a road intervention. Outside of this distance a European site is unlikely to be significantly impacted. However, the ZoI for other impact pathways can significantly vary and are harder or impossible to define spatially without details of the intervention's design, location and construction methods. Given the impossibility of defining a hard ZoI for all impact pathways at this level, a 200 metre zone has been utilised in this HRA purely to show the European sites which are most likely to be affected by a given recommendation in the STPR2.

Other than air quality impacts, the disturbance impacts during construction and operation of transport interventions will also generally occur at short distances (for example 200 metres). It was therefore determined for this HRA that 200 metres would be adequate to highlight potential impacts of the STPR2 recommendations. However, the use of a 200 metre distance in this HRA to indicate recommendations with the greatest risk of affecting European sites (depending on subsequent detailed design) does not mean that impacts will not arise at greater distances, but merely that impact zones over 200 metres are unable to be defined at a strategic level. Therefore, all recommendations should be assessed on a case-by-case basis at the project level where detailed design and location allows greater confidence in wider ZoI.

Although the 200 metre ZoI for air quality impacts is specifically for road interventions, a 200 metre ZoI has also been used for the rail interventions, as again, at this stage, the STPR2 recommendations are intentionally high-level in terms of detail. A wider ZoI may be appropriate depending on the location, design, and methodology associated with implementing the STPR2 recommendations, and this will be determined as recommendations pass through the usual business case/development process. Therefore, the rail interventions should also be assessed on a case-by-case basis at the project level and at the appropriate stage where detailed design and location allows greater confidence in wider ZoIs.

The European sites included within the Scope of this HRA are present in Table 5 in Appendix B and are discussed with regards to the impact pathways within the Test of Likely Significant Effects (Chapter 4).

4. Test of Likely Significant Effects (LSE)

4.1. Introduction

The STPR2 has considered the strategic transport network across all transport modes, including walking, wheeling, cycling, bus, ferry, rail and the trunk road network. A total of 45 recommendations are proposed. These consist of some interventions that are specific to a particular location, others apply to certain regions in the country, and some are applicable across the whole country. Within the list of recommendations, there are no specific priorities, as each component is important in addressing the complex needs of the nation.

The Test of LSE is a singular screening process but is presented in this report in two ways. A tabular screening exercise was undertaken (presented in **Appendix A**) to identify those recommendations which needed discussion. The source-receptor-pathway method was utilised to screen European sites, where a spatial element was present. These European sites have been highlighted within Appendix A where they may have a linking impact pathway, to determine if the impact pathway will cause a likely significant effect or can be screened out without the utilisation of mitigation. The STPR2 recommendations with a spatial element, which have European sites within the 200 metre ZoI utilised within this HRA and which have linking impact pathways associated with the recommendation (that is, those recommendations that include a road or rail infrastructure element), are then summarised and discussed within this Chapter of the report against the relevant impact pathways identified.

4.2. Airborne Pollution

The principal pollutants of concern to habitats are oxides of nitrogen (NOx) emitted from combustion and particularly vehicle exhausts, and ammonia (NH_3) emitted from agriculture, various industrial processes and from some vehicle exhausts. According to the World Health Organisation, the critical NOx concentration (critical level) for the protection of vegetation is 30 micrograms per cubic metre while that for ammonia is 3 micrograms per cubic metre. In addition, ecological studies have determined ‘critical loads’ of atmospheric nitrogen deposition (that is, NOx combined with ammonia NH_3) for key habitats within the European sites in the study area. The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur.

Throughout this HRA it is considered that an increase in rail usage means the potential for a decrease in cars and Heavy Goods Vehicles (HGVs) and is therefore a positive step for air quality. For example, in 2004 the Department of Transport made the following comment on air quality issues as they relate to the transfer of freight movements from road to rail: "It should be noted that in terms of total transport emissions, rail transport accounts for less than one per cent of the total. Therefore, even with the most rail orientated transport options, perhaps doubling the rail kilometres, the potential for any significant impact on emissions will lie mainly with the saving in emissions from road transport brought about by modal transfer, rather than those generated by rail. Hence, it is suggested that emissions from rail sources can be scoped out in most cases".

With regard to pollution from road traffic, Institute of Air Quality Management Guidance states that, “Beyond 200 metres, the contribution of vehicle emissions from the roadside to

local pollution levels is not significant." (Holman, et al., 2020) - see Figure 2 below.

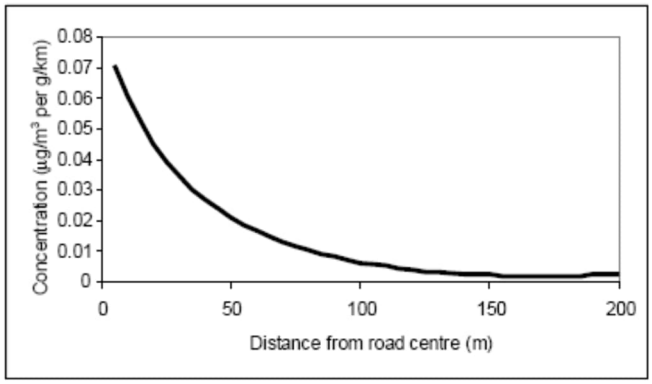

Figure 2 - Generalised model of traffic contribution to concentrations of pollutants at different distances from a road

This is therefore the distance that is used throughout the HRA in order to determine whether European sites are likely to be significantly affected by transport interventions under the STPR2.

Those STPR2 recommendations that include road infrastructure interventions, and that are located within 200 metres of sensitive European sites, are shown within Table 5 in Appendix B. The following recommendations have been identified to have a potential to cause likely significant effects upon sensitive European sites because such sites lie somewhere within 200 metres of a road listed within the recommendations and the recommendations include interventions which require some element of on the ground works. The actual potential for any effects depends on the details of the individual interventions within the recommendation, which will be developed as recommendations progress through the usual business case/development and appraisal process, such as exactly which sections of a given road will be subject to works and exactly what those works will involve:

- **30** – Trunk road and motorway safety improvements to progress towards 'Vision Zero';
- **31** – Trunk road and motorway climate change adaptation and resilience;
- **32** – Trunk road and motorway renewal for reliability, resilience and safety; and
- **40** – Access to Stranraer and the ports at Cairnryan.

Although the recommendations highlight sections of the road network where the interventions may take place, the exact locations along those roads are not set out in the STPR2 and will be determined as each recommendation is further defined. This means that no traffic or air quality modelling can be undertaken at this stage to quantify the impact of the recommendations on European sites within 200 metres. However, it also means that at the STPR2 level there is the opportunity for individual interventions to be selected and designed to minimise any impact to an insignificant level. Therefore, there is no reason to conclude recommendations 30, 31, 32 or 40 will have a likely significant effect on European sites. However, it will be necessary for intervention-specific assessments to be undertaken to ensure no significant adverse effect arises.

Therefore, the STPR2 Final Technical Report (Jacobs & AECOM, 2022) states that initiatives brought forward under the recommendations will need scrutiny to determine whether potential for significant effects on European sites exist, and if so would need to undertake a project level HRA to determine whether the

recommendation would have a significant effect, or adverse effect on integrity, upon European sites either alone or in combination with other projects or plans.

Case law indicates that mitigation measures that are required to avoid adverse effects on European site integrity can only be taken into account at the second, appropriate assessment, stage of HRA. However, the recommendation above is simply recommending the inclusion of text to clarify the legally-mandated down-the-line assessment process as interventions are devised, rather than any specific mitigation measures. As such, it is permissible to make such a recommendation at the HRA screening stage.

With the inclusion of the above text within the STPR2, it is considered that a sufficient framework exists to ensure that the recommendations within the STPR2 could be designed and delivered in such a way as to avoid an adverse effect on European sites with regards to air pollution. Given this, the STPR2 can be screened out as not having likely significant effects on any European sites.

4.3. Disturbance of Qualifying Species

4.3.1. Noise during Construction and Operation

With regards to the HRA, lighting is only considered an issue if it affects European sites designated for vulnerable animal interest (particularly birds and bats) rather than their habitats. This potentially applies to, but is not necessarily limited to, the following European sites which are within 200 metres of a road or rail corridor highlighted to be included within the recommendations:

- Cuillins SPA;
- East Caithness Cliffs SPA;
- Glen Etive and Glen Fyne SPA;
- Kintyre Goose Roosts SPA;
- Rannoch Lochs SPA;
- Sound of Gigha SPA;
- West Inverness-shire SPA;
- Cromarty Firth SPA;
- Dornoch Firth and Loch Fleet SPA;
- South Tayside Goose Roosts SPA;
- River Spey – Insh Marshes SPA;
- Loch Vaa SPA;
- Inner Moray Firth SPA;
- Firth of Tay and Eden Estuary SPA;
- Montrose Basin SPA; and
- Outer Firth of Forth and St. Andrews Bay Complex SPA.

Depending on the nature and location of the works, impacts could occur at distances greater than 200 metres from the road or rail interventions and further European sites could be affected. However, as discussed within Section 3.3, this would need to be discussed at the individual interventions stage, when design and location is more detailed.

The factors that influence a species' response to a disturbance are numerous, but three key factors are species' sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity. Regarding construction noise impacts on waterfowl and waders, Jacobs/AECOM's professional experience is that in broad terms (to be confirmed by noise modelling for individual interventions) noise impacts from conventional construction techniques are unlikely to arise from noise-generating activities located more

than approximately 200 metres from the qualifying bird species. Studies indicate that noise levels in excess of 84 decibels weighted for human hearing[4] (dB(A)) typically elicit a flight response in birds (Cutts & Allan, 1999) while those below 55 dB(A) elicit no response. The same research recommends that construction noise levels should generally be kept below 70 dB(A) to avoid excessive disturbance to birds (Cutts, Phelps, & Burdon D, 2009).

The noisiest construction activity is generally impact piling, where a hammer is dropped on the pile. This has a typical maximum noise level of 100-110 dB(A) at one metre from source. Noise attenuates by six dB(A) for every doubling of distance, such that impact piling typically results in noise levels below 70 dB(A) at distances of more than 100 metres from source. Therefore, a 200 metre separation between construction activity and the SPA should generally ensure no disturbance arises through this pathway. This does not obviate the need for project-level HRA for individual interventions (not least because the difference between the baseline and future noise levels may also be relevant) but aids in determining whether the STPR2 recommendations pose a risk of conflict with SPAs through the pathway of construction-related noise.

Moreover, construction works causing excess noise could potentially be timed to avoid sensitive periods (such as the night which is when many waterfowl and waders forage undisturbed or, for sites designated for non-breeding birds, the winter season).

With regard to operational traffic noise, studies have found that operational roads can lead to a reduction in the bird abundance within adjacent hedgerows. Reijnen, et al., 1995, examined the distribution of 43 passerine species ('songbirds'), of which 60 per cent had a lower density closer to the roadside than further away. Such impacts have been reported up to one kilometre away due to more intense sources such as busy highways (Reijnen, Foppen, & Veebaas, 1997). There are several possible reasons for this, including direct disturbance and the possibility that calls are masked by road noise. Increased road traffic can therefore be accompanied by increased noise impacts; however, very large changes in traffic flows are required for a detectable change in noise to arise. For example, according to National Highways' guidance a 25 per cent increase in traffic on an existing road will result in only a one dB(A) increase in noise even at the roadside, with a 100 per cent increase (a doubling in traffic flows) needed to result in a three dB(A) increase at the roadside – the lowest increase in noise that is thought to be perceivable by humans and birds. An even greater increase is likely to be required for the change in noise levels to be disturbing and even then such disturbance would only be felt at the roadside. This can also be applied to railways. As such, changes in traffic flow or speed on existing roads, and speed or number of trains on the rail network, due to the recommendations in the STPR2 are unlikely to result in increased disturbance of sensitive wildlife as the recommendations are very unlikely to result in such very large changes in traffic.

4.3.2. Visual disturbance during Construction and Operation

Moving from noise to lighting and other visual disturbance, disturbance from visual intrusion such as lighting and human and vehicular presence is likely to be most relevant if the intervention is immediately adjacent to an SPA or certain SACs (for example those designated for bat species). As above, of the 45 STPR2 recommendations, those encompassing road or rail interventions are most likely to result in an increase in lighting or human and vehicular presence. However, lighting is only likely to be an issue if the STPR2 recommendations result in the introduction of lighting to roads or rail corridors within close proximity of those European sites which are currently unlit. That level of detail is not set

[4] It is generally considered that bird hearing is similar to that of humans

out within the STPR2 recommendations at this stage.

Some species of birds are sensitive to visual disturbance such as human presence and movement of vessels including increased ferry presence and new ferry routes. The concern regarding the effects of visual disturbance on birds stems from the birds expending more energy than is necessary and spending an increased amount of time responding to the disturbance rather than feeding (Riddington, Hassall, Lane, Turner, & Walters, 1996). Disturbance therefore risks increasing energetic output while reducing energetic input, which can adversely affect the 'condition' and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they have to sustain a greater number of birds (Gill, Sutherland , & Norris, 1998). Moreover, the more time a breeding bird spends disturbed from its nest, the more its eggs are likely to cool and the more vulnerable they, or any nestlings, are to predators.

The distance at which a species takes flight when approached by a disturbing stimulus is known as the 'tolerance distance' (also called the 'escape flight distance') and differs between species to the same stimulus and within a species to different stimuli. For instance, a Department for Trade and Industry (DTI) study of birds of the north-west coast of England noted that: "Divers and scoters were absent from the mouths of some busier estuaries, notably the Mersey... Both species are known to be susceptible to disturbance from boats, and their relative scarcity in these areas... may in part reflect the volume of boat traffic in these areas" (Department for Trade and Industry, 2006).

The following STPR2 recommendations have been identified to have the potential to cause likely significant effects upon European sites within 200 metres of a road or railway listed within in the recommendation. The actual potential for any effects depends on the details of the individual interventions within that recommendation as they come forward, such as exactly which sections of a given road or railway will be subject to works and exactly what those works will involve:

- **16** – Perth-Dundee-Aberdeen rail corridor enhancements;
- **17** – Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements;
- **25** – Decarbonisation of the rail network;
- **30** – Trunk road and motorway safety improvements to progress towards 'Vision Zero';
- **31** – Trunk road and motorway climate change adaptation and resilience;
- **32** – Trunk road and motorway renewal for reliability, resilience and safety; and
- **40** – Access to Stranraer and the ports at Cairnryan.

With regards to construction light and other visual disturbance, the recommendations above contain measures that may include creating new overtaking lanes, widening trunk roads, electrification of railways and various other railway improvement works. The recommendations at this stage are intentionally high-level in detail and further definition in terms of design, construction method/timing and location will be determined at a later stage of the business case/development process.

There could be the potential need for temporary and/or permanent lighting to implement the recommendations, dependent on location. As all the European sites listed at the start of this section are within 200 metres of these road or rail corridors there is the potential that implementation of these recommendations could cause an impact. However, the majority of the European sites in question are very large and the length of road or railway within 200 metres of the sites is often small (most under one kilometre); this may mean that even if light is generated to a level that could cause an impact, the impact would not

affect a significant area of the European site, or a significant proportion (over one per cent) of the SPA population. Moreover, similar to construction noise, activities causing excess light could potentially be timed to avoid sensitive periods (such as the night which is when many waterfowl and waders forage undisturbed or, for sites designated for non-breeding birds, the winter season). As well as not using lights at night during construction, avoiding installing permanent lighting where there was previously none will avoid impacts to any European sites. In addition, as the recommendations at this stage are intentionally high-level in terms of detail, this provides the opportunity to design interventions to avoid or adequately mitigate effects on European sites, such as by ensuring any interventions are beyond 200 metres of a European site.

Therefore, the STPR2 Final Technical Report (Jacobs & AECOM, 2022) states that initiatives brought forward under the recommendations will need scrutiny to determine whether potential for significant effects on European sites exist, and if so would need to undertake a project level HRA to determine whether the recommendation would have a significant effect, or adverse effect on integrity, upon European sites either alone or in combination with other projects or plans.

Case law indicates that mitigation measures that are required to avoid adverse effects on European site integrity can only be taken into account at the second, AA, stage of HRA. However, the recommendation above is simply recommending the inclusion of text to clarify the legally-mandated down-the-line assessment process as interventions are devised, rather than any specific mitigation measures. As such, it is permissible to make such a recommendation at the HRA screening stage.

With the inclusion of the above text, it is considered that a sufficient framework exists to ensure that the recommendations could be designed and delivered in such a way as to avoid or adequately mitigate an adverse effect on the integrity of European sites with regards to noise, visual and light disturbance. Given this, the STPR2 can be screened out as not having likely significant effects on any European sites.

4.4. Waterborne Pollution

The quality of the water that feeds European sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.

Eutrophication, the enrichment of plant nutrients in water, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing available nitrogen.

Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.

Sewage and some industrial effluent discharges contribute to increased nutrients in the

European sites and particularly to phosphate levels in watercourses. However, these will not be associated with the STPR2 interventions. Road and rail interventions can, however, result in pollution (such as runoff of sediment, hydrocarbons and salt spray from de-icing) of aquatic, marine and riverine European sites during construction and operation, if they occur within close proximity of that site. This potentially applies, but is not limited to, the following European sites which are within 200 metres of a road or rail corridor highlighted to be included within the recommendations:

- Inner Hebrides and the Minches SAC;
- Lochs Duich, Long and Alsh Reefs SAC;
- Rannoch Lochs SPA;
- Rannoch Moor SAC;
- River Dee SAC;
- River Moriston SAC;
- River Tay SAC;
- Sound of Gigha SPA;
- West Inverness-shire Lochs SPA;
- Conon Islands SAC;
- River Thurso SAC;
- River Evelix SAC;
- Moray Firth SAC;
- Cromarty Firth SAC;
- Dornoch Firth and Loch Fleet SPA;
- River South Esk SAC;
- South Tayside Goose Roosts SPA;
- Shelforkie Moss SAC;
- River Tay SAC;
- Shingle Islands SAC;
- Drumochter Hills SAC;
- River Spey SAC;
- Insh Marshes SAC;
- River Spey – Insh Marshes SPA;
- Loch Vaa SPA;
- Slochd SAC;
- Inner Moray Firth SPA;
- River Tay SAC;
- Firth of Tay and Eden Estuary SAC;
- Firth of Tay and Eden Estuary SPA;
- Garron Point SAC;
- River Dee SAC;
- Barry Links SAC;
- Montrose Basin SPA;
- Outer Firth of Forth and St. Andrews Bay Complex SPA; and
- River Tweed SAC.

Depending on the nature and location of the works, impacts could occur at distances greater than 200 metres from the road or rail interventions and further European sites could be affected. However, as discussed within Section 3.3, this would need to be discussed at the individual recommendations stage, when design and location is more defined.

As above, of the 45 STPR2 recommendations those that contain road and rail infrastructure interventions have been identified as having potential to cause likely significant effects upon aquatic, marine or riverine European sites, where such sites are located within 200 metres of a road or rail corridor proposed within the recommendations:

- **16** – Perth-Dundee-Aberdeen rail corridor enhancements;
- **17** – Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements;
- **25** – Decarbonisation of the rail network;
- **30** – Trunk road and motorway safety improvements to progress towards 'Vision Zero';
- **31** – Trunk road and motorway climate change adaptation and resilience;
- **32** – Trunk road and motorway renewal for reliability, resilience and safety; and
- **40** – Access to Stranraer and the ports at Cairnryan.

