Environmental Impact Assessment (EIA) Report

LT384 Tealing to Westfield Overhead Line (OHL) 400 kV Upgrade

November 2024

Volume 4: Appendix 8.5 - Statement to Inform Habitats Regulations Appraisal

1. INTRODUCTION

1.1 Background

1.1.1 This Statement to Inform Habitats Regulations Appraisal accompanies Chapter 8: Ecology (Volume 2) and Chapter 9: Ornithology (Volume 2). It describes the assessment of potential effects from the Proposed Development on Special Areas of Conservation (SAC) and Special Protection Areas (SPA) (collectively referred to as 'European sites'). European sites within the zone of influence (ZoI) of the Proposed Development can be found on Figure 1, Annex A at the end of this document. Although it is presented as an Appendix to the EIAR, this Statement to Inform Habitats Regulations Appraisal addresses separate legislative requirements which relate solely to European sites. Further information on the legislative context is given below.

1.2 Description of the Proposed Development

1.2.1 Scottish and Southern Electricity Networks Transmission (herein referred to interchangeably as 'SSEN Transmission' or the 'Applicant'), operating under licence as Scottish Hydro Electric Transmission plc (SHE Transmission plc), is part of the SSE plc group of companies. SSEN Transmission owns and maintains the electricity transmission network across the north of Scotland and holds a licence under the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission.

1.2.2 The Applicant is proposing to submit an application for consent to upgrade approximately 37 km of overhead line (OHL) between Tower 182 (west of Tealing Substation) and the licence boundary with Scottish Power Energy Networks (SPEN) (Westfield/ Glenrothes) (mid span Towers 66 and 65), to enable operation at 400 kV (the 'Proposed Development'). This is not a new development, or replacement of an existing line.

1.2.3 The main components of the Proposed Development comprise the replacement of conductors, insulators, and fittings on the existing steel lattice towers. Where required, tower condition works including steelwork and tower leg foundation work to strengthen existing steel lattice towers will also be undertaken. Subject to further engineering and design checks, some modifications to the existing towers may be required, such as the inverting of cross arms to improve clearances, the addition of body extension panels (likely two towers only) and changes to the insulator set configurations. It is also possible that two existing suspension towers may need to be replaced with tension towers. The Proposed Development is discussed further in Chapter 3 (Volume 2).

1.3 Legislative Context

1.3.1 Under the Habitats Regulations[1], a network of sites has been designated across Scotland for the purposes of nature conservation. This network comprises sites known as Special Areas of Conservation and Special Protection Areas. 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 certain regularly occurring migratory bird species.

1.3.2 Prior to the UK's exit from the European Union (EU), Scotland's SAC and SPA were part of a wider 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 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 sites' to refer collectively to SAC and SPA (including any which are designated following the UK's exit from the EU)[2].

[1] The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended), more commonly referred to as the 'Habitats Regulations'.

[2] Scottish Government (2020). EU Exit: The Habitats Regulations in Scotland. December 2020. (online) Available at: https://www.gov.scot/publications/eu-exit-habitats-regulations-scotland-2/. [Accessed July 2024]

1.3.3 The Habitats Regulations or, for reserved matters, Conservation of Habitats and Species Regulations 2017 (as amended), require that any plan or project which is not directly connected with or necessary to the conservation of a European site, and which is likely to have a significant effect on such a site, either alone or in-combination with other plans or projects, must be subject to an 'appropriate assessment' of the implications for the Conservation Objectives of that site. Generally, such 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). The procedure to be applied is known as 'Habitats Regulations Appraisal' (HRA)[3].

1.3.4 In addition to fully designated European sites, the Habitats Regulations also apply to those sites in the earlier stages of the designation process, including:

- Sites of Community Interest (SCI);
- candidate Special Areas of Conservation (cSAC);
- potential / proposed Special Areas of Conservation (pSAC); and,
- potential / proposed Special Protection Areas (pSPA).

1.3.5 For the remainder of this document, the term 'European site' is used to refer to fully designated SACs, SPAs, and candidate, possible and proposed SACs/ SPAs, and SCI.

1.3.6 In the context of the Habitats Regulations, the Proposed Development constitutes a 'project'. Therefore, unless otherwise necessary, for example when considering in-combination effects, no further reference to plans is made.