The recommendations above would include construction works, for example electrification of railways and road widening and construction of climbing/overtaking lanes, as well as likely being within 200 metres of a European site with an aquatic, riverine or marine element within its designation. However, it is an offence to pollute the water environment in Scotland which encompasses all surface water, ground water and wetlands and includes coastal waters out to three nautical miles.

Section 20 of the Water Environment and Water Services Act (Scotland) 2003 (Scottish Government, 2003) allowed the introduction of regulatory controls over activities in order to protect and improve the water environment in Scotland. This is legislated through The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (Scottish Government, 2011) also known as the Controlled Activities Regulations (CAR). The regulations apply to "(a) activities liable to cause pollution of the water environment… (f) the direct or indirect discharge, and any activity likely to cause a direct or indirect discharge, into groundwater of any hazardous substances or other pollutant; and (g) any other activity which directly or indirectly has or is likely to have a significant adverse impact on the water environment".

Therefore, every project must have a duty of care to the water environment and produce and implement plans and procedures to prevent discharge from works entering surface, groundwater, wetlands or coastal waters. This is usually undertaken in the form of a Construction Environment Management Plan (CEMP) which includes measures for the protection of ground and surface waters, pollution prevention measures and emergency response plan for pollution events.

As such, it is regarded that the recommendations can be designed in a way to prevent pollution to the water environment to ensure no likely significant effects from water pollution on any European site. **However, the STPR2 Final Technical Report** (Jacobs & AECOM, 2022) **states that as part of the business case/development process each intervention brought forward through the recommendations would need to consider the requirement to produce a CEMP to ensure compliance with the Habitats Regulations and the Water Environment (Controlled Activities) (Scotland) Regulations noting that this will not be applicable for all interventions.**

4.5. Direct Loss of Habitat

Direct loss of habitat may occur where a European site lies immediately adjacent to a trunk road or motorway or rail corridor where a recommendation includes carriageway widening and climbing lanes or changes to the rail corridor. Removing land from European sites may affect the structure and function of a European site in several ways including reducing qualifying habitats or habitats upon which qualifying species rely, removal of food sources and nesting/roosting opportunities or shelter. A reduction in the land available within the European site, depending on the amount of land removed, may affect the structure and function significantly enough to affect the integrity of the site and therefore the site may no longer be able to maintain favourable conservation status.

Although several European sites are located immediately adjacent to sections of the trunk road and rail network, the STPR2 recommendations are sufficiently broadly defined that the individual interventions have scope to be designed in such a way that no loss of European sites will arise. It is therefore concluded that the recommendations will be designed in a way that avoids direct loss of habitat. As such, the STPR2 can be screened out as not having likely significant effects on any European sites.

4.6. Loss of Functionally-Linked Habitat

This concerns the loss of habitat which is outside of the boundary of a European site, but which is critical to its functioning. For example, the loss of habitat outside of an SPA which is used for foraging purposes by qualifying bird species which nest within the SPA is regarded as loss of functionally-linked habitat. The distance related to loss of functionally-linked habitat is dependent on the species in question. Species-specific buffers potentially relevant to the STPR2 are listed within Table 3 below.

Table 3 - Species-specific functionally-linked habitat buffer distances

SPECIES	BUFFER DISTANCE
Invertebrates	
Freshwater pearl mussel *Margaritifera margaritifera*	Use of a screening buffer not appropriate for this species. The possibility of an impact pathway for freshwater pearl mussel relies on there being hydrological connectivity to a policy or Revised Draft NPF4 National Development, rather than being located within a certain distance.
Fish	

SPECIES	BUFFER DISTANCE
Sea lamprey *Petromyzon marinus* Brook lamprey *Lampetra planeri* River lamprey *Lampetra fluviatilis* Atlantic salmon *Salmo salar*	Use of a screening buffer not appropriate for fish species. Pathway for impacts depends largely on there being a hydrological connection between a policy or National Development and the qualifying fish species of a given SAC. The source-pathway-receptor approach must therefore be adopted, and distances over which effects could occur will vary accordingly.
Mammals	
Bottlenose dolphin *Tursiops truncatus*	Use of a screening buffer not appropriate for this species. The population belonging to the Moray Firth SAC is understood to travel as far south as the Firth of Forth. Therefore, policies or National Developments within the boundary of the SAC or anywhere along the coastline as far as East Lothian may have an impact pathway to this species.
Harbour porpoise *Phocoena phocoena*	50 kilometres
Otter *Lutra lutra*	40 kilometres
Grey seal *Halichoerus grypus*	135 kilometres
Harbour seal *Phoca vitulina*	50 kilometres
Breeding birds	
Red-throated diver *Gavia stellata*	8 kilometres
Black-throated diver *Gavia arctica*	10 kilometres
Hen harrier *Circus cyaneus*	2 kilometres
Merlin *Falco columbarius*	5 kilometres
Peregrine *Falco peregrinus*	2 kilometres

SPECIES	BUFFER DISTANCE
Short-eared owl *Asio flammeus*	2 kilometres
Golden eagle *Aquila chrysaetos*	6 kilometres
Golden plover *Pluvialis apricaria*	3 kilometres
Greenshank *Tringa nebularia*	2 kilometres
Fulmar *Fulmarus glacialis*	1,200 kilometres
Manx shearwater *Puffinus puffinus*	2,365 kilometres
Gannet *Morus bassanus*	509 kilometres
Storm petrel *Hydrobates pelagicus*	336 kilometres
Lesser black-backed gull *Larus fuscus*	236 kilometres
Puffin *Fratercula arctica*	265 kilometres
Non-breeding birds	
Whooper swan *Cygnus cygnus*	5 kilometres
Greylag goose *Anser anser*	20 kilometres
Pink-footed goose *Anser brachyrhncus*	20 kilometres
Greenland white-fronted goose *Anser albifrons flavirostris*	8 kilometres
Barnacle goose *Branta leucopsis*	15 kilometres

However, at the strategic plan level the STPR2 recommendations are intentionally broadly defined in design at this stage, without specific locations. The actual potential for any effects with regards to functionally-linked land depends on the details of the individual interventions within those recommendations as they come forward, such as exactly which

sections of a given road or rail corridor will be subject to works and exactly what those works will involve. As the recommendations at this stage are still broad, impacts are unable to be assessed and would be required to be assessed as recommendations are developed and are more defined.

The recommendations are broadly defined and therefore at this stage have the ability to be designed in a way that the individual initiatives could avoid impact. However, due to the distance of some of the species-specific buffers the STPR2 Final Technical Report (Jacobs & AECOM, 2022) states that each recommendation would need to undertake project level HRA, to determine whether any interventions would have a significant effect upon European sites.

With the inclusion of the above text within the STPR2 Final Technical Report (Jacobs & AECOM, 2022), it is considered that a sufficient framework exists to ensure that the STPR2 recommendations could be designed and delivered in such a way as to avoid or adequately mitigate adverse effects thus ensuring no effect on the integrity of European sites. Given this, the STPR2 can be screened out as not having likely significant effects on any European sites.

4.7. Injury/Mortality

The direct injury or mortality of qualifying species could occur where construction works take place within the boundary of a European site, or where the species in question may be using functionally-linked habitat outside of a European site boundary. When considering the latter possibility, the only relevant terrestrial or amphibious animal species which are sufficiently mobile to be at risk are marsh fritillary, great crested newt and otter. These species could occur up to the distances set out under ‘Loss of functionally-linked habitat’, above.

The potential for the direct mortality of fish species as a result of waterborne pollution is also considered above. Construction works which take place directly within a watercourse could also result in injury or mortality of these species.

Except where nesting, birds are not considered to be vulnerable to injury or mortality as a result of construction works.

During the operational phase there is a risk of mortality or injury due to the presence of overhead electricity wires associated with those recommendations that involve the rail network. This can occur either by:

- electrocution – birds sitting on power poles and/or conducting cables can be killed if they cause short circuits; or
- collision – birds in flight colliding with cables which may not be perceived as obstacles.

As set out in Table 3 above, this impact could affect the qualifying species of European sites up to 40 kilometres from each intervention bought forward under the recommendations (generally up to 20 kilometres for breeding birds and up to 40 kilometres for otter). This excludes seabirds and marine mammals which exclusively utilise the marine environment. Additionally, it should be noted that the electrification of the rail network as proposed within the STPR2 recommendations does not generally include creating new linear infrastructure and, with regards to bird strike, birds which regularly utilise the area may already be habituated to the presence and activity of a railway line reducing the likelihood of collision. There may be small and focussed areas of double-

tracking but STPR2 does not commit to specific locations and the need for, and location of, these will be determined as interventions and recommendations are further developed. The recommendations are broadly defined in design without specific locations or detailed construction methodologies. The actual potential for any effects with regards to injury/mortality depends on the details of the individual interventions within recommendations, which will be developed during the business case and appraisal process. Some recommendations refer to priority locations; however, they are not limited to these locations and therefore cannot be assessed fully and would be required to be assessed as individual interventions and recommendations come forward and are more defined.

Although the recommendations are broadly defined and therefore at this stage have the ability to be designed in a way that the individual initiatives could avoid impact, due to the distance of some of the species-specific buffers, the STPR2 Final Technical Report (Jacobs & AECOM, 2022) states that each recommendation would need to undertake project level HRA, to determine whether any interventions would have a significant effect upon European sites.

With the inclusion of the above text within the STPR2 Final Technical Report (Jacobs & AECOM, 2022), it is considered that a sufficient framework exists to ensure that the STPR2 recommendations could be designed and delivered in such a way as to avoid or adequately mitigate an adverse effect thus ensuring no effect on the integrity of European sites. Given this, the STPR2 can be screened out as not having likely significant effects on any European sites.

4.8. Other Recommendations Screened Out in the Plan

In addition to the recommendations discussed above in relation to a specific impact pathway, recommendations have been screened out prior to further discussion. Each recommendation can be seen in Table 4 of **Appendix A** with regards to the reason for screening out. Below is a discussion around the reason for screening out of these recommendations:

- **Screened out due to nature of the recommendation** – these recommendations include promoting behavioural changes towards sustainability, improving access to active travel networks within towns and cities (for example, improved pathways for pedestrians and cyclists and cycle hire schemes), and decarbonisation of public transport and freight on a national and regional scale. These recommendations do not provide a linking impact pathway (for example disturbance or direct habitat loss). The primary theme of these recommendations is geared towards maximising sustainable transport and therefore positive for the environment.
- **Screened out due to remote location in relation to European Sites** – These recommendations could potentially have linking impact pathways; however, they have been screened out due to not being near to a European site. The screening criteria for this high-level strategic HRA picked up all European sites within 200 metres of a road or railway stated within the recommendations. Therefore, recommendations screened out under this category did not have a European site with 200 metres of a given road or railway mentioned within the recommendations. Although impacts further than 200 metres could not be defined in this HRA, depending on location of, and the details of, the individual interventions, impacts could occur at a further distance and therefore, should be assessed on a case-by-case basis at a project level as the

recommendations are bought forward and are more defined.

- **The recommendation is too broadly defined to assess for impacts at this stage. Screened out at this stage and would need to undertake a project level HRA** – These recommendations either do not give a spatial element to identify any relevant European sites or are broadly defined about what the measure entails. Due to the intentional high-level nature of the STPR2 recommendations at this stage, they should be assessed on a case-by-case basis at a project level as the recommendations are bought forward and are more defined.

The STPR2 Final Technical Report (Jacobs & AECOM, 2022) states any recommendation which has been screened out as too broadly defined/remote to assess within the STPR2 should be assessed through project level HRAs when the recommendations have been bought forward and are more defined.

4.9. Summary

The STPR2 provides an intentionally high-level of detail across the 45 recommendations at this stage. As discussed above in the relevant impact pathway sections; with the proviso of project level HRAs written into the STPR2, and the assumption that due to the high-level nature of STPR2 the recommendations have flexibility and can be designed to avoid some impact pathways such as direct loss of habitat and waterborne pollution, **it can be concluded that the STPR2 will not produce a likely significant effect upon any European sites alone.** A discussion of the in-combination effects is provided in **Chapter 5 (In-combination Assessment)**.

5. In-combination Assessment

5.1. Introduction

It is a requirement of the Habitats Regulations that the impacts of any plan being assessed are not considered in isolation but in-combination with other plans and projects that may also affect the European sites in question.

For example, in the context of the STPR2, a reasonable question might be whether the LDPs of local authorities that fall within the spatial coverage of the STPR2 might have an in-combination effect with the STPR2. This synergistic effect may potentially lead to higher recreational pressure in European sites or encourage higher volumes of private car travel along European sites, potentially leading to an increase in atmospheric pollution.

When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation, that is to ensure that those projects or plans (which in themselves may have minor impacts) are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in-combination assessment is therefore of greatest relevance when the plan or project would otherwise be screened out because its individual contribution is inconsequential.

The planning documents which have been considered within the in-combination assessment are discussed within the **Chapter 2 (Methodology)**.

Transport policies are typically set out within individual transport strategies however Local Development Plans may also include substantial transport policies. While the focus of these policies is primarily to promote sustainable modes of transport, they may also include improvements to the road network that might increase the use of private vehicles, as discussed above. Furthermore, there is the potential that the proposals set out in such policies may increase recreational patterns and/or water runoff effects in-combination with STPR2. Therefore, these documents were also considered in this HRA.

5.2. In-Combination Assessment

The key plan for national infrastructure planning in Scotland is the National Planning Framework (NPF). A Revised Draft NPF4 (Scottish Government, 2022) was laid in the Scottish Parliament on 08 November 2022. Eighteen National Developments are proposed within the Revised Draft NPF4 to support the delivery of Scotland's Spatial Strategy up to 2050. These National Developments could work in-combination with the recommendations within the STPR2. For example, National Development 2: Pumped Hydro Storage, focussing first on the Ben Cruachan Hydro Power Station, will upgrade and expand the hydro power station to increase hydro storage capacity within the electricity network. The power station is surrounded by the Glen Etive and Glen Fyne SPA which is designated for breeding golden eagle (*Aquila chrysaetos*) and the access road is bordered by the Loch Etive Woods SAC which is designated for alder, oak, and mixed woodlands and otter (*Lutra lutra*). Construction at the hydro power station could increase disturbance of breeding or foraging eagles dependent on their nesting sites and additionally an increase in construction traffic may have an impact upon the woodland through a reduction in air quality.

The STPR2 puts forward a recommendation (Recommendation 30) which includes possible road widening and construction of overtaking lanes along the A85, which borders

both Glen Etive and Glen Fyne SPA and Loch Etive Woods SAC to the south of the Ben Cruachan hydro power station. In Chapter 4, under the Airborne Pollution impact pathway, it was concluded that air pollution could not be assessed at the Plan level due to the high-level nature of the STPR2 recommendations at this stage, but that this lack of specificity at the STPR2 level also enables interventions to be designed in such a way as to minimise impacts. Although the STPR2 recommendation is not specific about location, should the road widening and overtaking lane construction occur to the south of these European sites, and construction on both interventions occur simultaneously, the STPR2 and the Revised Draft NFP4 National Development could combine to result in an increase in airborne pollution from both increased traffic flows due to greater development and proximity of the road intervention to the European sites as well as noise impacts for the duration of construction and therefore may create an in-combination effect. However, any in-combination impact is likely to be temporary for the duration of the construction and at the STPR2 level can be addressed by care over detailed design and programming at the intervention level. Although STPR2 Recommendation 30 and the Revised Draft NPF4 National Development 2 could potentially cause an effect in-combination, the necessary modelling cannot be conducted at the plan level, and there is plenty of scope for impacts to be avoided or minimised through intervention design.

This therefore would need to be assessed further at the Project level for the STPR2 recommendations and the rest of the projects within the Revised Draft NPF4, but there is no reason to consider at this level that detailed intervention design and the mitigation measures available cannot address any potential in-combination effects. Moreover, the vast majority of the Revised Draft NPF4 National Developments are focused towards creating sustainable travel networks which are more likely to reduce pollutant emissions that worsen them.

National Development 1: Energy Innovation Development on the Islands focuses on the use of low and zero emission fuels for island and mainland use, shipping and to create a low carbon energy economy for the islands. Also National Development 8: National Walking, Cycling and Wheeling Network to improve the use of sustainable travel, aiming for a 20 per cent reduction in car kilometres. Therefore, these are unlikely to present linking impact pathways to European sites and are an overall positive for the environment.

Beyond the Revised Draft NPF4 there are 32 Local Authorities within Scotland, each with its own development plan. These plans set out development proposals and requirements for supporting infrastructure, which may include transport. For example, one such policy within the Scottish Borders LDP (Scottish Borders Council, 2016) Policy IS4 Transport Development and Infrastructure which provides support for interventions which provide new and improved transport infrastructure including improvements to key road routes (for example, A68, A7 and A73) dualling of the A1 trunk road and a railway from Tweedbank through Hawick to the Scotland / England border. However, the STPR2 provides no specific recommendations for the A68, A7 or A1 and therefore would not act in-combination with the LDP policy to increase the effect of impact upon European sites within the impact pathway's ZoI. Moreover, each LDP will also have a policy to protect European sites such as Policy EP1: International Nature Conservation Sites and Protected Species in the Scottish Borders LDP. The policy states "*Development proposals which will have a likely significant effect on a designated or proposed Natura site… are only permissible where… an appropriate assessment has demonstrated that it will not adversely affect the integrity of the site"*. Each LDP will have undergone an HRA and the projects to be bought forward within them are required to undertake a project level HRA should they have potential linking impact pathways.

LDPs also provide an increase in residential development and this is associated with an increase in population. Population growth has the corresponding effect of increasing road traffic through journeys for leisure and commuting purposes. Although some of the recommendations within the STPR2 (for example, road widening and overtaking lanes) do not necessarily increase operational traffic they do provide an increase in road capacity, which may work in-combination with an increase in road traffic from the increased population growth provided by the LDPs. However, these impacts are examined by the local authority developing each LDP both for their own contribution and in combination with neighbouring LDPs and strategic projects. Each LDP will have had an HRA itself documenting this process before being adopted.

Finally, transport authorities in both England and Scotland produce regional transport strategies (RTSs) and local transport plans (LTSs), including, but not limited to, England's North East Transport Plan (North East Joint Transport Commitee, 2021), which would be relevant to cross-border impacts and, as a Scottish example, the East Dunbartonshire Local Transport Strategy (LTS) (East Dunbartonshire Council, 2020). As with the STPR2 these examples and all other LDPs, RTSs and LTSs considered in-combination in the HRA, set out strategic transport recommendations for their respective areas and regions. Recommended interventions within the North East Transport Plan, for example, may overlap with the STPR2 interventions where rail and road links cross the border and therefore may act in-combination with Scottish strategic interventions on European sites within Scotland. This is also true within Scotland for transport plans including, but not limited to, the East Dunbartonshire LTS and the Perth and Kinross transport plan entitled 'Shaping Perth's Transport Future'. These and other LTS provide interventions which may overlap with the STPR2 interventions and may cause an in-combination effect.