1.3.7 The Competent Authority responsible for carrying out a HRA is the relevant consenting body for a particular plan or project – in this case the Energy Consents Unit (ECU) of Scottish Government. The Competent Authority is required to apply the Precautionary Principle[4] and can only grant consent once it has been ascertained that there will be no adverse effect on the integrity of the European site(s) concerned. However, the Habitats Regulations provide that, even if adverse effects on European site integrity are predicted, and in the absence of a suitable alternative solution, the project can still be carried forward for imperative reasons of over-riding public interest (IROPI). In such cases, compensatory measures must be implemented.

1.4 Overview of the HRA Process

1.4.1 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 Scotland 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.

1.4.2 The Habitats Regulations set out a step-by-step sequence of statutory procedures to be followed when conducting an HRA. The steps are designed to test the potential effects of a project on a European site and must be followed in the correct and particular order.

1.4.3 NatureScot recommends an approach, as described in SNH (2015)[5], for HRA of plans, which is outlined as a series of thirteen steps. However, with cognisance of case law clarifying when mitigation can be taken into

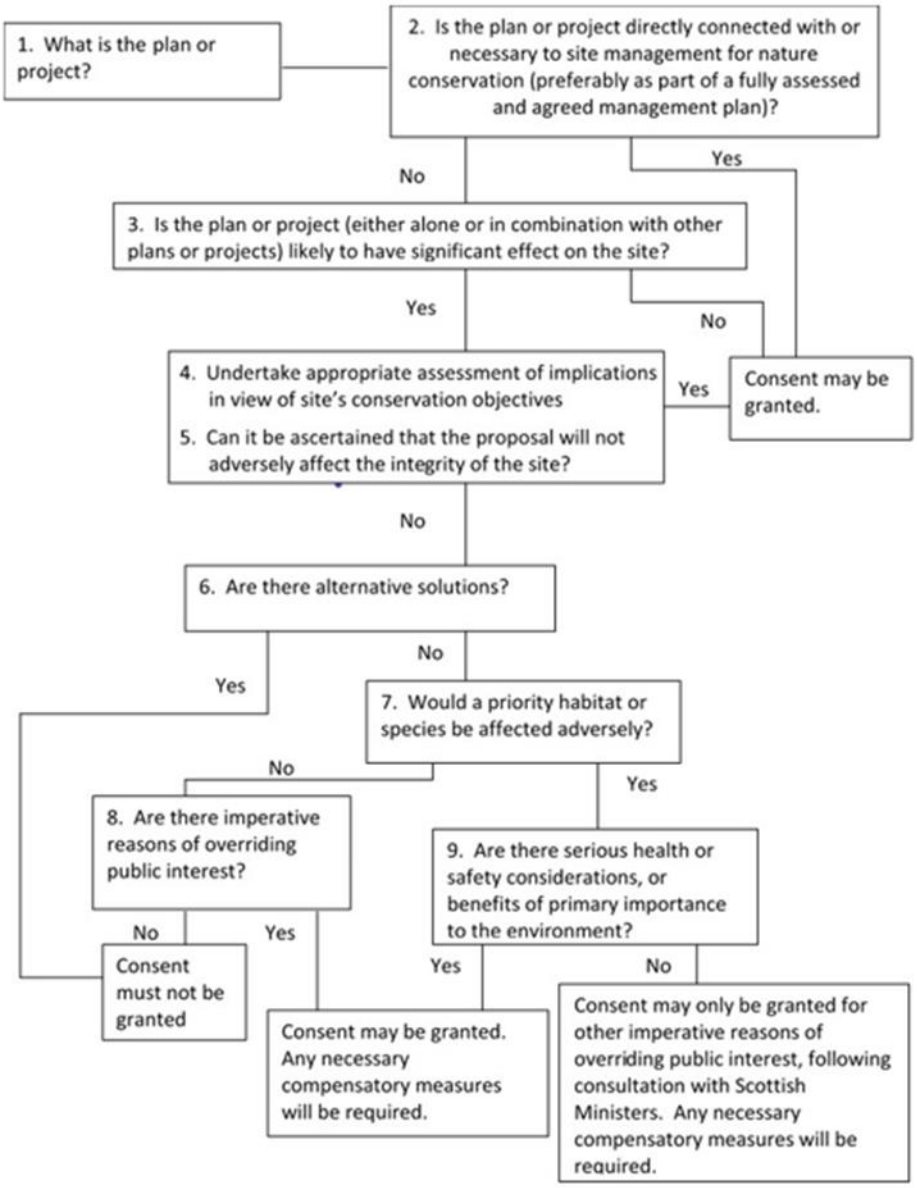
[3] In the past, the term 'Appropriate Assessment' has been used to describe both the overall process and a particular stage of that process. The term ' Habitats Regulations Appraisal' has come into use in order to refer to the process that leads to an appropriate assessment, thus avoiding confusion. Throughout this document, HRA is used to refer to the overall procedure.

[4] European Union (2000). Communication from the Commission on the precautionary principle. COM(2000) (online) Available at: https://eur-lex.europa.eu/EN/legal-content/summary/the-precautionary-principle.html. [Accessed: August 2024]

[5] SNH (2015). Habitats Regulations Appraisal of Plans. Guidance for Plan-making Bodies in Scotland. Version 3, January 2015. (online) Available at: https://www.nature.scot/habitats-regulations-appraisal-plans-guidance-plan-making-bodies-scotland-jan-2015. [Accessed July 2024]

account in the HRA process[6], this has been revised and a flow chart is provided on the NatureScot website, and which is reproduced as Diagram 1. Further guidance published by NatureScot on HRA[7] also sets out the methods for assessing whether plans or projects will affect a European site.

Diagram 1: Stages of the HRA Process (from NatureScot online HRA guidance[8])



1.4.4 In accordance with the process recommended by NatureScot and relevant case law, the methodology for the HRA of a project can comprise four main activities:

- HRA Activity 1: Screening (including a 'likely significant effect' judgement);

[6] People Over Wind and Sweetman v Coillte Teoranta (C-323/17).

[7] SNH (2014). Natura Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

[8] NatureScot (2024) Habitats Regulations Appraisal (online) Available at: https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra [Accessed: July 2024]

- HRA Activity 2: Appropriate Assessment;
- HRA Activity 3: assessment of alternative solutions; and
- HRA Activity 4: assessment of IROPI, where no alternative solutions exist and where adverse effects remain.

1.4.5 Should the HRA Screening stage not rule out the possibility of likely significant effects on the qualifying features of any European site then the second activity in the HRA process – Appropriate Assessment (AA) – will be required.

1.4.6 AA considers in more detail the possibility of the impacts of a project identified at the HRA Screening stage as having likely significant effects resulting in adverse effects on the integrity of the European sites, in view of the Conservation Objectives of those sites. It introduces to the assessment mitigation measures designed specifically to avoid adverse effects on European sites – the HRA Screening stage must be carried out without consideration of mitigation measures.

1.5 Purpose of this Document

1.5.1 Whilst the various steps involved in the assessment process must be carried out by a Competent Authority, consultants may provide the information that the Competent Authority requires to undertake an HRA. This Statement to Inform Habitats Regulations Appraisal has therefore been written to provide the ECU, in their role as Competent Authority, with the information needed to conduct an HRA of the Proposed Development. It has been prepared with regard to best scientific knowledge and an examination of all of the potential impacts of the Proposed Development on European sites.

2. METHODOLOGY

2.1 Sources of Guidance and Data

2.1.1 This Statement to Inform Habitats Regulations Appraisal has been prepared with cognisance of the following guidance published by the European Commission (EC) and NatureScot:

- *Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*[9];
- *Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*[10];
- Natura Casework Guidance: How to consider plans and projects affective Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)[7];
- *Habitats Regulations Appraisal of Plans. Guidance for Plan-making bodies in Scotland*[5]); and
- *SNH Guidance Note. The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind CJEU judgement*[11].

2.1.2 Information on relevant European sites, including qualifying features, the latest assessed condition of those features, and the Conservation Objectives for each site was obtained from the NatureScot SiteLink[12] website.