However, as with the STPR2, the regional and local development and transport planning policies are all broadly defined and even where recommendations in those documents are close enough to a European site for a potential effect to arise, there is sufficient flexibility at the plan level for the interventions to be designed in such a way as to minimise and potentially avoid impacts rendering them non-significant and as such these would have undergone an HRA. For example, the HRA of the Perth and Kinross LTS (Perth & Kinross Council, 2010) where either no likely significant effects were identified either alone or in-combination or where any effect was mitigated as to minimise or avoid impact, rendering them non-significant. As with the STPR2, the local or regional planning and transport strategies discussed within the **Chapter 2 (Methodology)** will be required to assess individual initiatives as they come forward and any such overlapping intervention with the STPR2 will be looked at in-combination at a project level.

5.3. Summary

The STPR2 is a Scotland-wide review to help inform the Scottish Government's transport investment programme in Scotland over the next 20 years (2022-2042). It contains an intentionally high-level of detail across 45 recommendations. As discussed above, there are a number of plans and developments which may contribute to increased impacts upon European sites in combination with the STPR2. These include the National Developments identified within the Revised Draft NPF4 and the plans and policies of the local authorities and regional partnerships within Scotland. Although these may act in-combination, each of the adopted plans and policies will have gone through its own HRA to ensure no likely significant effects alone or in-combination, as well as the main themes of each of the plans and policies being that of a move to low carbon and sustainable transport. Furthermore, plans and policies provide protection for European sites within the planning system and

require project level HRAs where there is potential for a likely significant effect. **Therefore, it can be concluded that the STPR2 will not produce a likely significant effect upon any European sites alone or in combination with other plans or projects.**

6. Conclusions

An initial tabular screening exercise was undertaken and presented in **Appendix A** to identify those recommendations which needed discussion. From this screening the following recommendations were identified:

- **16** – Perth-Dundee-Aberdeen rail corridor enhancements;
- **17** – Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements;
- **25** – Decarbonisation of the rail network;
- **30** – Trunk road and motorway safety improvements to progress towards 'Vision Zero';
- **31** – Trunk road and motorway climate change adaptation and resilience;
- **32** – Trunk road and motorway renewal for reliability, resilience and safety; and
- **40** – Access to Stranraer and the ports at Cairnryan.

Other recommendations were screened out either due to the nature of the recommendation, its remote location from European sites or that the recommendation was too broadly defined (for example, did not have a spatial element) to assess at this stage.

A source-receptor-pathway method was utilised in the screening of European sites, where a spatial element was present. The European sites which are considered within this HRA are tabulated within **Appendix B.**

Taking into consideration each European site's qualifying features (habitats/species) and its vulnerabilities, as well as the potential impacts likely from each STPR2 recommendation, the following impact pathways were identified as having potential to create a significant effect upon European sites:

- Airborne pollution;
- Disturbance of qualifying features (species) – noise/light/visual during construction and operation;
- Waterborne pollution;
- Direct loss of habitat;
- Loss of functionally-linked habitat; and
- Injury/mortality.

Each of the pathways has been discussed within the **Test of Likely Significant Effects (Chapter 4)**. Due to the STPR2 at this stage being intentionally high-level, and even where recommendations are close enough to a European site for a potential effect to arise, there is sufficient flexibility at this level for the interventions to be designed in such a way as to minimise and potentially avoid impacts rendering them non-significant. However, to ensure a robust framework to capture any significant effect the following has been recommended:

- **The STPR2 Final Technical Report** (Jacobs & AECOM, 2022) **states that initiatives brought forward under each recommendation will need scrutiny to determine whether potential for significant effects on European sites exist, and those brought forward as part of recommendations which are likely to have a potential effect would need to undertake a project level HRA to determine whether the recommendations would have a significant effect, or adverse effect on integrity, with regards to impact pathways upon European sites within the ZoI related to that impact, either alone or in combination with other plans or projects.**
- **The STPR2 Final Technical Report** (Jacobs & AECOM, 2022) **states any recommendation which has been screened out as too broadly defined to assess within the STPR2 should be assessed through project level HRAs when the**

recommendations have been bought forward and are more defined.

- **The STPR2 Final Technical Report** (Jacobs & AECOM, 2022) **states that as part of the business case/development process each intervention brought forward through the recommendations would need to consider the requirement to produce a CEMP to ensure compliance with the Habitats Regulations and the Water Environment (Controlled Activities) (Scotland) Regulations noting that this will not be applicable for all interventions.**

Given the flexibility of design of the STPR2 recommendations and the HRA recommendations above, it can be concluded that the STPR2 would not significantly affect European sites alone.

Additionally, an in-combination assessment was also undertaken of relevant plans and policies, which are discussed in **Chapter 2 (Methodology)** and include those related to development and transport planning such as the Revised Draft NPF4 and England's North East Transport Plan as well as Local Plans for each local authority within Scotland and Local Transport Strategies. Given that each of the development plans and transport strategies are high-level, as with the STPR2 it can be reasonably assumed that there is sufficient flexibility to design individual interventions in a way that sufficiently minimises or avoids adverse effects on integrity. Moreover, each plan and strategy has been through, or will go through, its own HRA, that will be required by law to conclude no adverse effect on the integrity of European sites (if necessary invoking mitigation to ensure such effect). Finally, in addition to the flexibility of the other plans and their conclusions of no adverse effect on integrity, with the recommendation above in place for the STPR2 to undertake project level HRAs, which include an in-combination assessment and a reviewed need for any specific mitigation to protect designated sites, it can be concluded that the STPR2 would not significantly affect European sites, either alone or in-combination with other plans or projects.

6.1. Next Steps

The STPR2 is a strategic plan, the highest tier in the planning process. There are subsequent levels of the planning process and adverse effects must be assessed at every relevant stage of the planning process to the extent possible based on the level of detail in the plan or project. In other words, in a multi-tiered planning system the HRA process is also tiered, gaining more detail as interventions are fully developed up to the point of a planning application. At this very strategic stage a conclusion of no likely significant effects can be drawn due to the intentionally high-level of detail in the various STPR2 recommendations providing the opportunity to design interventions to avoid or adequately mitigate effects on European sites. In line with case law, a refreshed and more detailed HRA process will be required for individual recommendations as they are devised and developed, particularly if they have been flagged in this report.

Where it states in the main body of the report, or the recommendations table in **Appendix A**, that a project level HRA should be undertaken, this therefore means that it is considered these recommendations can be designed to avoid significant effects but that the potential for LSE will need to be revisited as the STPR2 recommendations are developed, as the assessment could change depending on the details of design and construction. The recommendations should therefore be further assessed at the next and/or subsequent stages of the development process for STPR2, or at planning, for example local transport plan and/or planning application, where the recommendations will

have been designed further and are more precise allowing more information to make a detailed assessment of impacts upon European sites.

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APPENDICES

Appendix A Recommendations Screening Tables

Presented below is a summary table of the recommendations for the STPR2 and the HRA decision relating to each.

Table 4 - Recommendations Screening Table

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
1 – Connected Neighbourhoods	Connected neighbourhoods are the transport components of 20-minute neighbourhoods which are a mechanism of achieving better connected and more accessible communities designed in such a way that as many people as possible can meet the majority of their daily needs within a reasonable walk, wheel or cycle of their home. The principle can be adjusted to include varying geographical scales, and is also a key feature of the Revised Draft NPF4 in delivering Liveable Places. Connected neighbourhoods would encourage walking, wheeling and cycling for short everyday journeys, by delivering comprehensive, cohesive networks of high-quality active travel routes radiating (for approximately 800 metres) from	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	key locations in town or neighbourhood centres, better connecting with nearby residential areas and public transport nodes. The STPR2 recommends delivering connected neighbourhoods within towns and cities: the transport components of 20-minute neighbourhoods. They would consist of packages of improvements to active travel infrastructure in and around town and neighbourhood centres, for example to footways, road crossings and the urban realm, aiming to create more accessible and inclusive environments for people walking, wheeling, cycling and spending time in their local areas. In large urban areas, different connected neighbourhoods could be linked by active freeways (Recommendation 2).			
2 – Active freeways and	Active freeways would encourage	None	None	Screened out due to nature

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
cycle parking hubs	more people to walk, wheel and cycle more often by providing high-quality direct active travel routes, segregated from traffic, on busy corridors in large urban areas. By improving safety, active freeways would help to address fear of road danger, the biggest single barrier to increasing active travel. Secure cycle parking hubs would be created at key locations in settlements that have active freeway networks in order to cater for increased cycle usage. The STPR2 recommends development of active freeways on radial routes and other high-demand corridors in Scotland's large urban areas, with priority given initially to the larger cities. Comprehensive networks of active freeways would connect outlying neighbourhoods, including those with poor existing links, to city/town centres and other important destinations. Supporting connections (including			of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	those delivered by Connected neighbourhoods (1)) would allow people to readily access active freeways from their homes, schools and workplaces, and other busy locations. Active freeways would also connect to other routes to provide links to neighbouring settlements. To cater for the increased demand for bike parking that the freeways would create, high-quality, secure cycle parking hubs could be developed in urban centres and other busy locations that would be served by active freeway networks.			
3 – Village-town active travel connections	The STPR2 recommends the creation of new and improved active travel routes to connect smaller rural communities with nearby towns, using high-quality active travel infrastructure that segregates users from busy roads but makes use of quiet roads where appropriate, to ensure that active	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	travel becomes a more attractive option for local travel. Village-town active travel connections would be developed to support journeys by active modes, encourage a switch from short rural car trips and allow people to benefit from improved access to local goods and services.			
4 – Connecting towns by active travel	The STPR2 recommends creating new and improved active travel routes between Scotland's towns using high-quality active travel infrastructure, segregated from traffic. Connecting towns' routes would ensure that towns not served by the Long-distance active travel network (5) are linked to nearby cities and towns. Priority would be given to connecting settlements that are relatively close, and where opportunities for modal shift from car to active travel are greatest.	None	None	Screened out due to nature of the recommendation.
5 – Long-distance active travel network	The STPR2 recommends creating new and improving existing active travel routes to connect Scotland's cities, regions and major gateways,	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	using high-quality active travel infrastructure that segregates users from busy roads, but makes use of quiet roads where appropriate. Although available for long-distance active journeys, it is anticipated that most benefit is likely to arise from use of the routes for relatively short journeys between or within the communities that the network would pass through. The long-distance active travel network would enhance the existing National Cycle Network to create a strategic national network of active travel routes mirroring in part the trunk road and rail networks.			
6 – Behavioural change initiatives	Encouraging more people to make active and sustainable transport choices more often would have significant health, inclusion and environmental benefits. There is growing evidence of the effectiveness of behavioural change initiatives to increase awareness and use of active and sustainable modes.	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	The STPR2 recommends building on existing programmes to deliver local, regional and national initiatives that provide encouragement, enablement and incentivisation for more people to make use of active and sustainable choices more often. Activities would raise awareness of sustainable transport options and encourage individuals to make the most appropriate transport choice for their journeys, such as walking, wheeling, cycling, public transport or shared mobility services, or to encourage use of systems such as Mobility as a Service (MaaS). Activity would build upon successful experience in Scotland, much of which is delivered by the Transport Scotland-funded Smarter Choices, Smarter Places (SCSP) programme. Initiatives would include providing information, campaigns and promotional activities, financial			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	incentives and community events. These initiatives are likely to be most effective if they raise awareness of new infrastructure and services, including those delivered by other recommendations of the STPR2; if they influence people experiencing life events (such as starting a family, changing job or starting/leaving school); and if the interventions being promoted are of high-quality and relevant to that individual.			
7 – Changing road user behaviour	Scotland's Road Safety Framework has a vision for Scotland to have the best road safety performance in the world by 2030. The framework is aligned with the NTS2 and embeds the Safe System approach to road safety delivery, which consists of five key pillars focusing efforts not only on road traffic casualty reduction (vulnerability of casualties) but also on road traffic danger reduction (sources of danger). This recommendation	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	seeks to address three of the five pillars: Safe Speeds, Safe Road Use and Safe Roads and Roadsides. Ensuring all road users understand their road safety responsibilities can increase respect between users and improve attitudes and behaviours for the safety of themselves and others. This results in more responsible behaviour which, combined with speed enforcement, leads to fewer road casualties. This recommendation complements a broad range of other recommendations of the STPR2 seeking to promote inclusive accessibility by healthy and sustainable modes. The STPR2 recommends implementation of speed enforcement technology, in line with the Scottish Safety Camera Programme Handbook , and national road safety behaviour change campaigns, education and training initiatives (for example,			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	Give Cycle Space and Road Safety Week) to enable all users to understand their road safety responsibilities. These interventions would contribute towards the Scottish Government's Vision Zero strategy to help to deliver the outcomes of Scotland's Road Safety Framework. They would contribute to reducing traffic speeds and increasing understanding and respect between all road users. This would reduce road casualties and create safer environments which promote inclusivity and encourage people to make more active travel choices. Improving safety is particularly important given other recommendations of the STPR2, which also seek to encourage more walking, wheeling and cycling. This would mean that the need for safer travel for everyone becomes more important as the interactions between all types of road users increase.			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
8 – Increasing active travel to school	Increasing walking, wheeling and cycling to school leads to health and wellbeing benefits for young people, their family groups and carers. This can help create healthy active travel habits for life. The school run is a significant contributor to traffic levels and rates of walking to school in Scotland have been steadily declining over the past decade, only partly offset by increased cycling and scooting. Concern about road safety is one of the barriers to active travel most reported by parents and carers. This recommendation would seek to improve active travel routes, reduce traffic volumes and speeds, tackle congestion and thereby increase the uptake of active travel to schools. The STPR2 recommends improved and safer walking, wheeling and cycling routes to primary and secondary schools, created through	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	a comprehensive package of local infrastructure schemes such as reallocation of road space, improved crossing points, improved surfacing and lighting, and supported by traffic speed reduction measures and School Streets schemes where appropriate (School Streets schemes are sections of roads around schools that are closed to vehicular traffic during school drop-off and pick-up times, creating pedestrian- and cycle-only zones in the vicinity of schools). This recommendation would also include behavioural change measures to promote better driver behaviour around schools (such as safe parking and no engine idling initiatives) and to provide encouragement for pupils and their families to travel safely and actively. Where schools are in or close to neighbourhood centres, improvements would be planned jointly with Connected			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	neighbourhoods (1). Interventions would build upon the work that local and regional partners have been leading, to plan and implement measures at and around schools across Scotland. Evidence from where school active travel schemes have been implemented has shown that considerable benefits can be realised for social inclusion, safety, and health and wellbeing for young people and their family groups, as well as modal shift and environmental improvements.			
9 – Improving access to bikes	The benefits of any investment in new or existing cycle route infrastructure can only be realised by people that have access to a bike. The cost of a bike and associated accessories – such as lights, locks and helmets – can be significant for many people, especially families or people who need more specialist cycles.	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	Research shows that people experiencing social and economic hardship are less likely to use active modes of travel. Only one-third of Scottish households have access to one or more cycles; this falls to under one-fifth of households with a net annual income of below £15,000. Furthermore, many households will not have cycles that suit every individual, nor have all appropriate accessories to safely use and store cycles. There is also often a lack of access to training or support that would give people the necessary confidence and skills to cycle. As such, providing access to bikes, training and support would play a key role in enabling more people to cycle. In addition to health, environmental and accessibility benefits, this would also realise the benefits of investment in cycle			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	routes. The STPR2 recommends improving access to bikes through a multi-faceted programme of interventions to enable people to cycle (and also to support walking and wheeling as appropriate) and to give them confidence and skills to do so, such that they can make use of new or existing active travel infrastructure. Interventions would build on existing successful programmes and the work of established support groups. Interventions could include community bike libraries, cycle repair schemes, cycle hire schemes, cycle storage for flats and tenements, and free and subsidised access to cycles and accessories for organisations and lower-income households. Measures would be designed to meet local community needs and address inequality by targeting the specific socio-demographic groups			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	who would most benefit from cycling (and walking and wheeling as appropriate), including young people, women, older people, disabled people, individuals with health problems and people from more deprived communities.			
10 – Expansion of 20mph limits and zones	The Programme for Government commitment includes delivering a safer speed limit of 20mph on appropriate roads by 2025. Good progress has been made in identifying the criteria assessment process and criteria has been agreed with the Society of Chief Officers of Transportation in Scotland (SCOTS) and COSLA. Introducing more 20mph speed limits and zones at appropriate locations in cities, towns and villages can reduce speeding traffic, thereby reducing fear of road danger, which is a significant barrier to walking, wheeling and cycling for some people. Evidence indicates that road casualty rates fall with the	None	None	Screened out due to nature of the recommendation.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	introduction of 20mph zones, and accident survival rates are up to five times higher when a pedestrian is hit by a car driving at 20mph compared to 30mph. Safer environments can encourage more people to walk, wheel and cycle more often. In addition to benefitting people travelling by active modes, lower speeds also increase the safety of people travelling in vehicles. The STPR2 recommends supporting the Scottish Government's 20mph Task Group by scaling up current local programmes and initiatives to provide new or expanded 20mph limits and zones on appropriate roads in cities, towns and villages across Scotland. These would typically be residential streets, as well as those in neighbourhood centres and near other key trip generators where there are high levels of pedestrian activity. Most			

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	20mph measures would be on local (non-trunk) roads controlled by local authorities; a partnership working approach to delivery is therefore essential. Accompanying road safety campaigns would encourage better driver behaviour in 20mph zones. These measures complement a broad range of other recommendations of the STPR2 seeking to create safer environments that would address one of the main barriers to people walking, wheeling and cycling.			
11 – Clyde Metro	The Glasgow City Region is a geographically diverse region that includes the Glasgow conurbation and wide variation in levels of deprivation. The Region accounts for the highest levels of deprivation across all of the STPR2 regions. Within the Region, availability of public transport choices varies, and the suburban rail network is serving a mix of short- and longer-distance	None	None	The recommendation is too broadly defined to be assessed. Screened out at this stage and would need to undergo a project level HRA.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	journeys with some capacity problems and associated inefficiencies. The impact of congestion on the strategic road network, and local corridors that buses use, also impacts on the attractiveness of public transport. These challenges translate into a dominance of journeys by car across the Region. Metro transport systems include one of, or a combination of, bus rapid transit, tram, light rail and metro rail. These options would complement the service provided by traditional railways and may include the conversion from existing railways to tram or heavy metro. Clyde Metro is aimed to serve and improve connectivity within the Glasgow conurbation, through the development of a new modal tier which would provide high quality			

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	public transport links to key hubs (for example city centre, hospitals, major education facilities, key employment centres, retail hubs, and major leisure/sports facilities) and major transport hubs (for example Glasgow Central and Queen Street railway stations, Glasgow Airport and suburban interchanges), together with unserved or underserved areas. Clyde Metro would have a key role to play in tackling social exclusion. Clyde Metro would also support national-level priorities such as Clyde Mission, to help drive sustainable and inclusive growth throughout both the city and Region; and would provide significant capacity for modal shift and help reduce greenhouse gas emissions and improve air quality. Clyde Metro would offer relief for the heavy rail network, freeing rail			

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	capacity for longer-distance journeys. The STPR2 recommends that Transport Scotland continues to work with Glasgow City Council, Strathclyde Partnership for Transport and other regional partners in the development of Clyde Metro including the business case, design and governance. This would address the gap in public transport provision in the Region, allowing more effective rail operations, creating capacity for longer-distance high speed rail connections and providing connectivity between areas of deprivation and education, employment and leisure opportunities. Priority would be given to those solutions that can connect unserved and underserved areas. By integrating with the Region's current bus and heavy rail networks, as well as links with active travel, it would provide much improved connectivity between the			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	city and the surrounding communities, and between the communities themselves. This would tackle deprivation issues in the Region and encourage a switch from private car use to public transport and other more sustainable travel options.			
12 – Edinburgh & South East Scotland Mass Transit	Edinburgh and South East Scotland is a geographically diverse Region that includes a major city, urban areas and accessible and remote rural communities, with corresponding variable access to public transport throughout the Region. Within the Region, there are more limited public transport choices for cross-boundary trips and an increased need for interchange leading to longer journey times. The impact of congestion on the strategic road network and local corridors that buses use also impacts on the attractiveness of public transport. These challenges translate into a dominance of journeys by car across the Region.	None	None	The recommendation is too broadly defined to assess. Screened out at this stage and would need to undertake a project level HRA.

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	A mass transit system for the Region would provide more public transport options for cross-boundary travel, reducing the need to make unnecessary changes between services, leading to lower journey times. This would improve Region-wide connectivity and encourage a switch from car to public transport and other more sustainable travel options. The system would include cross-boundary routes along key corridors within and around the City of Edinburgh, as the main population and economic area of the Region. The primary purpose would be to facilitate end-to-end sustainable transport journeys. The introduction of new Regional interchanges would also form part of the mass transit system. The system would focus on key corridors of demand as well as where congestion impacts on bus services and where the public			

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	transport offer is more limited, including targeting more disadvantaged areas where there can be greater dependence on public transport. This would increase travel choices to access employment, education, healthcare and other services and help to address inequalities. This would also reduce the need to travel unsustainably and contribute to targets for lower emissions and the reduction in car vehicle-kilometres travelled, as well as placemaking. The STPR2 recommends that Transport Scotland works with Regional partners to develop and enhance the cross-boundary public transport system for the Region, potentially comprising tram and bus-based transit modes including Bus Rapid Transit and bus priority measures. This would complement and integrate with the Region's current bus, tram and heavy rail networks, to provide improved connectivity between the City of			

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	Edinburgh and the surrounding communities in the Region, as well as more direct connections between communities outside Edinburgh.			
13 – Aberdeen Rapid Transit	A bus-based rapid transit system for the region would provide more competitive and efficient public transport into and around the Aberdeen City region. This would improve region-wide connectivity and encourage a switch from car to public transport and other more sustainable travel options. The system would focus on key corridors of demand as well as where congestion impacts on bus services. Travellers switching from car to public transport would reduce the congestion impacts on bus services as a result of high car usage and offer opportunities for placemaking improvements to support healthy and active lifestyles. The system would help to deliver air quality benefits and improve	None	None	Screened out due to the nature of the recommendation: increasing usage of buses is likely to reduce the number of vehicles on the roads within the City and therefore likely to reduce the air and water pollution risks to the River Dee SAC. The recommendation would involve reallocating existing road space to rapid transit to reduce the impact of congestion on public transport journey times and reliability, rather than any significant new construction.

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	public transport journey times and journey time reliability, making sustainable travel options more attractive. The STPR2 recommends that Transport Scotland continues to work with Nestrans, Aberdeen City Council and Aberdeenshire Council in developing plans for Aberdeen Rapid Transit. This could be progressed using the Bus Partnership Fund. The rapid transit system would prioritise buses and connect two proposed corridors: Bridge of Don Park and Ride – Westhill (via City Centre); and Craibstone Park and Ride – (proposed) Portlethen Transport Interchange (via City Centre).			
14 – Provision of strategic bus priority measures	Bus priority measures, including reallocation of road space, can deliver greater punctuality and faster journey times. Research shows that such benefits would increase the attractiveness of travel by bus and help reverse the continued decline in use. Switching	None	None	Screened out as recommendation is remote from European sites.

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	from car to this greener, cleaner option is essential if Scotland is to meet its net zero carbon emission target and the need for action is urgent, as confidence in the safety of travel by bus has reduced as a result of the COVID-19 pandemic. The STPR2 recommends bus priority interventions are implemented within Scotland's cities and towns where congestion is highest and that bus priority measures continue to be identified and implemented on the trunk road and motorway network. These could be taken forward within local networks using the Bus Partnership Fund process or similar. In the case of the trunk road and motorway network, Transport Scotland would build on the current work progressing plans for the M8, M77 and M80, as well as the CAVForth project between Fife and Edinburgh. Additional locations that are recommended for further			

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	appraisal include the M90 southbound between Junctions 1C and 1B, and A90 Forfar Road southbound at the Kingsway in Dundee.			
15 – Highland Main Line rail corridor enhancements	The STPR2 recommends a programme of enhancements, including new and longer passing loops with more flexibility and permissible speed increases. This would achieve increases in capacity and reliability for passenger and freight services, including infrastructure to enable journey time improvements where possible. Precise interventions would be developed following more detailed work in the business case process.	None	None	Recommendation is too broadly defined to assess for impacts at this stage. Screened out at this stage and would need to undertake a project level HRA.
16 – Perth-Dundee-Aberdeen rail corridor enhancements	The STPR2 recommends a programme of improvements, such as junction upgrades and permissible speed increases to achieve journey time improvements and line capacity increases for passenger and freight services.	Disturbance – Noise/Light Air Quality Water Pollution	**Perth to Dundee** • River Tay SAC • Firth of Tay and Eden Estuary SAC	The European sites listed in the column to the left are all within 200 metres of the rail corridor between Perth, Dundee and Aberdeen. This is the zone in which the majority of construction impacts will occur and

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	Subject to more detailed work in the business case process, potential areas for improvement could include Perth Station approaches, Tay Viaduct, local area enhancements at Arbroath and Montrose and signalling improvements. In addition, opportunities would be taken to increase gauge clearance (to permit taller and wider trains) to facilitate growth in the full range of inter-modal freight traffic.		• Firth of Tay and Eden Estuary SPA **Dundee to Aberdeen** • Firth of Tay and Eden Estuary SAC • Garron Point SAC • River Dee SAC • Barry Links SAC • Firth of Tay and Eden Estuary SPA • Montrose Basin SPA • Outer Firth of Forth and St.	shows European sites which could potentially be affected, although this does not mean that impacts cannot occur at sites further from the rail line. At this strategic stage the potential interventions are very broad, with no detailed design or specific locations. Given this, the recommendation is too broad to analyse sufficiently and as such can be screened out at this stage with the proviso that the recommendation is assessed at a scheme/project level when bought forward.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
			Andrews Bay Complex	
17 – Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements	The STPR2 recommends a programme of improvements, such as junction upgrades and permissible speed increases, to achieve journey time improvements and line capacity increases for passenger and freight services, including infrastructure to enable the removal or reduction of lower differential freight speed limits where possible. Subject to more detailed work in the business case process, potential areas for improvement could include: Greenhill Junction, Dunblane station area, Hilton Junction and Moncrieff Tunnel, Perth station approaches, and Edinburgh western station approaches. In addition, opportunities would be taken to increase gauge clearance (to permit taller and wider trains) to facilitate growth in the full range of	Disturbance – Noise/Light Air Quality Water Pollution	**Perth to Dundee** • River Tay SAC • Firth of Tay and Eden Estuary SAC • Firth of Tay and Eden Estuary SPA **Edinburgh to Perth** • Firth of Forth SPA • South Tayside Goose Roosts SPA • Shelforkie	The European sites listed in the column to the left are all within 200 metres of the rail corridors between Edinburgh/Glasgow-Perth/Dundee. This is the zone in which the majority of construction impacts will occur and shows European sites which could potentially be affected, although this does not mean that impacts cannot occur at sites further from the rail line. At this strategic stage the potential interventions are very broad, with no detailed design or specific locations. Given this, the recommendation is too broad to analyse sufficiently and as such can be screened out at this

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	inter-modal freight traffic.		• Moss SAC • Kippenrait Glen SAC • River Teith SAC	stage with the proviso that the recommendation is assessed at a scheme/project level when bought forward.
18 – Supporting integrated journeys at ferry terminals	One of the major historical barriers to public transport uptake has been connectivity and lack of convenient end-to-end travel options. Improving access and creating a better traveller experience at ferry terminals and interchange facilities would benefit rural and island communities as well as visitors and assist in encouraging modal shift. This would improve utilisation of, and fares income from, available passenger capacity on ferries and potentially reduce pressure on vehicle decks, freeing up space at times of scarcity for freight and other essential vehicle travel. This would enhance the interchange facilities for all trips at ferry terminals, but especially longer-distance trips, providing	None	None	Screened out due to the nature of the recommendation. Improving transport interchange at ferry terminals may have a positive environmental impact. The STPR2 does not make any recommendations about increasing or decreasing ferry services, which will be the subject of a separate Island Connectivity Plan.

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	more seamless travel choices and improving services, particularly for those not travelling with a car. Reducing car usage and increasing foot passenger usage also helps make more cost-effective use of existing ferry capacity, in line with the Sustainable Investment Hierarchy. The STPR2 recommends a detailed review of key ferry terminals to consider physical integration and accessibility improvements in timetable information, signing, ticketing and other facilities required to deliver a seamless and integrated journey between different travel modes. The review would make recommendations on a programme of integration improvements to enhance the traveller experience and accessibility at ferry terminals.			
19 – Infrastructure to provide access for all at railway stations	Implementing measures to improve the accessibility of Scotland's railway stations can help ensure	None	None	Screened out due to nature of the recommendation.

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	that everyone can use the transport system with as few barriers as possible. This would encourage greater use of rail and switching from car travel to support Scotland's net zero carbon emission targets. Examples include step-free routes and platform access to passenger trains. Where possible, this would be done as part of wider rail investments. The STPR2 recommends a review of station accessibility across Scotland to identify and remove barriers to travel and improve access for all to the rail network, prioritising those stations that have particular problems. This would include investigating the opportunities for trialling new technological solutions (for example enhanced audio announcements and help points) to improve safety and accessibility at stations for people with reduced mobility.			

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	This review would build on the national stations' audit work being undertaken by the Department for Transport as part of the National Disability Strategy. This would provide a record of the level of accessibility of all stations in Scotland, help people with accessibility needs better plan their journeys and help shape future investment in accessible rail travel. When considering the audit data, Transport Scotland would also take account of the current connectivity issues and options available, and in doing so engage with the wider rail industry and stakeholders to identify how improvements can be best made to improve accessibility across the network.			
20 – Investment in Demand Responsive Transport and Mobility as a Service	Targeted investment to make it easier for people to travel, particularly those without access to a car, can help promote equality through fairer access to jobs and services. In locations with low bus network connectivity, or where conventional fixed route services	None	None	Screened out due to nature of the recommendation.

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	may not be suitable or viable, flexible options, such as DRT and Community Transport, supported by MaaS and smart technology where appropriate, can be used to provide improved public transport connectivity. This would be important in addressing the marked differences between and within regions. The STPR2 recommends that capital funding is used to support pilot schemes and demonstration projects to establish how DRT and CT services can provide improved public transport connectivity and integration without increasing the need for revenue support, drawing on innovative solutions, international best practice, smart technologies and the findings from the MaaS Investment Fund schemes. This funding would help to establish whether scarce existing resources			

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	could be better utilised across the public network, home-to-school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routeing. The potential to better inform people on journey options through the use of MaaS would also be considered.			
21 – Improved public transport passenger interchange facilities	Improving the quality of passenger facilities at bus stations, railway stations and other transport interchanges encourages uptake of public transport and a switch from car use. This would include improving accessibility at bus stations and transport interchanges for people with reduced mobility. Improvements can also be made to infrastructure design and security (to and within bus stations, railway stations and transport interchanges), as well as by enhancing the quality of the infrastructure, information, signage and wayfinding for all users of the facilities.	None	None	Screened out due to nature of the recommendation. Improved interchange between transport modes can have positive environmental benefits.

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	During stakeholder engagement for the STPR2, most regions raised the need to improve the quality and accessibility of passenger facilities for those with reduced mobility. Improvements will be particularly important in attracting passengers back to public transport following COVID-19.. The STPR2 recommends building on Infrastructure to provide access for all at railway stations (19) and Scotland's Accessible Travel Framework, to roll out a programme of interchange upgrades. This would focus on improved infrastructure design to, and within, bus and railway stations, and improved information, signage and wayfinding by upgrading the accessibility and quality of passenger facilities at existing bus stations and other transport interchanges, or, where needed, construction of new facilities. Opportunities to enhance			

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	interaction with active travel modes would also be considered to improve overall access to public transport services.			
22 – Framework for the delivery of mobility hubs	Improving links between public transport services, active travel (walking, wheeling and cycling) and shared transport makes it easier for people, particularly those without a car, to get to and from their destination. This addresses one of the main barriers to uptake of public transport services. Mobility hubs are facilities where various types of transport, and, potentially, other services inter-connect. They support changing travel patterns – such as increased home-working and promotion of liveable places, including 20-minute neighbourhoods – that are resulting in a greater reliance on local facilities. Mobility hubs can be developed in various contexts, including rural and island communities, and services can be tailored to support specific local	None	None	Screened out due to the nature of the recommendation.

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	characteristics and needs. The delivery of mobility hubs requires close and complex long-term multi-stakeholder partnerships from inception through to creation and ongoing maintenance, including the communities they serve, local and national Government, all bodies involved in transport planning, placemaking and regeneration, and a wide variety of public, private, and third sector transport service providers. The STPR2 recommends that a delivery framework for mobility hubs is developed in collaboration with stakeholders to facilitate the creation of high-quality mobility hubs across Scotland. To ensure their effectiveness, the framework would include guidance, building on existing guidance produced by the CoMoUK, to allow robust assessment and coordination of future funding decisions on mobility hubs, including determination of the			

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	most appropriate locations and facilities for different mobility hub typologies (covering both urban and rural contexts), design principles, methods of community engagement and delivery models. The creation of a recognisable network of high-quality multi-modal mobility hubs across Scotland would support the priorities of the NTS2 by increasing the attractiveness and visibility of public and shared transport, through bettering connectivity, improving links between public, active and shared transport options, and providing seamless travel opportunities, particularly for those without access to a private car. A nationally-led framework for the delivery of mobility hubs would provide all stakeholders and delivery partners with a clear template and pathway for action, and give national Government a guiding hand in planning and providing a network of hubs which			

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	is coherent, integrated, and delivers against its many social, economic, and environmental targets and policy objectives.			
23 – Smart, integrated public transport ticketing	Making it easier for people to reach their end destination by simplifying how they store and pay for tickets with different providers makes public transport a more convenient, flexible and attractive travel option. This encourages people to switch from private car use and supports more sustainable travel. Improving integration involves introducing new services, technologies and systems which support easier payment and the opportunity to simplify fares, such as price capping. To fully integrate across all operators this can include electronic payment, smartcard and mobile technologies, coupled with improved administration systems. The STPR2 recommends building	None	None	Screened out due to the nature of the recommendation.

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	on the interventions and new services delivered under the 2018 Smart and Integrated Ticketing and Payments Delivery Strategy to continue with the support and ongoing delivery of fully integrated smart ticketing and payment services across all public transport modes, to support modal shift and encourage active travel. This recommendation supports the delivery of the provisions and subsequent workstreams, within the Transport (Scotland) Act 2019 , which includes establishing a National Smart Ticketing Advisory Board and setting a technological standard for smart ticketing. The Act also seeks to enhance integrated schemes to now include connecting modes and further empowers Scottish local authorities to introduce smart and integrated ticketing schemes where there is consumer demand, enabling access to, and use of, more sustainable public transport.			

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24 – Ferry vessel renewal and replacement, and progressive decarbonisation	Continued investment in ferry renewals would address the needs of rural and island communities by improving the resilience, reliability, capacity, accessibility and standardisation of ferries and reducing their emissions. Progressive decarbonisation of the CHFS and NIFS ferry networks will support the 2018 – 2032 Climate Change Plan Update and the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. The STPR2 recommends renewal and replacement of the CHFS and NIFS vessels including progressive decarbonisation by 2045.	None	None	Screened out due to nature of the recommendation. Renewing and replacing ferries may have a positive environmental impact. The STPR2 does not make any recommendations about increasing or decreasing ferry services, which will be the subject of a separate Island Connectivity Plan.
25 – Decarbonisation of the rail network	Replacing diesel trains, the largest source of rail carbon emissions, with cleaner technologies offers multiple benefits in addition to helping meet net zero targets. Electrification would improve journey times and strengthen reliability of both freight and	Water Pollution Disturbance – Light/Noise Direct Land	**Tweedbank to Newcraighall (Borders Line)** • River Tweed **Fife Circle** • Firth of Forth	At points several of the SPAs and SACs border the road network immediately adjacent to the rail line. Although these sites are immediately adjacent to the rail line, it is assumed that the recommendation would

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	passenger rail services. Capacity could be expanded through the use of longer trains and timetable efficiencies from improved acceleration. These measures would provide indirect benefits for passenger and freight movements and would encourage a switch from road to rail. Electric rolling stock has lower operational and maintenance costs than diesel. Battery and hydrogen traction solutions would still enable decarbonisation of rail operations on routes where overhead wire electrification is less cost effective. The STPR2 recommends the priorities for decarbonising key rail routes should align with the Rail Services Decarbonisation Action Plan. These would be subject to full business case assessment but are likely to include: • East Kilbride/Barrhead - Muirhead Junction	Take Injury/mortality	SPA • Outer Firth of Forth and St. Andrews Bay Complex SPA **Thornton to Perth** • River Tay SAC **Ladybank to Dundee** • Firth of Tay and Eden Estuary SPA • Firth of Tay and Eden Estuary SAC **Dunblane to Dalcross** • South Tayside Goose Roosts	be designed in a way that avoids direct loss of habitat. There is potential for pollution through water run-off from the interventions depending on the location of the recommendation, should these qualifying habitats be vulnerable, although it is in any event an offence to pollute watercourses. There is also the potential for disturbance during construction through visual and noise pathways upon qualifying features (species) of the SPAs. This will also require detailed design to be advanced before it can be investigated in detail. There is also the potential

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	• Tweedbank-Newcraighall (Borders Line) • Edinburgh-Dunfermline-Thornton-Kirkcaldy-Edinburgh (Fife Circle) • Thornton-Ladybank-Perth • Ladybank-Dundee • Perth-Dundee-Aberdeen-Dyce (including Raith's Farm freight terminal) • Dunblane-Perth-Inverness-Dalcross		SPA • Shelforkie Moss SAC • River Tay SAC • Shingle Islands SAC • Drumochter Hills SAC • River Spey SAC • Insh Marshes SAC • River Spey – Insh Marshes SPA • Loch Vaa SPA • Slochd SAC • Inner Moray Firth SPA **Perth to Dyce** • River Tay SAC	that the installation of electric lines could increase risk of bird strike depending on the location of the intervention and nature of the electric lines. This will require detailed design to be advanced before it can be investigated in detail. Injury or mortality during the operational phase could be caused by electrocution or collision with overhead electricity wires installed through the electrification of the railway lines. Breeding birds such as geese can forage up to 20 kilometres from breeding grounds within an SPA and therefore European sites could be affected at this distance depending on the exact location of the electrification. This is discussed further in the Test of LSE.