2.1.3 Plans and projects (where relevant to in-combination assessment) were searched for via the Angus Council website[13]; Perth & Kinross Council website[14]; Fife Council (https://www.fife.gov.uk/kb/planning-and-building) and planning portal and ECU website[15].

2.2 Desk Study and Field Survey

2.2.1 Desk study and habitat survey were carried out to determine the baseline ecological conditions potentially relevant to this Statement to Inform Habitats Regulations Appraisal. A description of the relevant methods is given under the following sub-headings, and the results which have been used to inform the assessment in this document are provided in the Baseline Conditions section, further below.

Desk Study

2.2.2 A desk study was carried out to identify European sites and records of qualifying species of such sites within at least 1 km of the Proposed Development. The desk study was carried out using the data sources detailed in Table 2-1.

Table 2-1: Desk Study Data Sources

Data Source	Data Obtained
Magic website (https://magic.defra.gov.uk/MagicMap.aspx)	

[9] European Commission (2021). Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. (online) Available at: https://ec.europa.eu/environment/nature/natura2000/management/pdf/methodological-guidance_2021-10/EN.pdf. [Accessed: July 2024]

[10] European Commission (2019). Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. (online) Available at: https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/EN_art_6_guide_jun_2019.pdf. [Accessed: July 2024]

[11] SNH (2019). SNH Guidance Note. The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind CJEU judgement. (online) Available at: https://www.nature.scot/habitats-regulations-appraisal-plans-guidance-plan-making-bodies-scotland-jan-2015. [Accessed July 2024]

[12] NatureScot (2024) SiteLink (online) Available at: https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra [Accessed: July 2024]

[13] Angus Council (2024) Planning and Building (online) Available at: https://www.angus.gov.uk/planning_and_building [Accessed: July 2024]

[14] Perth and Kinross Council (2024) Planning and Building (online) Available at: https://www.pkc.gov.uk/article/14161/Planning-and-building [Accessed: July 2024]

[15] Energy Consents Unit (2024) Application Search (online) Available at: https://www.energyconsents.scot/ApplicationSearch.aspx [Accessed: July 2024]

Data Source	Data Obtained
NatureScot SiteLink (https://sitelink.nature.scot/home)	Locations of and information on international and national statutory designations within the ZoI of the Proposed Development.
Ordnance Survey (OS) 1:25,000 maps	Habitats and connectivity relevant to interpretation of planning policy and potential presence of important ornithological features
Bing Maps aerial imagery (https://www.bing.com/maps/)	
Angus Council website (https://www.angus.gov.uk/planning_and_building/environment_and_development_planning/development_plan)	Local Development Plan policies relevant to nature conservation.
Perth & Kinross Council website (https://www.pkc.gov.uk/developmentplan)	
Fife Council website (https://www.fife.gov.uk/kb/docs/articles/planning-and-building2/planning/development-plan-and-planning-guidance)	

Field Survey

2.2.3 A habitat survey was carried out between 15th March and 20th March 2023. The habitat survey was carried out following the standard method described by the Joint Nature Conservation Committee[16] for Phase 1, and the UK Habitat Classification Working Group[17] for UKHab. The survey covered the Proposed Development plus a minimum 50 m buffer either side. The survey buffer was created from a single linear feature indicating the central line of the existing OHL. As the OHL is approximately 20 m wide, a buffer of 70 m was applied to this central line to allow for the survey area to cover ground at least 50 m from the actual extent of the OHL for the entire length of the line, with a maximum distance of approximately 60 m (the 'survey area').

2.2.4 Evidence of protected species observed incidentally, such as otter *Lutra lutra*, led to further detailed species-specific surveys being carried out between 3rd April and 1st August 2024 (refer to Appendix 8.3 (Volume 4)). The survey covered all watercourses within the Works Footprint plus a buffer of 200 m for otter.

2.2.5 The purpose of the surveys was to provide information on the presence of notable habitats and protected species within the vicinity of the Proposed Development. This information can be used to inform this Statement to Inform Habitats Regulations Appraisal by identifying habitats that may be utilised by qualifying features, as well as highlighted the presence/ likely absence of qualifying features.