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			• Firth of Tay and Eden Estuary SAC • Firth of Tay and Eden Estuary SPA • Garron Point SAC • River Dee SAC • Barry Links SAC • Montrose Basin SPA • Outer Firth of Forth and St. Andrews Bay Complex	
26 – Decarbonisation of the bus network	The Scottish Government has made funding available to accelerate the decarbonisation of the Scottish bus industry through the acquisition of zero-emission vehicles and infrastructure; working closely with industry to remove greenhouse gas emissions from the bus sector at pace to support the commitment to net zero by 2045.	None	None	Screened out due to nature of the recommendation.

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	The STPR2 recommends further investment to stimulate the commercial roll out of zero emission buses, including those used by the home-to-school, community transport and tourist sectors. Further policy development may be required to ensure a Just Transition to zero emission buses across all operators. Any provision of additional funding would need to reflect the expectation that the bus and coach industry will increasingly seek to acquire zero emission vehicles commercially, without the need for Government investment.			
27 – Behavioural change and modal shift for freight	A significant amount of freight needs to shift from road to rail or water, and the overall distance travelled needs to be reduced. This is necessary if Scotland is to meet its net zero carbon emission targets as these cannot be achieved by changes in technology alone. The development of a network to facilitate behavioural change and modal shift would be enabled by	None	None	The recommendation is too broadly defined to assess for impacts at this stage. Screened out at this stage and would need to undertake a project level HRA.

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	the implementation of Recommendation 28 – Zero emission vehicles and infrastructure transition. The STPR2 the Scottish Government brings together public and private sector organisations to introduce incentives and best practice to establish more efficient, environmentally-friendly practices within the freight industry, including promoting sustainable transport options to encourage modal shift particularly, but not exclusively, for longer-distance movements and enable the potential to reduce the number of HGV/Light Goods Vehicle (LGV) movements on the road network. This may involve a potential evolution of the existing grant and support schemes, such as the Modal Shift Revenue Support scheme and the Freight Facilities Grant. It is also recommended to engage with the public and private			

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	sectors to educate operators on the benefits of multi-modal best practice, promote the availability of modal shift grants, and ease the application and compliance process.			
28 – Zero emission vehicles and infrastructure transition	Alongside greater use of public transport and active travel, and the required reduction in travel demand, switching to zero emission vehicles is a key step in reducing greenhouse gas emissions from transport and the achievement of the Scottish Government's net zero target. Encouraging this shift to zero emission vehicles requires a suite of options to support a Just Transition, including additional transport infrastructure across Scotland such as new and expanded recharging and refuelling networks as well as technological change. The convening powers of Scottish Government/Transport Scotland are required to bring together key industries and sectors to work	None	None	Screened out due to nature of the recommendation

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	strategically with the private sector to facilitate the planning, management and delivery of the required alternative refuelling network and expansion/improvements to the charging network, and the implementation of the net zero freight and logistics network as set out in Recommendation 27. Where market failure exists, Transport Scotland will intervene to support a Just Transition by ensuring the provision of a multi-modal alternative fuel and charging network for the whole of Scotland, including consideration of rural and island communities. The STPR2 recommends that a national framework for zero emission vehicles is established to support and accelerate the shift to zero emission mobility through targeted funding to enable investment in fleets, facilities and emerging technologies.			

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	In addition, collaboration with the public and private sector will develop co-ordinated investment in a zero emission transport supply network of recharging and refuelling infrastructure across Scotland, including consideration of rural and island communities, which is in line with Transport Scotland's Mission Zero for Transport programme. This framework would seek to maximise the impact of public expenditure and leverage commercial investment. The framework would incorporate freight, coaches and personal modes, and include capacity for longer-distance journeys.			
29 – Access to Argyll (A83)	Ongoing closures of the A83 due to landslides at the 'Rest and Be Thankful' or on other sections of the road in Argyll and Bute due to accidents, flooding or roadworks have a significant negative impact on the region and its economy. Closures at the 'Rest and Be	None	None	The recommendation is to improve resilience for strategic and local traffic currently using the A83 through the continued development of a more reliable route.

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	Thankful' can add detours of up to 50 miles for residents, businesses and visitors. Accidents or incidents occurring on the A83 in Argyll and Bute means that for periods of time there is no continuous strategic road in the region connecting it to the rest of the country. Closures can have a more severe impact on residents who want to make shorter journeys from one side of the A83 'Rest and Be Thankful' to the other, such as Inveraray residents wanting to access services in Dumbarton or Helensburgh. New or improved road infrastructure to address these closures would improve the reliability of the route as a vital artery through Argyll, as a connection for both the Kintyre and Cowal peninsulas, and as one of only two trunk roads linking Argyll and Bute to the Central Belt.			The STPR2 does not specify spatially the preferred corridor mentioning only "the Glen Croe corridor" and therefore the recommendation is too broadly defined to assess impacts upon European sites. Therefore, the recommendation is screened out at this stage and should undergo a project level HRA as the preferred route is more fully designed.

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	The STPR2 recommends work continues on developing a more reliable route. A preliminary assessment of 11 route corridor options has been completed, with the Glen Croe corridor emerging as the preferred corridor. Public feedback has stressed the need to move quickly in relation to improvements in the vicinity of the 'Rest and Be Thankful'. Work undertaken to date has been accelerated, with speed of delivery a key criteria for assessment regarding options for more extensive measures considered under this recommendation.			
30 – Trunk road and motorway safety improvements to progress towards 'Vision Zero'	Safety improvements are required across the trunk road and motorway network to help meet Scotland's Road Safety Framework to 2030 vision for Scotland to have the best road safety performance in the world by 2030, with a long-term goal of Vision Zero, where there	Direct Land Take Disturbance – Noise/Light Air Quality	**A82 Balloch to Inverness** • Loch Lomond Woods SAC • River Moriston SAC • River Tay SAC • Glen Coe SAC	At points several of the SPAs and SACs are immediately adjacent to the carriageway. Although these sites are immediately adjacent to the carriageway, it is assumed at this level the

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	are zero road fatalities and serious injuries by 2050. An ambitious interim target for 2030 involves halving the number of people being killed or seriously injured on Scotland's roads. The Framework embeds the Safe System approach to road safety delivery, which consists of five key pillars focusing efforts not only on road traffic casualty reduction (vulnerability of the casualties) but also on road traffic danger reduction (sources of the danger). Safe Roads and Roadsides is one of the five pillars, where roads and roadsides in a Safe System are designed to reduce the risk of collision, and to mitigate the severity of injury should a collision occur. Safety improvements would also improve route reliability and resilience, reducing delays associated with accidents. A high-quality, well maintained and	Water Pollution	• Urquhart Bay Woods SAC • Onich to North Ballachulish Woods SAC • Rannoch Moor SAC • Glen Etive and Glen Fyne SPA • Rannoch Lochs SPA **A83 Tarbet to Campbeltown** • Tarbert Woods SAC • Inner Hebrides and the Minches SAC • Glen Etive and Glen Fyne SPA • Sound of Gigha SPA • Kintyre Goose Roosts SPA **A835 Tore**	interventions will be designed in a way that avoids direct loss of habitat. These roads also come within 200 metres of all the sites; therefore, there is the potential for air quality impacts to qualifying habitats or habitats on which qualifying features (species) rely. This cannot be investigated further until detailed scheme design at which point traffic and air quality modelling can be undertaken as required. There is potential for pollution through water run-off from the interventions depending on the location of the interventions, should these qualifying habitats be vulnerable, although it is in any event an offence to

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	efficient trunk road and motorway network also supports other Scottish Government programmes for active travel, Connected and Autonomous Vehicles (CAV) and bus priority investment, and thereby contributes to the low carbon economy. The STPR2 recommends road safety improvements are progressed across the trunk road and motorway network with a primary, but not exclusive, focus on rural sections where accident rates and severities are typically higher. The types of improvements would include junction improvements (such as right-turn priority, signalisation, at-grade roundabout and grade-separation) as well as junction rationalisation, realignment/widening of carriageways and provision of overtaking opportunities (Wide Single Carriageway 2+1 (WS2+1) schemes or climbing lanes).		**Roundabout to Ullapool** • Conon Islands SAC • Beinn Dearg SAC • Fannich Hills SAC **A85 Perth to Oban** • Loch Etive Woods SAC • River Tay SAC • Upper Strathearn Oakwoods SAC • Glen Etive and Glen Fyne SPA **A87 Invergarry to Uig** • West Inverness-shire Lochs SPA • River Moriston SAC	pollute watercourses. There is also the potential for disturbance during construction through visual and noise pathways upon qualifying features (species) of the SPAs, again dependent on where the interventions are located along the roads. This will also require detailed design to be advanced before it can be investigated in detail.

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	Potential examples of locations for road safety improvements on the trunk road and motorway network, include but are not limited to: • A82 Balloch to Inverness (excluding Tarbet to Inverarnan which is already being progressed by Transport Scotland) • A83 Tarbet to Campbeltown • A835 Tore Roundabout to Ullapool • A85 Perth to Oban • A87 Invergarry to Uig • A9 Kessock Bridge to Scrabster • A9 Dunblane to Perth • A90 Perth to Aberdeen (excluding the A90 Kingsway through Dundee - see Recommendation 32). The location and type of improvements on specific routes requires further detailed		• Lochs Duich, Long and Alsh Reefs SAC • Inner Hebrides and the Minches SAC • Kinloch and Kyleakin Hills SAC • Cullins SPA • Sligachan Peatlands SAC **A9 Kessock Bridge to Scrabster** • East Caithness Cliffs SAC • East Caithness Cliffs SPA • River Thurso SAC • Caithness and Sutherland Peatlands SAC • River Evelix SAC	

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	investigation, potentially through the development of route action plans. This would also be informed by the route risk mapping process Transport Scotland is developing in addition to the more traditional reactive analysis of high accident cluster sites to assess the safety of the road network and to target investment. Where appropriate, these measures may be undertaken in conjunction with, and to support, the STPR2 trunk road and motorway recommendations: Trunk road and motorway climate change adaptation and resilience (31) and Trunk road and motorway renewal for reliability, resilience and safety (32).		• Moray Firth SAC • Monadh Mor SAC • Cromarty Firth SPA • Dornoch Firth and Loch Fleet SPA • Dornoch Firth and Morrich More SAC • Mound Alderwoods SAC **A90 Perth to Aberdeen** • River Dee SAC • River South Esk SAC River Tay SAC	
31 - Trunk road and motorway climate change adaptation and resilience	Climate change is already having far-reaching impacts on Scotland's weather systems, with heatwaves, intense rainfall and floods all increasing in scale and frequency. These events are already directly	Direct Land Take Disturbance – Noise/Light	**A77** • Glen App and Galloway Moors SPA • Lendalfoot Hills	At points several of the SPAs and SACs are immediately adjacent to the carriageway. Although these sites are immediately adjacent to the

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	impacting the trunk road and motorway network as illustrated by embankment failure on the A83 'Rest and Be Thankful' and the A68 at Fala, as well as the recurrence of flooding on areas of the network such as the A8 through Greenock. Efforts to reduce greenhouse gas emissions are essential to combat future catastrophic climate change, however, due to current and historic emissions being locked in, further changes are inevitable and will continue for decades to come. Adapting to the impacts of climate change is therefore essential to ensuring that the trunk road and motorway network is safe, reliable and resilient for the people of Scotland and its visitors. This includes developing measures to protect the operation of the network from severe weather events related to climate change such as flooding, landslides and	Air Quality Water Pollution	Complex SAC **A82** • Loch Lomond Woods SAC • River Moriston SAC • Glen Coe SAC • Urquhart Bay Wood SAC • Onich to North Ballachulish Woods SAC • Rannoch Moor SAC • Glen Etive and Glen Fyne SPA • Inner Clyde SPA • Rannoch Lochs SPA **A83** • Tarbert Woods SAC	carriageway, it is assumed at this level the interventions will be designed in a way that avoids direct loss of habitat. These roads also come within 200 metres of all the sites; therefore, there is the potential for air quality impacts to qualifying habitats or habitats on which qualifying features (species) rely. This cannot be investigated further until detailed scheme design at which point traffic and air quality modelling can be undertaken as required. There is potential for pollution through water run-off from the interventions depending on the location of the intervention, should these qualifying habitats be vulnerable, although it is in

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	high winds. Whilst climate change and its impacts go far beyond the 20-year timeframe of the STPR2, adapting to climate change and investing in resilience measures now could address some of the impacts already experienced and assist in understanding how to mitigate future risks to the trunk road and motorway network as the weather and impacts become less predictable and potentially more extreme. The STPR2 recommends building on existing evidence around vulnerable locations to develop a fuller picture of those areas on the trunk road and motorway network most at risk of disruption due to weather events. This would provide a basis for identifying, prioritising and implementing improvements to strengthen the resilience of the network. It is also recommended to build on Transport Scotland's		• Inner Hebrides and the Minches SAC • Glen Etive and Glen Fyne SPA • Sound of Gigha SPA • Kintyre Goose Roosts SPA **A87** • West Inverness-shire Lochs SPA • River Moriston SAC • Lochs Duich, Long and Alsh Reefs SAC • Inner Hebrides and the Minches SAC • Kinloch and Kyleakin Hills SAC • Cullins SPA • Sligachan Peatlands SAC	any event an offence to pollute watercourses. There is also the potential for disturbance during construction through visual and noise pathways upon qualifying features (species) of the SPAs, again dependent on where the interventions are located along the roads. This will also require detailed design to be advanced before it can be investigated in detail.

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	existing Roads Asset Management Plan, disruption management processes and incident response plans to help mitigate the impact of disruption from severe weather-related events. Whilst the location and nature of the improvements on specific routes requires further detailed study, potential locations and measures include, but are not limited to: • A85 Glen Ogle – geotechnical and hydrological study • A77, A82, A83 and A87 – sea wall improvements, strengthening or replacement • A78 – sea wall improvements, strengthening or replacement, and coastal fence upgrade • A9 – slope stability at Scrabster • Additional/proactive inspections/assessments such as LiDAR of embankments/hillsides/sea walls.			

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	(LiDAR is a method for determining ranges (variable distance) by targeting an object or a surface with a laser and measuring the time for the reflected light to return to the receiver. It can be used to make digital 3-D representations of areas on the Earth's surface and bottom of the intertidal and near coastal zone). Where appropriate, these measures may be undertaken in conjunction with, and to support, the STPR2 trunk road and motorway network recommendations related to renewal (32) and safety improvements (30), with Access to Argyll A83 (29) a specific recommendation.			
32 - Trunk road and motorway renewal for reliability, resilience and safety	The trunk road and motorway network has a £21 billion gross asset value and adds £1.38 billion to the economy annually. The network comprises 3,739 route kilometres (2,323 miles) of road,	Direct Land Take Disturbance – Noise/Light	**Forth Road Bridge** • Firth of Forth SPA • Forth Islands	At points several of the SPAs and SACs are immediately adjacent to the carriageway. Although these sites are immediately adjacent to the

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	1,745 bridges and 2,492 other structures. It accounts for 7 per cent of the total road network in Scotland but carries over 40 per cent of all traffic and over 60 per cent of all HGVs. Like any piece of infrastructure, the road network has a design life that can be extended by regular maintenance but that will also require significant renewal after years of permanent use to maintain the integrity of the asset and protect it for continued, unrestricted use and to avoid the need for unplanned works. The maintenance of a safe, reliable and resilient trunk road and motorway network plays a vital part in the daily lives of all communities, businesses and visitors to Scotland. Continued and increased investment in carriageways and structures, as well as ancillary assets to address the maintenance backlog, is required in order to achieve a steady-state condition and sustain investment to maintain	Air Quality Water Pollution	SPA **Erskine Bridge** • Inner Clyde SPA **Kessock Bridge** • Moray Firth SPA • Moray Firth SAC **Kincardine Bridge** • Firth of Forth SPA	carriageway, it is assumed at this level the interventions will be designed in a way that avoids direct loss of habitat. These roads also come within 200 metres of all the sites; therefore, there is the potential for air quality impacts to qualifying habitats or habitats on which qualifying features (species) rely. This cannot be investigated further until detailed scheme design at which point traffic and air quality modelling can be undertaken as required. There is potential for pollution through water run-off from the schemes depending on the location of the scheme, should these qualifying habitats be vulnerable, although it is in

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	this level of condition and keep the network reliable and resilient for all road users. This needs to consider changes in both technology and how we use this national asset. A co-ordinated programme of planned renewal and refurbishment work is also less disruptive and more cost-effective than addressing network failure. A co-ordinated approach also removes the need for multiple visits to the same location to address issues and provides an opportunity to include safe system treatments to roadsides to reduce risks from strike hazards and make roadsides more forgiving to improve safety. The STPR2 recommends continued and increased investment in the trunk road and motorway network over and above current maintenance levels.			any event an offence to pollute watercourses. There is also the potential for disturbance during construction through visual and noise pathways upon qualifying features (species) of the SPAs, again dependent on where the schemes are located along the roads. This will also require detailed design to be advanced before it can be investigated in detail.

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	Potential measures would include carriageway and structure schemes as well as ancillary assets. Examples include, but are not limited to, the following types of schemes and locations: • Carriageway schemes • M8 Maintenance Strategy • Structures schemes • Strengthening of major bridges (including the Forth Road Bridge, Erskine Bridge, Kessock Bridge and Kincardine Bridge); • Ancillary assets • Removal of accessibility barriers • Integrated transport plan for the A90 Kingsway through Dundee to improve reliability on the trunk road and deliver improvements for local active travel and public transport journeys: this could potentially include improvements to enable sustainable transport provision. • Integrated transport plan for Fort			

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	William to increase resilience and reliability on the trunk road to improve sustainable transport and enhance the sense of place in the local community. This could potentially include improvements online and/or a new link road to enable enhanced sustainable transport provision. Where appropriate, these measures may be undertaken in conjunction with, and to support, the STPR2 trunk road and motorway network recommendations related to safety improvements (30) and climate change adaptation (31).			
33 – Future Intelligent Transport Systems	This recommendation involves exploiting future technologies and services; these new technologies and services would contribute to reducing road accidents, the delivery of safer journeys, the provision greater resilience across the networks and deliver a higher level of service to all road users.	None	None	Screened out due to nature of the recommendation.