[16] JNCC (2010 – Revised 2016) Handbook for Phase 1 habitat survey – A technique for environmental audit. (online) Available at: https://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf [Accessed July 2024]

[17] Butcher, B., Carey, P., Edmonds, R., Norton, L., Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1. (online) Available at: https://ukhab.org/ukhab-documentation/ [Accessed July 2024]

3. ESTABLISHING THE ZONE OF INFLUENCE

3.1 Approach

3.1.1 There is no pre-defined guidance on the physical scope of a HRA in all circumstances. When seeking to identify relevant European sites, consideration was therefore given primarily to potential impact pathways and the source-pathway-receptor approach, rather than adopting a purely 'zones'-based approach. The source-pathway-receptor model is a standard tool in environmental assessment. In order for an impact 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 possibility for an effect to occur. Furthermore, even where an impact is predicted to occur, it may not result in significant effects. It is also important to distinguish between an 'impact' and an 'effect'. An impact is defined as an action resulting in changes to an ecological feature, while an effect is the outcome to an ecological feature arising from an impact[18]. For example, an impact may be the disturbance of a roost of wintering waders as a result of construction activities; the effect would be how the population or conservation status of the species disturbed by the works changes as a consequence.

3.1.2 The likely zone of impact (also referred to as the likely 'zone of influence') (ZoI) of a project is the geographic extent over which ecological effects are likely to occur. The ZoI of a project will vary depending on the specifics of a particular proposal and must be determined on a case-by-case basis with reference to a variety of criteria, including:

- the nature, size/ scale and location of the plan or project;
- the connectivity between the plan or project and European sites, for example through hydrological connections or because of the natural movement of qualifying species;
- the sensitivity of ecological features under consideration; and
- the potential for in-combination effects.

3.1.3 There is no geographical limit beyond which European sites need not be considered by HRA of a project.

3.1.4 The process of determining which (if any) European sites are within the ZoI of the Proposed Development was therefore a progressive appraisal of the potential for each impact source which could arise from its construction, operation and decommissioning to affect the qualifying features of such sites. This process is set out in Table 3-1 and was conducted with cognisance of all of the impact sources described below.

3.2 Sources of Impact from the Proposed Development

3.2.1 A number of impacts could arise from the construction, operation and decommissioning of the Proposed Development. A description of each, and their potential relevance to the qualifying features of European sites, is given under the following sub-headings.

Direct Loss of or Damage to Habitat Within a European Site

3.2.2 Construction and decommissioning works which take place within or adjacent to the boundary of a European site could result in the damage or loss of habitat. In the case of the SACs, this may include habitat which is a qualifying feature of the designation. However, even where this is not the case, for both SACs and SPAs, habitat which is damaged or lost could be essential to supporting the qualifying plant or animal species, or to the normal functioning of the site.

[18] CIEEM (2022). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.2 – Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester.

Loss of Habitat Outside of a European Site Which Supports Qualifying Species

3.2.3 Habitat outside of the boundary of a European site, but which supports the qualifying species of such a site, is defined as being 'functionally-linked' to it. The ruling in the Holohan and Others v An Bord Pleanála case (C-461/17) concluded that the loss of functionally-linked habitat could result in significant effects on the qualifying features of a European site, if this prevented the site from meeting its Conservation Objectives.

3.2.4 To determine whether habitat may be functionally-linked to a European site requires some level of detailed study, often including targeted field survey. However, this impact can only occur on mobile animal species which could be present outside of the European site for which they are designated. For several bird species in Scotland, NatureScot has published guidance on the distances up to which qualifying species may use functionally-linked habitat outside of European sites[19]. The distances given in this guidance were used when searching for SPAs designated for birds, but not seabirds, which may be within the ZoI of the Proposed Development. Accordingly, SPAs up to 20 km were searched for, as this is given as the largest core foraging range for any species (non-breeding pink-footed goose *Anser brachyrhynchus* and greylag goose *Anser anser*).

3.2.5 For other mobile terrestrial, aquatic or amphibious animals for which SACs are designated in Scotland, the following distances were used when searching for sites which could be impacted by loss of functionally-linked habitat:

- marsh fritillary *Euphydryas aurinia* – research by Wahlberg et al (2002)[20] found that the average dispersal distance of male marsh fritillaries was 1.3 km, and up to 510 m for females. On a precautionary basis, therefore, a distance of 1.5 km was adopted;
- great crested newt *Triturus cristatus* – it is generally considered that great crested newts can occur up to 500 m from breeding ponds[21]. Therefore, on the assumption that any SAC designated for this species would encompass all breeding ponds used by a meta-population, a buffer of 500 m surrounding the site should be sufficient to account for all terrestrial habitat which may be functionally-linked to these features;
- otter – studies quoted in Harris and Yalden (2008)[22] suggest that the mean liner range size for four male otters in north-east Scotland was 48 km. For one male in Perthshire the maximum range was 39 km and for another male in Suffolk the range was also 39 km. Female otters generally have smaller ranges, quoted in Harris and Yalden (2008) as being between 16-21 km. A buffer of 40 km, and only where there is direct hydrological connectivity to the Proposed Development, was used when searching for SACs designated for otter; and
- all fish species – no set distance was used when considering potential impacts on fish species. Where a direct hydrological link exists between the Proposed Development and an SAC designated for fish species, it was considered that there could be impacts on these qualifying features.

3.2.6 Freshwater pearl mussel *Margaritifera margaritifera* is not a mobile species. However, it relies upon salmonid fish for part of its lifecycle. Therefore, in cases where a direct hydrological connection exists between the Proposed Development and an SAC designated for freshwater pearl mussel, the potential impacts on this species were considered.

3.2.7 Narrow-mouthed whorl snail *Vertigo angustior* is also the qualifying species of a single SAC in Scotland, situated in Aberdeenshire. This is a highly immobile species and there is no possible pathway for impacts from the

[19] SNH (2016). Assessing Connectivity with Special Protection Areas (SPAs). Version 3, June 2016. (online) Available at: https://www.nature.scot/assessing-connectivity-special-protection-areas. [Accessed July 2024]

[20] Wahlberg, N., Klemtti, T., Selonen, V. and Hanski, I. (2002). Metapopulation structure and movements in five species of checkerspot butterflies. Oecologia 130(1), pp 2074-2091.

[21] SNH (undated). Protected Species Advice for Developers: Great Crested Newt. Available from: https://www.nature.scot/sites/default/files/2017-10/A2124123%20-%20Species%20Planning%20Advice%20Project%20-%20great%20crested%20newt%20-%20FINAL.pdf.

[22] Harris, S. and Yalden, D.W. (2008). Mammals of the British Isles: Handbook.4th Edition. The Mammal Society, London.

Proposed Development to affect this site. They are not considered further in this Statement to Inform Habitats Regulations Appraisal.

Disturbance and Displacement of Qualifying Species

3.2.8 Construction, operational and decommissioning activities have the potential to cause disturbance of qualifying animal species. Disturbance can be caused visually (for example by the presence of personnel and plant, or as a result of artificial illumination of habitats) and/or by the noise and vibration generated by works. This could impact qualifying species when inside the boundary of a European site, or outside of a European site when using functionally-linked habitat. For example, noise and visual disturbance arising from construction or decommissioning may result in temporary behavioural changes in otter, such as disturbance in holts and displacement from specific stretches of the river. Furthermore, disturbance from construction or decommissioning may result in temporary behavioural changes in qualifying birds (e.g., interruption or cessation foraging, minor and major flight responses).

3.2.9 The potential for disturbance to be caused will depend on the location and nature of construction / operational / decommissioning activities, the distribution of the qualifying species, and the sensitivity of the species to noise and visual disturbance from human activities. This may need to be determined through detailed study, including field survey, to establish the distribution of the relevant species. However, where disturbance is caused, it can have multiple adverse effects on species, including increased energy expenditure, reduced feeding time, behavioural changes, and displacement.

3.2.10 Based on the published guidance referenced below, the following distances were used when considering how far construction, operational and decommissioning activities may disturb qualifying species:

- otter – 200 m, in accordance with SNH (undated(b)) which suggests this distance for otter breeding sites, reduced to 30 m for other resting sites not used for breeding purposes;
- non-breeding waterbirds – the Waterbird Disturbance Mitigation Toolkit[23] provides species-specific information on the sensitivity of several bird species which are qualifying features of SPAs. However, it suggests that, in general, disturbance of non-breeding waterbirds can occur up to distances of around 300 m from construction works; and
- breeding birds – 1 km, this being the maximum distance at which Goodship and Furness (2022)[24] consider disturbance could occur on the most sensitive species for which SPAs are designated.