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	This recommendation covers adaptions to the service provided by Traffic Scotland both in the form of the deployment of new roadside equipment and the updates required to the Traffic Scotland System (TSS). Such changes shall accommodate Scottish Government policies affecting the structure and operation of the trunk road network, along with the adoption of new technologies and services, including any disruptive technologies such as CAV and Cooperative Intelligent Transport Systems (C-ITS). The current TSS will have to evolve new approaches beyond the current standards to adapt to these challenges and to continue to deliver the services into the future. This recommendation would look to progressively integrate passenger			

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	and freight modes into the Traffic Scotland National Control Centre (TSNCC) as opportunities and technological advances arise. It would investigate the best way to exploit the capability of the TSNCC, and how to plan for the future renewal and replacement of equipment, systems and services to maximise network operation. The STPR2 recommends investment to enhance and future-proof the capabilities of the current TSS, including enhancing the capability of the TSS, and planning deployment of new roadside equipment, systems and services to maximise network operations and resilience. This recommendation focuses on the need to future-proof the current services, so they can continue to provide existing services, as well as be able to deal with challenges associated with new disruptive technology such as CAVs and C-			

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	ITS.			
34 – Traffic Scotland System renewal	The TSS uses the information it collects about roadworks, accidents, congestion and weather events to reduce disruption and improve the operational efficiency and safety of the trunk road and motorway network. A business-critical part of the delivery of the service provided by Traffic Scotland is the Incident Management System (IMS): a core software system that supports the detection of incidents, the initial response and life-cycle management of those incidents, enhancing safety and network resilience. This element of the TSS is now at end of life and needs to be replaced. The STPR2 recommends upgrading the current IMS and the related Fault Management System (FMS), including their re-architecture onto more open and supportable technologies. This recommendation extends to the other related systems that require	None	None	Screened out due to nature of the recommendation.

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	to be upgraded as a result of the IMS and FMS re-architecture. This would address both current and future requirements in terms of both service delivery and also provide systems that could, in turn, be more easily developed to accommodate future changes to support C-ITS and CAV. The new TSS would provide Transport Scotland with the ability to enhance the coverage, level and types of services across the network.			
35 – Intelligent Transport System renewal and replacement	ITS can make a significant contribution to the overall safety of travel and support enhanced transport resilience, smoother journeys, quicker reaction to incidents and environmental improvements across the Scottish trunk road and motorway network. ITS infrastructure is embedded within the transport network, and includes equipment such as	None	None	Screened out due to nature of the recommendation.

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	variable message signage, lane control signals, Closed-Circuit Television (CCTV), emergency roadside telephones, traffic and weather monitoring devices, and the networking equipment that connect these together and to the TSNCC. This coverage helps to ensure the availability and quality of the existing transport networks and can be used to monitor traffic flow, detect incidents and hazardous weather conditions, and to manage the life-cycle of these events. There is a significant amount of roadside ITS equipment which is now reaching or past its end of life and a substantial renewal and replacement programme is now required. This recommendation involves investing in the renewal and replacement of the existing ITS roadside equipment to maintain the			

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	current high level of services to the road users and to provide greater resilience across the networks. The STPR2 recommends investing in the renewal and replacement of the existing ITS roadside equipment to maintain the current high level of service to road users and to provide greater resilience across the trunk road and motorway networks. The enhanced functionality of new roadside ITS equipment would also contribute to reduced road accidents and the delivery of safer journeys.			
36 – Strategy for improving rest and welfare facilities for hauliers	Providing adequate lorry parks would contribute to improving road safety and reducing crime, and would significantly improve working conditions for HGV drivers. It would also avoid disruption in locations not designed to accommodate lorry parking. Rest and welfare facilities are a key part of national and international road freight infrastructure, and provision of	None	None	Screened out due to nature of the recommendation.

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	these to an appropriate standard is fundamental to ensuring safe, efficient and effective supply chains. Improvements to facilities would therefore also help support the Scottish economy and its growth. The STPR2 recommends a national review of current National Freight Parking/rest areas, with a view to develop more safe, secure, accessible and inclusive facilities across Scotland. This would inform long-term investment in driver welfare infrastructure. Alongside this recommendation there would be close integration with Recommendation 28 – to inform the delivery of an alternative fuel infrastructure network where co-location of alternative fuelling with lorry rest and welfare facilities may be appropriate, and in the delivery of Recommendation 27 – the strategic net zero freight and logistics network.			

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	The review would indicate which routes have gaps in provision and support Transport Scotland in making future decisions on the need (or otherwise) to address market failure.			
37 – improving active travel on trunk roads through communities	Where a trunk road passes through a community, measures may be able to be introduced to reduce the problems of severance and provide benefits for people that are currently prevented or discouraged from walking, wheeling or cycling along or across the main road. Such measures can reduce the adverse impacts of traffic, including perceived safety issues, and so improve access to key destinations for local people, creating particular opportunities for people vulnerable to social exclusion such as disabled, young and older people, and those without access to a car. The STPR2 recommends the delivery of measures to reduce the adverse effects of trunk road traffic on people walking, wheeling and	None	None	Screened out due to nature of the recommendation.

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	cycling in those communities that have a trunk road passing through them (for example, by reducing traffic speed, improving the width and quality of paths and upgrading road crossing facilities). Measures would be tailored to local circumstances and informed by detailed feasibility studies. Transport Scotland would work with local authorities and communities to deliver interventions on those parts of the network that it controls, to enable an increase in inclusive, sustainable travel within communities.			
38 – Speed management plan	Scotland's Road Safety Framework to 2030 sets out the vision for Scotland to have the best road safety performance in the world by 2030, with a long-term goal of Vision Zero, where there are zero fatalities and serious injuries on Scotland's roads by 2050. An ambitious interim target for 2030 involves halving the number of people being killed or seriously injured on Scotland's roads. The	None	None	Screened out due to nature of the recommendation.

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	Framework embeds the Safe System approach to road safety delivery, which consists of five key pillars focusing efforts on road traffic casualty reduction and on road traffic danger reduction. Safe Speeds is one of the five pillars, with speed limits in a Safe System based on aiding crash-avoidance and reducing the speed at which impacts occur, thereby aiming to establish appropriate speed limits according to the features of the road, the function it serves and the physical tolerance of those who use it. Changing how speeds are managed has the potential to help meet net zero emission targets by reducing vehicle fuel consumption. Reducing speed limits in communities can also improve the sense of place and encourage active travel, with a positive impact on emissions as well as health and wellbeing.			

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	The STPR2 recommends a national review to establish appropriate speed limits for different road types within Scotland. The review would consider a range of measures such as speed management on motorways, speed limits through roadworks and rural settlements on trunk roads, and reducing speed limits in urban environments and residential areas as well as consideration of the national speed limits for HGVs over 7.5 tonnes on the trunk road network. Depending on the extent to which speed limits may be changed, significant changes could be required to the engineering, enforcement and education framework and the resources necessary to support these. Enforcement and education forms part of the recommendation for Changing road user behaviour (7).			
39 - Sustainable access	Grangemouth Investment Zone contains important strategic	None	None	The recommendation is too broadly defined to assess.

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to Grangemouth Investment Zone	infrastructure, high value employment and manufacturing of materials that are currently vital for everyday life throughout Scotland. It forms part of the Revised Draft NPF4 Industrial Green Transition Zone's national development. The industrial and economic activity at this critical hub is also vital to Scotland's economy and will be designed to ensure that the region maintains and develops its competitiveness now and in our net zero future. A sustainable transport access strategy would contribute towards that future. The STPR2 recommends improvements are made to transport that would enhance sustainable access to Grangemouth Investment Zone for both people and freight. Improvements are likely to include, but not be limited to: • Improved active travel connections, in line with the principles of the			Screened out at this stage and will need to undertake a project level HRA.

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	recommendations for Connected neighbourhoods (1) and Connecting towns by active travel (4). These connections would be to Grangemouth from key areas, including neighbouring towns and railway stations; • bus infrastructure improvements to support and encourage improved bus connections to Grangemouth from key areas, including neighbouring towns and railway stations; • supporting further transition to rail freight, in line with the principles of rail corridor enhancements (15, 16, 17), mode shift for freight (27), rail freight terminals and facilities (44), and cross-border rail enhancements (45) to enable more rail freight capacity; • M9 Junction 5 improvements			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	(including potential introduction of priority for buses and HGVs) where these provide specific freight and bus benefits.			
40 – Access to Stranraer and the ports at Cairnryan	Stranraer and the ports at Cairnryan act as an important gateway to Scotland for ferry passengers and freight. Improving the transport assets in this location would support regeneration of the South West of Scotland to benefit the economy and local communities. The STPR2 recommends that safety, resilience and reliability improvements are made on the A75 and A77 strategic road corridors, in turn supporting placemaking opportunities. This would include, but is not limited to, improving junctions, enhancing overtaking opportunities with WS2+1 schemes or climbing lanes at appropriate locations where slow-moving traffic leads to risky overtaking manoeuvres, and	Direct land take Air quality Water pollution Disturbance - light/noise	**A75** • Flow of Dergoals SAC • River Bladnoch SAC **A77** • Lendalfoot Hills Complex SAC • Glen App and Galloway Moors SPA	The port and rail station aspects of this recommendation are too broadly defined to assess at the strategic stage and will require project level HRA when more detailed design and construction details are available. Additionally, any locations that may be included but not currently stated in the description also cannot be assessed at this time and will require further assessment at a project level. At points several of the SPAs and SACs are immediately adjacent to the

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	widening or realigning carriageways to alleviate 'pinch points' such as narrow structures or at stretches of older standard single carriageway. These would provide more resilient connections to the Revised Draft NPF4 National Developments at Stranraer Gateway and Chapelcross Power Station Redevelopment, in addition to more resilient connections to the ports at Cairnryan. Examples of locations of improvements schemes include: • A75 Realignment around Springholm and Crocketford • A75 Cuckoo Bridge Roundabout • A77 Turnberry to Girvan • A77 Ballantrae to Smyrton • A77 Bellfield Interchange Improvements • A77 Dutch House Roundabout			carriageway. Although these sites are immediately adjacent to the carriageway, it is assumed at this level the interventions will be designed in a way that avoids direct loss of habitat. These roads also come within 200 metres of all the sites; therefore, there is the potential for air quality impacts to qualifying habitats or habitats on which qualifying features (species) rely. This cannot be investigated further until detailed scheme design at which point traffic and air quality modelling can be undertaken as required. There is potential for pollution through water run-off from the schemes depending on the location

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	Improvements • A77 Whitletts Roundabout Improvements • A77 Holmston Roundabout Improvements. These examples do not form the totality of the recommendation, but are locations highlighted for further consideration for potential improvements on the A77 and A75 based on considerations of accident history and other factors. To encourage greater use of public transport and support wider town regeneration proposals, consideration should also be given to upgrading or relocating Stranraer railway station.			of the scheme, should these qualifying habitats be vulnerable, although it is in any event an offence to pollute watercourses. There is also the potential for disturbance during construction through visual and noise pathways upon qualifying features (species) of the SPAs, again dependent on where the schemes are located along the roads. This will also require detailed design to be advanced before it can be investigated in detail.
41 – Potential Sound of Harris, Sound of Barra fixed link and fixed links between Mull and Scottish mainland	The current ferry routes on the Sound of Harris, Sound of Barra and between Mull and the Scottish mainland face a number of issues and challenges. Replacing ferry services with fixed links (bridges,	None	None	The recommendation is too broadly defined to assess for impacts at this stage. At this stage, the recommendation confines itself to exploring and

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	causeways and/or tunnels) can improve reliability, connectivity, capacity and travel times and allow for the wider reconfiguration of ferry services. A Sound of Harris fixed link would improve connectivity between the Uists and Lewis/Harris, whilst a Sound of Barra fixed link would improve connectivity between Barra and the Uists. The provision of these fixed links would also allow for the reconfiguration of transport provision within the Outer Hebrides and to the Scottish mainland. The main Mull ferry route (Craignure to Oban) is one of the most popular and most capacity constrained routes for vehicles on the CHFS ferry network and the service is forecast to continue to have challenges with vehicle deck capacity. The provision of a fixed link between Mull and the Scottish mainland would improve connectivity and also allow for the			developing a business case for such fixed links, which will not itself affect European sites. Screened out at this stage and would need to undertake a project level HRA.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	reconfiguration of transport provision between the island and the mainland. The STPR2 recommends that further work is undertaken on business cases to better understand the benefits, costs and challenges associated with these interventions. These studies would further consider the feasibility of improving island connectivity through additional fixed links by replacing existing ferry services currently delivered by CalMac Ferries Ltd as part of the CHFS contract. These studies would also analyse in further detail the potential long-term savings associated with the public sector funding required to maintain the ferry services and involve input from communities that may potentially be affected.			
42 – Investment in port infrastructure to support vessel renewal and	Investment in port infrastructure, including power supplies, would complement the introduction of new and upgraded ferry vessels. This	None	None	The recommendation is too broadly defined to assess for impacts at this stage. Screened out at this stage

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
replacement, and progressive decarbonisation	would help meet the needs of rural and island communities by improving the capacity, resilience, reliability, accessibility and standardisation of ferry services and reducing their emissions. Investment in port infrastructure means that there can be progress to standardisation and interoperability of new and existing vessels, increasing network resilience. This investment would also contribute to reducing emissions across the ferry network and support Scotland's net zero carbon emission targets. The STPR2 recommends an investment programme in ferry port infrastructure, including shore power supplies to ferry vessels, to support the STPR2 recommendation Ferry vessel renewal and replacement and progressive decarbonisation (24).			and would need to undertake a project level HRA.
43 – Major station	Following on from the successful	None	None	Screened out as the

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
masterplans	upgrade to Glasgow Queen Street Station, as well as recent station improvements at Aberdeen and Stirling, this recommendation involves the redevelopment of four major railway stations in Scotland's cities: Edinburgh Waverley, Glasgow Central, Perth and Inverness. Studies are continuing to progress plans to consider how re-modelling these stations can deliver specific benefits: • Edinburgh Waverley – improving its functionality, capacity and ambience as well as enhancing connectivity with other transport modes and its integration within the city centre; • Glasgow Central – taking forward short-term infrastructure improvements to improve capacity and considering longer-term enhancements as part of Clyde Metro proposals and future High Speed Two			recommendations are remote from any European site.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	services to/from London and Birmingham; • Perth – enhancing the station to complement improvements to track and signalling on approaches to improve reliability, connectivity and enhance freight provision, as well as to better integrate with the wider city centre. • Inverness – improving the station's operational functionality and better integrating the station with the city centre to ensure the station can operate as part of an effective integrated transport interchange, delivering benefits for passengers and freight services. The STPR2 recommends that station plans and masterplans are progressed to align with, and support, the investment priorities of Transport Scotland and Network			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	Rail. The masterplan proposals would set the framework for future phases of work at the respective stations to accommodate passenger demand in line with sustainable travel, supporting net zero targets, and co-ordinate with regional activity undertaken by other strategic partners.			
44 – Rail freight terminals and facilities	Sufficient provision of rail freight terminals is critical to achieving a significant shift of freight from road to rail. This would improve the sustainability and competitiveness of Scotland's supply chain. Rail freight is transported on a commercial basis and is carried out by private sector freight operating companies and logistical providers. The role of Government is to put policies and strategies in place that facilitate growth (with Network Rail managing the core rail infrastructure and the regulator, the Office of Rail and Road (ORR), regulating compliance, safety and	None	None	The recommendation is too broadly defined to assess for impacts at this stage. Screened out at this stage and would need to undertake a project level HRA.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	issuing of licences). The STPR2 that Transport Scotland supports industry partners in carrying out an updated market study for rail freight growth in Scotland (linked to the Industry Growth Plan for Rail Freight) including a review of rail freight terminals and hubs to confirm how to meet long-term mode shift requirements. In recognition of the environmental and societal benefits of rail freight, the Scottish Government currently supports a range of grants to help with the transfer of freight from road to rail and will continue to explore opportunities to provide support. Freight Facilities Grants can help companies with the capital cost of providing freight handling equipment and facilities, and revenue support grants are also available: both are subject to a successful application and budget			

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	availability. This approach to promoting and supporting the rail freight sector has previously been successful in facilitating projects such as the Highland Spring freight facility at Blackford, where Government, the rail industry and third party investors worked together to achieve significant modal shift to rail and could be a key model to follow for future projects. The express/light logistics market (lighter freight carried on converted passenger trains) is a growing market and also has potential for capital grant support for freight handling infrastructure in selected locations including passenger stations.			
45 – High speed and cross-border rail enhancements	Infrastructure upgrades to permit higher speeds on cross-border routes would enable journey times to London and other key destinations to be more competitive	None	None	The recommendation is too broadly designed to be assessed. Screened out at this stage and would need to undertake a project level

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	with air travel. This improved connectivity would encourage a shift from air to rail on longer-distance travel and support Scotland's net zero emission commitments. These improvements would also release capacity for additional regional passenger and freight services. The STPR2 recommends that Transport Scotland continues to work closely with the UK Government to take forward a programme of on-line and off-line infrastructure upgrades targeted at longer-distance cross-border routes. These would reduce long-distance passenger service journey times and increase capacity and reliability for regional passenger and freight services. This is likely to include the following routes: • East Coast Main Line (ECML);			HRA.

RECOMMENDATION NUMBER/TITLE	RECOMMENDATION DESCRIPTION	RELEVANT IMPACT PATHWAYS	RELEVANT EUROPEAN SITES	POTENTIAL LIKELY SIGNIFICANT EFFECTS
	• West Coast Main Line (WCML); • Glasgow and South Western line (Glasgow to Carlisle via Dumfries). The Glasgow and South Western route is considerably longer and would require significant upgrades to provide additional capacity and electrification, however since this route is considerably longer and geographically constrained, it is unlikely to ever achieve journey times equivalent to that currently offered by the other two routes but has value as a diversionary route. Cost effectiveness of new alignments should be judged against providing quadruple track on existing corridors, especially in respect of land acquisition. This would require further assessment at future stages of business case development.			

Appendix B European Sites Background

Table 5 - Background of the European sites considered in the Habitats Regulations Appraisal

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Barry Links SAC	• To avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and • To ensure for the qualifying habitats that the following are maintained	• Coastal dune heathland • Dune grassland • Humid dune slacks • Shifting dunes • Shifting dunes with marram	• Burning • Invasive species • No proactive management • Over-grazing by rabbits • Under-grazing • Military activities • Infrastructure • Flood defences/coastal defence works	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the habitat d) Processes supporting the habitat e) Distribution of typical species of the habitat f) Viability of typical species as components of the habitat g) No significant disturbance				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of typical species of the habitat				
Beinn Dearg SAC	• To ensure that the qualifying features of Beinn Dearg SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of Beinn Dearg SAC is restored by meeting the following objectives for each qualifying feature. a) Maintain /	• Acidic scree • Alpine and subalpine calcareous grasslands • Alpine and subalpine heaths • Blanket bog • Caledonian forest • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Dry heaths • High-altitude plant communities associated with areas of water seepage • Montane acid grasslands • Mountain willow scrub • Plants in crevices on acid rocks • Plants in crevices on base-rich rocks • Species-rich grassland with mat-grass in upland areas • Tall herb communities	• Over-grazing • Trampling • Under-grazing	• Maintain water quality • Manage sedimentation • Manage grazing/trampling • Control of invasive species • Muirburn • Maintain hydrology • Manage afforestation • Control vehicle access • Avoid erosion • Control recreation • Habitat management • Research and monitoring • Resilience planning for future threats	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat	• Wet heathland with cross-leaved heath			
Caithness and Sutherland Peatlands SAC	• To ensure that the qualifying features of Caithness and Sutherland Peatlands SAC are in	• Acid peat-stained lakes and ponds • Blanket bogs • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	• Forestry operations • Burning • Game/fisheries management • Invasive species • Trampling • Water quality • Natural events	• Manage abstraction levels • Control afforestation • Maintain water quality • Control sedimentation • Control grazing/trampling • Ensure development	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of Caithness and Sutherland Peatlands SAC is restored by meeting the following objectives for all qualifying features: a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain /	• Depressions on peat substrates • Marsh saxifrage • Otter • Very wet mires often identified by an unstable 'quaking' surface • Wet heathland with cross-leaved heath		avoids impact • Control of invasive species • Control deer population • Avoid additional nutrient input • Muirburn • Maintain hydrology • Avoid erosion • Control vehicle use • Control recreation • Ongoing species protection • Habitat management • Research and monitoring	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat d) Restore the population of species as a viable component of the site e) Maintain the distribution of species throughout the site f) Maintain the habitats supporting species within the site and				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	availability of food				
Conon Islands SAC	• To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored / maintained by meeting the following: a) Maintain / restore the extent and distribution of the habitat within the	• Alder woodland on floodplains	• Invasive species • Water management	• Control grazing • Maintain hydrological processes • Avoid introduction of pathogens • Climate change • Resilience planning for future threats	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat				
Cromarty Firth SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;	• Bar-tailed godwit • Common tern • Curlew • Dunlin • Greylag goose • Knot • Osprey • Oystercatcher • Pintail • Red-breasted merganser • Redshank • Scaup • Whooper sawn • Wigeon	• Recreation and disturbance	Supplementary conservation advice not available	(NatureScot, 1999)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting	• Waterfowl assemblage			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the species e) No significant disturbance of the species				
Cuillins SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term:	• Golden Eagle	• Over-grazing	Supplementary conservation advice not available	(NatureScot, 2002)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Dornoch	• To avoid	• Bar-tailed godwit	• Recreation and disturbance	Supplementary	(NatureScot,

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Firth and Loch Fleet SPA	deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the	• Curlew • Dunlin • Greylag goose • Osprey • Oystercatcher • Redshank • Scaup • Teal • Wigeon • Waterfowl assemblage	• Water management	conservation advice not available	1997)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Dornoch Firth and Morrich More SAC	• To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes	• Atlantic salt meadows • Coastal dune heathland • Dune grassland • Dunes with juniper thickets • Estuaries • Glasswort and other annual colonising mud and sand • Harbour seal	• Agricultural operations • Invasive species • Recreation and disturbance • Development • Under-grazing • Natural events • Over-grazing • Flood defence /	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and • To ensure for the qualifying habitats that the following are maintained in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the habitat d) Processes supporting the habitat	• Humid dune slacks • Intertidal mudflats and sandflats • Lime-deficient dune heathland with crowberry • Otter • Reefs • Shifting dunes • Shifting dunes with marram • Subtidal sandbanks	coastal defence works		

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	e) Distribution of typical species of the habitat f) Viability of typical species as components of the habitat g) No significant disturbance of typical species of the habitat				
Drumochter Hills SAC	• To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving	• Acidic scree • Alpine and subalpine heaths • Blanket bog • Dry heaths • Montane acid grasslands • Mountain willow scrub • Plants in crevices on acid rocks • Species-rich grass	• Over-grazing • Trampling • Burning • Game/fisheries management	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	favourable conservation status for each of the qualifying features; and • To ensure for the qualifying habitats that the following are maintained in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the habitat d) Processes supporting the habitat e) Distribution of typical				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	species of the habitat f) Viability of typical species as components of the habitat g) No significant disturbance of typical species of the habitat				
East Caithness Cliffs SAC	• To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of	• Vegetated sea cliffs	• Dumping/storage of materials • Invasive species • Over-grazing • Under-grazing	• Control grazing impacts • Control livestock and visitors • Control of invasive species • Control of vigorous native species • Control of forestry operations • Habitat management • Research and monitoring	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the site is restored/maintained by meeting the following: a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat				
East	• To avoid	• Cormorant	Supplementary	Supplementary	(NatureScot,

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Caithness Cliffs SPA	deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the	• Fulmar • Great black-backed gull • Guillemot • Herring gull • Kittiwake • Peregrine • Razorbill • Shag • Seabird assemblage (breeding)	conservation advice not available.	conservation advice not available.	2009)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Fannich Hills SAC	• To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving	• Acidic scree • Alpine and subalpine heaths • Blanket bog • Clear-water lakes of lochs with aquatic vegetation and poor to moderate nutrient levels • Dry heaths	• Trampling • Over-grazing • Burning	Supplementary conservation advice not available.	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	favourable conservation status • To ensure that the integrity of the site is restored / maintained by meeting the following: a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability	• Montane acid grasslands • Plants in crevices on acid rocks • Wet heathlands with a cross-leaved heath			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of typical species of the habitat				
Firth of Forth SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable	• Bar-tailed godwit • Common scoter • Cormorant • Curlew • Dunlin • Eider • Golden plover • Goldeneye • Great crested grebe • Grey plover • Knot • Lapwing • Long-tailed duck • Mallard • Oystercatcher • Pink-footed goose • Red-breasted merganser • Redshank • Red-throated diver • Ringed plover • Sandwich tern • Scaup • Shelduck • Slavonian grebe • Turnstone • Velvet scoter	• Recreation/disturbance • Dog walking/walking • Game/fisheries management • Climate change • Water quality • Natural events	Supplementary conservation advice not available	(NatureScot, 2001)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species	• Wigeon • Waterfowl assemblage			
Firth of Tay and Eden Estuary SAC	• To avoid deterioration of the qualifying habitats thus ensuring that the integrity of	• Estuaries • Intertidal mudflats and sandflats • Subtidal sandbanks • Common seal	• Recreation / disturbance • Game / fisheries management	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and • To ensure for the qualifying habitats that the following are maintained in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	habitat d) Processes supporting the habitat e) Distribution of typical species of the habitat f) Viability of typical species as components of the habitat g) No significant disturbance of typical species of the habitat • To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Firth of Tay and Eden Estuary SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to	• Bar-tailed godwit • Black-tailed godwit • Common scoter • Cormorant • Dunlin • Eider • Goldeneye • Goosander	• Natural event • Recreation/disturbance	Supplementary conservation advice not available	(NatureScot, 2000)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species	• Grey plover • Greylag goose • Little tern • Long-tailed duck • Marsh harrier • Oystercatcher • Pink-footed goose • Red-breasted merganser • Redshank • Sanderling • Shelduck • Velvet scoter • Wildflower assemblage			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Flow of Dergoals SAC	• To ensure that the qualifying features of Flow of Dergoals SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of	• Blanket bog • Depressions on peat substrates	• Forestry operations • Invasive species • Water management	• Maintain herbivore impacts at a sustainable level • Maintain natural hydrology • Limit self seeding coniferous woodland adjacent • Restore adjacent peat bog	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	Flow of Dergoals SAC is maintained by meeting the following objectives, for each qualifying feature: a) Maintain the extent and distribution of habitats within the site b) Maintain the structure, function and supporting processes of the habitat c) Maintain the distribution and viability of typical species of the habitat				
Forth Islands SPA	• To avoid deterioration of	• Artic tern • Common tern	• Inter-specific competition	Supplementary conservation advice not	(NatureScot, 2009)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site	• Cormorant • Gannet • Guillemot • Herring gull • Kittiwake • Lesser black-backed gull • Puffin • Razorbill • Roseate tern • Sandwich tern • Shag • Seabird assemblage	• Climate change • Game / fisheries management • Proactive on-site management • Invasive species • Recreation / disturbance	available	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species.				
Garron Point SAC	• To ensure that the qualifying feature of Garron Point SAC is in favourable condition and makes an appropriate contribution to achieving favourable	• Narrow-mouthed whorl snail	• Natural event	• Monitoring habitat loss and grazing impacts	(NatureScot, 2008)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	conservation status • To ensure that the qualifying feature of Garron Point SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status a) Maintain the population of the species as a viable component of the site b) Maintain the distribution of the species throughout the site				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	c) Maintain the habitats supporting the species within the site and availability of food				
Glen App and Galloway Moors SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained	• Hen harrier	Supplementary conservation advice not available	Supplementary conservation advice not available	(NatureScot, 2003)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of the species				
Glen Coe SAC	• To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is maintained by meeting the following: a) Maintain/restore the extent and distribution of the habitat within the site	• Acidic scree • Alpine and subalpine calcareous grasslands • Alpine and subalpine heaths • Base-rich fens • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Dry heaths • High-altitude plant communities associated with areas of water seepage • Montane acid grasslands • Mountain willow scrub • Plants in crevices on acid rocks • Plants in crevices on base rich rocks • Species-rich grassland with mat-grass in upland areas • Tall herb communities	• Under-grazing • Trampling • Over-grazing • Invasive species	• Manage afforestation • Control water quality from runoff • Manage vehicle use • Manage stock levels • Avoid impact from development • Control of invasive species • Manage deer populations • Manage visitor impacts • Control erosion • Control fire risk to sensitive habitats • Habitat management • Research and monitoring	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	b) Maintain/restore the structure, function and supporting processes of the habitat c) Maintain/restore the distribution and viability of typical species of the habitat				
Glen Etive and Glen Fyne SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;	• Golden eagle	• Recreation / disturbance	Supplementary conservation advice not available.	(NatureScot, 2010)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the species e) No significant disturbance of the species				
Inner Clyde SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population	• Redshank	• Game/fisheries management • Recreation/disturbance	Supplementary conservation advice not available	(NatureScot, 2000)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Inner Hebrides and the Minches	• To ensure that the site	• Harbour porpoise	• Aquaculture • Boat use associated with commercial	Reduce or limit the pressures associated with the environmental	(NatureScot, 2018)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
SAC	continues to make an appropriate contribution to the qualifying features remaining at favourable conservation status • To ensure for qualifying species, within the context of environmental changes, that the integrity of the site is maintained through the following a) Qualifying species within the site are not at significant risk from killing or injury		and recreational activities • Cables and pipelines • Coastal development • Commercial shipping and ferry routes • Commercial / recreational fishing • Marine disposal sites • Military – planned exercises • Ports and harbours • Renewable energy • Scientific surveys/research • Seismic and other acoustic surveys • Tourism and recreation • Wildlife tour operators	vulnerabilities listed.	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	b) The distribution of qualifying species throughout the site is maintained by avoiding significant disturbance c) The condition of supporting habitats and the availability of prey of qualifying species are maintained				
Inner Moray Firth SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus	• Bar-tailed godwit • Common tern • Cormorant • Curlew • Goldeneye • Goosander • Greylag goose • Osprey • Oystercatcher	• Recreation / disturbance	Supplementary conservation advice not available	(NatureScot, 1999)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and	• Red-breasted merganser • Redshank • Scaup • Teal • Wigeon • Waterfowl assemblage			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	supporting processes of habitats supporting the species e) No significant disturbance of the species				
Insh Marshes SAC	• To ensure that the qualifying features of Insh Marshes SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of Insh Marshes is restored by meeting	• Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Very wet mires often identified by an unstable 'quaking' surface • Alder woodland on floodplains • Otter	• Flood defence/coastal defence • Invasive species • No proactive management • Over-grazing • Water management • Recreation/disturbance • Trampling • Water quality	• Maintain hydrological regime • Implement water quality monitoring • Ensure adequate grazing by herbivores • Maintain habitat management • Avoid introducing pathogens • Ongoing protection for otter • Upgrade bridges and culverts • Avoid promotion of new pathways • Remove nets • Avoidance of invasive	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	objectives below for each qualifying feature: a) Maintain the extent and distribution of habitats within the site b) Maintain the structure, function and supporting processes of habitats c) Maintain the distribution and viability of typical species of habitats d) Maintain the population of otter as a viable component of the site			species	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	e) Maintain the distribution of otter throughout the site f) Maintain the habitats supporting otter within the site and availability of food				
Kinloch and Kyleakin Hills SAC	• To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying	• Alpine and subalpine heaths • Blanket bog • Dry heaths • Mixed woodland on base-rich soils associated with rocky slopes • Otter • Western acidic oak woodland • Wet heathland with cross-leaved heath	• Over-grazing • Invasive species • Dumping/storage of materials • Forestry operations	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	features; and • To ensure for the qualifying habitats that the following are maintained in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the habitat d) Processes supporting the habitat e) Distribution of typical species of the habitat f) Viability of typical species as components of the				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	habitat g) No significant disturbance of typical species of the habitat				
Kintyre Goose Roosts SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term:	• Greenland white-fronted goose	Supplementary conservation advice not available	Supplementary conservation advice not available	(NatureScot, 1998)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Kippenrait	• To ensure that the qualifying	• Mixed woodland on base-	• Invasive species	• Monitor herbivore impact	(NatureScot,

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Glen	feature of Kippenrait Glen SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of Kippenrait Glen SAC is restored by meeting the following objectives for the qualifying feature a) Maintain the extent and distribution of the habitat within the site	rich soils associated with rocky slopes		• Avoidance of introduction of invasive species • Control non-native species • Avoidance of introduction of plant pathogens • Resilience planning for future threats.	2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	b) Restore the structure, function and supporting processes of the habitat c) Restore the distribution and viability of the typical species of the habitat				
Lendalfoot Hills Complex SAC	• To avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each	• Base-rich fens • Dry heaths • Grasslands on soils rich in heavy metals • Species-rich grassland with mat-grass in upland areas • Very wet mires often identified by an unstable 'quaking' surface • Wet heathland with cross-leaved heath	• Burning • Over-grazing • Invasive species • Under-grazing	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of the qualifying features; and • To ensure for the qualifying habitats that the following are maintained in the long term: a) Extent of the habitat on site b) Distribution of the habitat within site c) Structure and function of the habitat d) Processes supporting the habitat e) Distribution of typical species of the habitat				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	f) Viability of typical species as components of the habitat g) No significant disturbance of typical species of the habitat				
Loch Etive Woods SAC	• To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is maintained / restored by	• Alder woodland on floodplains • Mixed woodland on base-rich soils associated with rocky slopes • Otter • Western acidic oak woodland	• Over-grazing • Invasive species • Forestry operations	• Maintain hydrological processes • Manager herbivore impacts • Control of invasive species • Avoidance of known pathogens • Resilience planning for future threats • Research and monitoring • Ongoing species protection • Water quality monitoring	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	meeting the following: a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat d) Maintain populations of qualifying species e) Maintain				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	distributions of qualifying species throughout site f) Maintain habitats supporting qualifying species within site and availability of food				
Loch Lomond Woods SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that	• Otter • Western acidic oak woodland	• Climate change • Development • Recreation / disturbance • Forestry operations • Invasive species • Over-grazing	• Manage herbivore levels • Maintain hydrological processes • Manage visitor impacts • Control of invasive species • Resilience planning for future threats • Research and monitoring • Ongoing species protection • Water quality	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the integrity of the site is restored by meeting the following a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat			monitoring	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Loch Vaa SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the	• Slavonian grebe	• Natural events • Recreation/disturbance	Supplementary conservation advice not available	(NatureScot, 1994)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Lochs Duich, Long and Alsh Reefs SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to	• Reefs	Supplementary conservation advice not available	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of typical species of the habitat				
Monadh Mor SAC	• To ensure that the qualifying features of Monadh Mor SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of Monadh Mor SAC is maintained by meeting the following objectives for each qualifying feature. a) Maintain	• Bog woodland • Very wet mires often identified by an unstable 'quaking' surface	• Natural events	• Control herbivore impacts • Control trampling • Habitat management • Maintain woodland structure • Maintain hydrology • Research and monitoring	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the extent and distribution of the habitat within the site b) Maintain the structure, function and supporting processes of the habitat c) Maintain the distribution and viability of typical species of the habitat				
Montrose Basin SPA	• To avoid deterioration of the habitats of the qualifying species or significant	• Dunlin • Eider • Greylag goose • Knot • Oystercatcher • Pink-footed goose	• Dumping/storage of materials	Supplementary conservation advice not available	(NatureScot, 1995)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats	• Redshanks • Shelduck • Wigeon			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Moray Firth SAC	• To ensure that the qualifying features of Moray Firth SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. • To ensure that	• Bottlenose dolphin • Subtidal sandbanks	• Aquaculture – shellfish • Anchorage and moorings • Boats both commercial and recreational • Cables and pipelines • Coastal development • Commercial shipping and ferry routes • Fishing • Marine deposit sites • Military activities • Oil and gas	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the integrity of Moray Firth SAC is maintained or restored in the context of environmental changes by meeting the following objectives for each qualifying feature: a) Extent and distribution of the habitat within the site. b) Structure and function of the habitat and the supporting environment on which it relies. c) Distribution		development • Ports and harbours • Renewable energy • Seaweed harvesting • Scientific research and survey • Seismic survey • Tourism and recreation		

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	and viability of typical species of the habitat. d) The population of bottlenose dolphin is a viable component of the site. e) The distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance. f) The supporting habitats and processes relevant to bottlenose dolphin and				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the availability of prey for bottlenose dolphin are maintained.				
Moray Firth SPA	• To ensure that the qualifying features of Moray Firth SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. • To ensure that the integrity of Moray Firth SPA is restored in the context of environmental changes by meeting the	• Great northern diver • Red-throated diver • Slavonian grebe • Greater scaup • Common eider • Long-tailed duck • Common scoter • Velvet scoter • Common goldeneye • Red-breasted merganser • European shag	Supplementary conservation advice not available	Reduce/limit the following: • New aquaculture • Ballast dumping • New boat and aircraft disturbance • New cables/pipelines, coastal development and commercial shopping disturbance • Dredging/extraction of materials • Trawler fishing • Hydraulic dredging fishing • Fishing with drift/fyke nets • Hand gathering mussel/oysters • Bait digging • Pelagic fishing • Marine disposal • Military activities	(NatureScot, 2020)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	following objectives, for each qualifying feature: a) The populations of qualifying features are viable components of the site. b) The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species. c) The supporting habitats and processes relevant to			• Oil and gas development • Expansion of ports and harbours • New wave and wind proposals • Jet-skiing and waterfowling • New seaweed harvesting development • Proposed seaweed farms • Wildlife tour operators	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	qualifying features and their prey resources are maintained, or where appropriate restored, at the Moray Firth SPA.				
Mound Alderwoods SAC	• To ensure that the qualifying feature of Mound Alderwoods SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of	• Alder woodland on floodplains	• Over-grazing • Plant pests and diseases • Water management	• Maintain hydrology • Prevent tree disease • Control herbivore impacts • Control of invasive species • Resilience planning for future threats • Research and monitoring	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	Mound Alderwoods SAC is restored by meeting the following objectives for the qualifying features. a) Maintain the extent and distribution of the habitat within the site b) Restore the structure, function and supporting processes of the habitat c) Restore the distribution and viability of typical species of the habitat				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Onich to North Ballachulish Woods SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the	• Base-rich fens • Mixed woodland on base-rich soils associated with rocky slopes • Western acidic oak woodland	• Agricultural operations • Invasive species	• Manage herbivore levels • Manage visitor impacts • Control of invasive species • Habitat management • Maintain hydrological processes • Research and monitoring • Monitor deadwood levels • Avoid introduction of pathogens • Resilience planning for future threats.	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	structure, function and supporting processes of the habitat c) Maintain / restore the distribution and viability of typical species of the habitat				
Outer Firth of Forth and St. Andrews Bay Complex SPA	• To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.	• Artic tern • Atlantic puffin • Common guillemot • Razorbill • Common tern • European shag • Black-legged kittiwake • Herring gull • Black-headed gull • Common gull • Little gull • Manx shearwater • Northern gannet • Seabird assemblage • Common eider • Common goldeneye • Common scoter	Supplementary conservation advice not available	Supplementary conservation advice not available	(NatureScot, 2020)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	• To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting the following objectives for each qualifying feature: a) The populations of qualifying features are viable components of the site. b) The distributions of the qualifying features throughout the site are	• Long-tailed duck • Red-breasted merganser • Red-throated diver • Slavonian grebe • Velvet scoter • Waterbird assemblage			

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	maintained by avoiding significant disturbance of the species. c) The supporting habitats and processes relevant to the qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
Rannoch Lochs SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution	• Black-throated diver	• Recreation / disturbance	Supplementary conservation advice not available	(NatureScot, 2000)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Rannoch Moor SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate	• Acid peat-stained lakes and ponds • Blanket bog • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Depressions on peat	• Burning • Over-grazing • Recreation / disturbance • Water quality • Wildlife crime • Trampling	• Maintain hydrological flushing regime • Monitor and maintain water quality • Control of invasive species • Avoidance of introduction of pathogens	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the distribution	substrates • Dry heaths • Freshwater pearl mussel • Otter • Very wet mires often identified by an unstable 'quaking' surface • Wet heathland with cross-leaved heath		• Control herbivore impact • Reduce fire risk • Natural afforestation • Limit access tracks • Habitat management • Research and monitoring • Monitor illegal fishing • Increase resilience to climate change • Ongoing species protection	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	and viability of typical species of the habitat d) Maintain / restore the population of the species as a viable component of the site e) Maintain / restore the distribution of the species throughout the site f) Maintain / restore the habitats supporting the species within the site and availability of food g) Maintain the distribution				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	and viability of freshwater pearl mussel host species and their supporting habitat				
River Bladnoch SAC	• To ensure that the qualifying feature of the River Bladnoch SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the River Bladnoch SAC is restored by	• Atlantic salmon	• Agricultural operations • Forestry operations • Water quality	• Ongoing species protection for salmon • Manage forestry operations • Ensure minimal poaching and silting of the river • Maintain water quality • Evaluate pollution level • Removal of barriers to fish • Restore catchment peatlands • Improve floodplain connectivity • Maintain natural hydrology • Monitor non-native species • Monitor marine	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	meeting the following objectives for the qualifying feature: a) Restore the population of the species, including range of genetic types, as a viable component of the site b) Restore the distribution of the species throughout the site c) Restore the habitats supporting the species within the site and			survival • Improve biosecurity of anglers • Manage abstraction and water transfer	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	availability of food				
River Dee SAC	• To ensure that the qualifying feature of the site is in favourable condition and makes an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of the site is restored by meeting the following for the qualifying feature: a) Restore the population of the species, including range of	• Atlantic salmon • Freshwater pearl mussel • Otter	• Agricultural operations • Invasive species • Water management • Water quality • Development • Over-grazing	• Research reason for low recruitment of freshwater pearl mussel • Ongoing species protection • Research • Monitor marine survival • Manage forestry operations • Manage agricultural operations • Manage sedimentation of the river • Maintain water quality • Maintain hydrological processes • Habitat management • Control of invasive species	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	genetic types, as a viable component of the site b) Restore the distribution of the species throughout the site c) Restore the habitats supporting the species within the site and availability of food d) Maintain the distribution and viability of freshwater pearl mussel host species and their supporting habitats				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
River Evelix SAC	• To ensure that the qualifying feature of the River Evelix SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the River Evelix SAC is restored by meeting the following objectives for the qualifying features a) Restore the population of the species as a viable	• Freshwater pearl mussel	• Forestry operations • Over-grazing • Water management • Wildlife crime	• Improve juvenile recruitment • Monitor for signs of illegal freshwater pearl mussel fishing • Control forestry harvesting operation • Control sediment loading • Maintain water quality • Habitat management • Control of invasive species • Maintain hydrology • Maintain population of salmonid host species	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	component of the site b) Restore the distribution of the species throughout the site c) Restore the habitats supporting the species within the site and availability of food d) Maintain the distribution and viability of freshwater pearl mussel host species and their supporting habitats				
River Moriston SAC	• To ensure that the qualifying features of the	• Atlantic salmon • Freshwater pearl mussel	• Forestry operations • Invasive species • Over-grazing	• Monitor and deter illegal freshwater pearl mussel fishing	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	site are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following: a) Restore populations of qualifying species as a viable component of the site b) Restore the distribution of qualifying species throughout the site		• Water management • Statutory undertaker • Wildlife crime	• Ongoing species protection • Monitor and manage forestry operations • Manage stock and wildlife populations • Maintain water quality • Habitat management • Maintain hydrological processes • Monitoring and research • Control of invasive species • Manage abstraction and water transfers	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	c) Restore the habitats supporting the qualifying species within the site and availability of food d) Restore the distribution and viability of freshwater pearl mussel host species and their supporting habitats				
River South Esk SAC	• To ensure that the qualifying features of the River South Esk SAC are in favourable condition and make an appropriate	• Atlantic salmon • Freshwater pearl mussel	• Agricultural operations • Climate change • Forestry operations • Invasive species • Over-grazing • Water management • Water quality • Wildlife crime	• Improve juvenile recruitment • Monitor for signs of illegal freshwater pearl mussel fishing • Ongoing species protection • Control forestry operations	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	contribution to achieving favourable conservation status • To ensure that the integrity of the River South Esk SAC is restored by meeting the following objectives for each qualifying feature a) Restore the population of species as a viable component of the site b) Restore the distribution of species throughout the site c) Restore the habitats supporting species			• Avoid siltation/sedimentation • Good agricultural land management • Control practices which may affect species • Development management • Maintain hydrology • Habitat management • Research • Monitor marine survival • Control invasive species	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	within the site and availability of food d) Restore the distribution and viability of freshwater pearl mussel host species and their supporting habitats				
River Spey – Insh Marshes SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and	• Hen harrier • Osprey • Spotted crake • Whooper swan • Wigeon • Wood sandpiper	• Recreation / disturbance • Natural events • Forestry operations	Supplementary conservation advice not available	(NatureScot, 1997)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	• To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	significant disturbance of the species				
River Spey SAC	• To ensure that the qualifying features of the River Spey SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the River Spey SAC is restored by meeting the following objectives each qualifying feature (and	• Freshwater pearl mussel • Sea lamprey • Atlantic salmon • Otter	• Agricultural operations • Invasive species • Water management • Over-grazing • Extraction • Water quality • Wildlife crime	• Increase density of pearl mussels • Ongoing protection for salmon • Ongoing protection for otter • Forest harvesting operations • Ensure minimal poaching of the river • Maintain high water quality • Minimise sediment runoff • Improve resilience to climate change • Avoid promotion of new pathways • Maintain natural hydrology • Removal of barriers to fish passage • Remove nets • Research of juvenile salmon • Research lamprey	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	the last for freshwater pearl mussel) a) Restore the population as a viable component of the site b) Restore the distribution throughout the site c) Restore the habitats supporting species within the site and availability of food d) Restore the distribution and viability of freshwater pearl mussel host species and their			• Monitoring of marine survival for Atlantic salmon • Control invasive species • Manage abstraction and water transfers	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	supporting habitats				
River Tay SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is maintained by meeting the following: a) Maintain extent and distribution of habitats within site b) Maintain structure, function of	• Atlantic salmon • Brook lamprey • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Otter • River lamprey • Sea lamprey	• Extraction • Game/fisheries management • Invasive species • Water management • Wate quality • Development • Agricultural operations • Recreation / disturbance	• Ongoing species protection • Manage forestry operations • Manage agricultural operations • Maintain water quality and flow • Manage fishery and fishing operations • Habitat management • Removal of barriers to fish passage • Control of invasive species • Research • Development management • Promote natural river processes	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	supporting processes of habitats c) Maintain distribution and viability of typical species of habitats d) Maintain populations of qualifying species e) Maintain distributions of qualifying species throughout site f) Maintain habitats supporting qualifying species within site and availability of food				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
River Teith SAC	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution of the	• Atlantic salmon • Brook lamprey • River lamprey • Sea lamprey	• Forestry operations • Invasive species • Water quality • Water management	Supplementary conservation advice not available	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
River Thurso SAC	• To ensure that the qualifying feature of the River Thurso SAC is in favourable condition and makes an appropriate contribution to	• Atlantic salmon	• Forestry operations • Over-grazing	• Ongoing species protection • Manage forestry operations • Prevent siltation / sedimentation • Maintain water quality • Habitat management • Encourage population growth	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	achieving favourable conservation status. • To ensure that the integrity of the River Thurso SAC is restored by meeting the following objectives the qualifying features a) Restore the population of Atlantic salmon, including range of genetic types, as a viable component of the site b) Restore the distribution of Atlantic salmon			• Research • Monitor marine survival • Control of invasive species • Manage abstraction and water transfers	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	throughout the site c) Restore the habitats supporting Atlantic salmon within the site and availability of food				
River Tweed SAC	• To ensure that the qualifying feature of the River Tweed SAC is in favourable condition and make an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of the River	• Rivers with floating vegetation often dominated by water-crowfoot • Sea lamprey • Brook lamprey • River lamprey • Atlantic salmon • Otter	• Forestry planting and harvesting operations – silting/nutrients • Sediment loading • Water quality • River development • Road mortality • By-catch • River barriers • Invasive species • Marine survival • Water flow	• Ongoing species protection • Beneficial habitat management • Encouraging natural river processes and morphology • Research • Develop conservation plan • Management of forestry operations • Reduce poaching/tracking • Reduce sediment run off • Utilise underpasses or culverts in	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	Tweed SAC is restored by meeting the following objectives a) Maintain the extent and distribution of the habitat / species within the River Tweed SAC b) Restore the structure, function and supporting processes of the habitat / species c) Restore, the distribution and viability of typical species of the habitat			road/bridge development • Prevent new disturbance to riverbanks • Increased resilience to climate change • Restore peatlands, reduce sedimentation, improve floodplains • Remove disused nets • Remove barriers • Follow biosecurity protocols • Manage abstraction and water flows	
Shelforkie Moss SAC	• To ensure that the qualifying features of	• Active raised bog • Degraded raised bog	• Grazing • No proactive management	• Monitor sheep grazing • Current and future habitat management	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	Shelforkie Moss SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of Shelforkie Moss SAC is restored by meeting the following objectives: a) Maintain the extent and distribution of the habitat within the site b) Restore the structure, function and			• Research and monitoring • Peatland management • Nutrient enrichment	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	supporting processes of the habitat c) Restore the distribution and viability of typical species of the habitat				
Shingle Islands SAC	• To ensure that the qualifying feature of the Shingle Islands SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of the Shingle Islands SAC is restored by meeting the	• Alluvial forests with Alnus glutinosa and Fraxinus excelsior	• Dumping/storage of materials • Invasive species • Water management	• Encourage grazing with livestock • Restore previously reclaimed habitat • Ensure maintenance of hydrological regime • Avoid introduction of non-native species • Avoid introduction of pathogens • Restore missing elements of the ecosystem	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	following objectives a) Restore the extent and distribution of the habitat within the site b) Restore the structure, function and supporting processes of the habitat c) Restore the distribution and viability of typical species of the habitat				
Sligachan Peatlands SAC	• To ensure that the qualifying features of the site are in favourable condition and make an	• Acid peat-stained lakes and ponds • Blanket bog • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	• Recreation / disturbance • Over-grazing • Trampling • Invasive species	• Maintain hydrological processes • Maintain water quality • Manage sediment load • Control of invasive species • Monitor and manage	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following a) Maintain / restore the extent and distribution of the habitat within the site b) Maintain / restore the structure, function and supporting processes of the habitat c) Maintain / restore the	• Depressions on peat substrates • Very wet mires often identified by an unstable 'quaking' surface • Wet heathland with crossed-leaved heath		recreation • Manage grazing • Control deer population • Manage fire risk • Avoid drainage modification • Manage road maintenance • Control forestry operations • Manage vehicular use	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	distribution and viability of typical species of the habitat				
Sound of Gigha SPA	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status. • To ensure that the integrity of the site is maintained in the context of environmental changes by meeting the following: a) The	• Eider • Great northern diver • Red-breasted merganser • Slavonian grebe	Supplementary conservation advice not available	Supplementary conservation advice not available	(NatureScot, 2020)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	populations of the qualifying features are viable components of the site. b) The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species. c) The supporting habitats and processes relevant to qualifying features and their prey/food resources				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	are maintained.				
South Tayside Goose Roosts SPA	• To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable	• Greylag goose • Pink-footed goose • Wigeon • Waterfowl assemblage	• Climate change • Forestry operations • Pro-active onsite management • Recreation / disturbance • Under-grazing	Supplementary conservation advice not available	(NatureScot, 1993)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	component of the site b) Distribution of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				
Tarbert Woods SAC	• To ensure that the qualifying features of the site are in	• Western acidic oak woodland	• Invasive species	• Maintain hydrological processes • Manage herbivore impacts • Control of invasive	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following: a) Maintain / restore extent and distribution of habitats within site b) Maintain / restore structure, function of supporting processes of habitats c) Maintain /			species • Habitat management • Resilience planning for future threats • Climate change • Research and monitoring	

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	restore distribution and viability of typical species of habitats				
Upper Strathearn Oakwoods SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status • To ensure that the integrity of the site is restored by meeting the following: a) Maintain / restore extent and	• Western acidic oak woodland	• Invasive species • Over-grazing	• Maintain hydrological processes • Control herbivore impacts • Control of invasive species • Climate change • Resilience planning for future threats	(NatureScot, 2008)

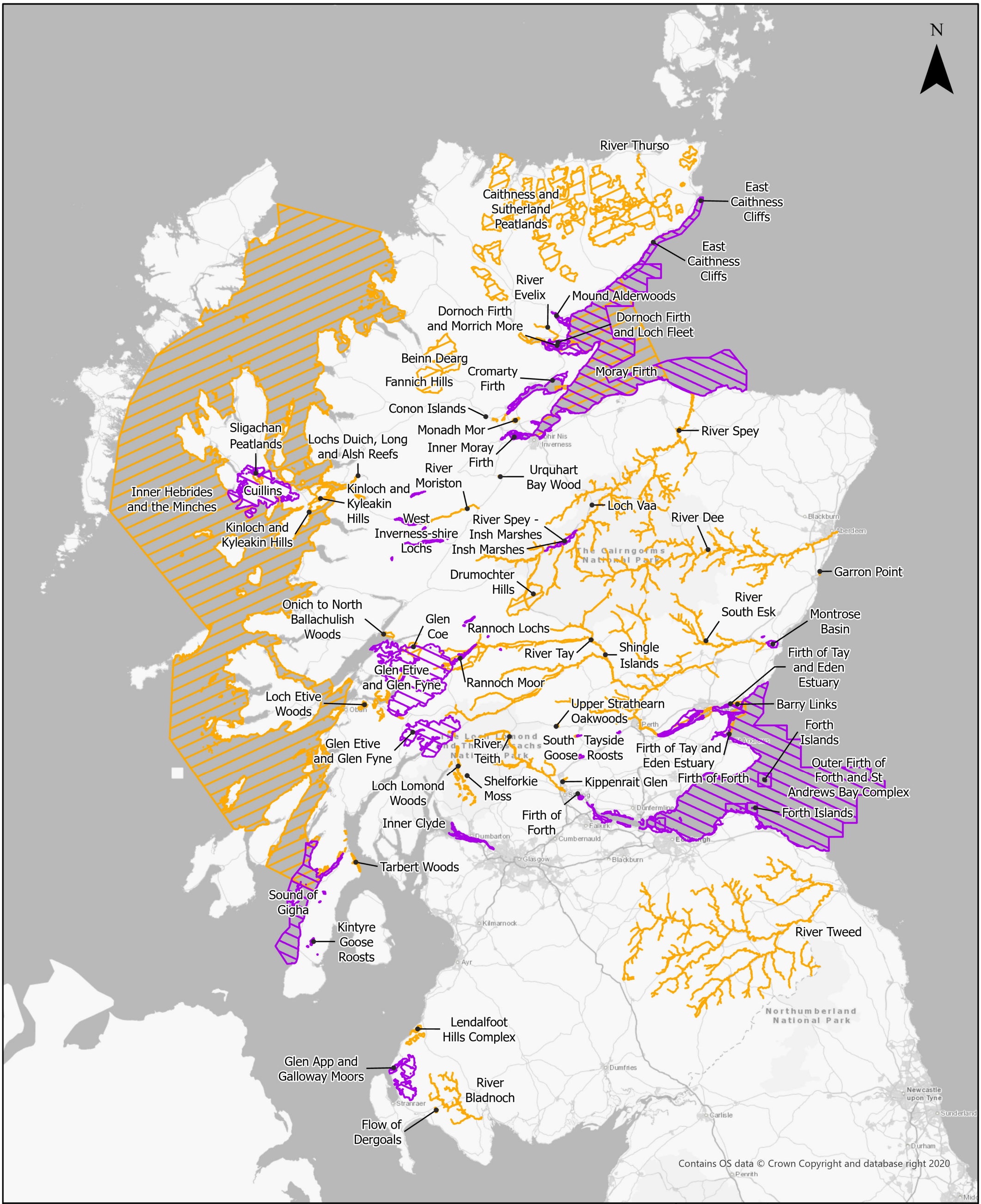
EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	distribution of habitats within site b) Maintain / restore structure, function of supporting processes of habitats c) Maintain/restore distribution and viability of typical species of habitats				
Urquhart Bay Woods SAC	• To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable	• Alder woodland on floodplain	• Invasive species • Over-grazing • Water management	• Manage grazing • Maintain hydrological	(NatureScot, 2005)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	conservation status • To ensure that the integrity of the site is restored by meeting the following: a) Maintain / restore extent and distribution of habitats within site b) Maintain / restore structure, function of supporting processes of habitats c) Maintain/restore distribution and viability of typical species of habitats				

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
West Inverness-shire Lochs SPA	• To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and • To ensure for the qualifying species that the following are maintained in the long term: a) Population of the species as a viable component of the site b) Distribution	• Black-throated diver • Common scoter	• Natural events • Water management	Supplementary conservation advice not available	(NatureScot, 2009)

EUROPEAN SITE	CONSERVATION OBJECTIVES	QUALIFYING FEATURES	ENVIRONMENTAL VULNERABILITIES	CONSERVATION MEASURES	REFERENCES
	of the species within site c) Distribution and extent of habitats supporting the species d) Structure, function and supporting processes of habitats supporting the species e) No significant disturbance of the species				

Appendix C Map of European sites



Special Areas of Conservation (SAC)

Special Protection Areas (SPA)

Client

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Project

STPR2

Jacobs AECOM

Drawing title

European Sites Relevant to the Plan

0 80 160 Kilometres