3.2.11 Marine mammals, including grey seal *Halichoerus grypus*, harbour seal *Phoca vitulina* and harbour porpoise *Phocoena phocoena* can range over very large distances. For example, a search distance of 135 km from SACs designated for grey seal was used in the HRA of National Planning Framework 4 (NPF4)[25], and a distance of 50 km for harbour porpoise and harbour seal. However, there are no marine elements to the Proposed Development therefore the Firth of Tay and Eden Estuary SAC, which is designated for common seal has been scoped out from further assessment in this report.

[23] Cutts, N., Hemingway, K and Spencer, J. (2013). Waterbird Disturbance Mitigation Toolkit: Informing Estuarine Planning & Construction Projects. Produced by the Institute of Estuarine & Coastal Studies (IECS) University of Hull. (online) Available at: https://www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/. [Accessed: July 2024]

[24] Goodship, N.M. and Furness, R.W. (2022). NatureScot Research Report 1283 – Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. (online) Available at: https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance. [Accessed July 2024]

[25] AECOM (2022). Habitats Regulations Appraisal of National Planning Framework 4 – HRA Record. Scottish Government. (online) Available at: https://www.gov.scot/publications/habitats-regulations-appraisal-national-planning-framework-4-hra-record/documents/. [Accessed: July 2024]

3.2.12 Turflundie Wood SAC has also been scoped out. The site is designated for great crested newt *Triturus cristatus* and is greater than 500 m away from the Proposed Development. At most sites, the majority of adults stay within around 250 m of the breeding pond, so the density of individuals gradually decreases away from the pond[26].

Injury or Mortality of Qualifying Species

3.2.13 The direct injury or mortality of qualifying species could occur where construction / decommissioning 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 otter, great crested newt and marsh fritillary. These species could occur up to the distances set out under 'Loss of habitat outside of European sites but which supports qualifying species', above.

3.2.14 Construction / decommissioning works which take place directly within or adjacent to a watercourse or waterbody could also result in injury or mortality of qualifying fish species. The ZoI for freshwater qualifying animals (i.e. fish and freshwater pearl mussel) was considered to encompass any SAC designated for these species for which a direct hydrological connection to the Proposed Development exists.

3.2.15 Guidance produced by NatureScot[27] identifies the main sources of potential risk to birds from the presence of transmission overhead lines to be:

- mortality or injury through collision with transmission lines (including conductors and earth wires) or supporting structures. On power lines, bird collisions are often concentrated along relatively short sections where several factors interact to create a collision problem or 'hotspot'; and
- mortality through electrocution on transmission lines or supporting structures. Birds that perch or nest on steel lattice towers (pylons) can be electrocuted by causing a short circuit, either by touching two live wires, or a live and an earthed component.

3.2.16 The principal factors affecting the risk of bird mortality through collision and electrocution are:

- species-specific morphology, biology. Birds with larger body sizes and high wing loadings, birds flying in flocks and/or in low light, birds with limited visual capacity, birds distracted while engaged in hunting/breeding behaviours, younger and more inexperienced birds and migrants not familiar with the landscape may all be at increased collision risk. For example, swans and other large waterfowl are of particular concern for collisions in the UK;
- landscape and topography (e.g., siting of overhead lines near important habitats or flyways) may increase collision risk;
- weather affecting flight capability or visibility (strong winds/ fog/ heavy rain) which may force birds to lower their normal flight heights, affect flight control and reduce visibility and therefore reduce ability to avoid collisions; and
- technical aspects of the transmission line (spacing of conductors, creation of perches).

3.2.17 Earth wires are thought to be responsible for a much higher rate of collisions than the thicker, often bundled conductor wires. Earth wires are harder for birds to see, being thinner in diameter and typically positioned at the top of the wire array. Birds trying to gain height to avoid the larger more visible conductor wires may fail to see earth wire.

[26] Froglife (2001). Great Crested Newt Conservation Handbook. (online) Available at: https://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf [Accessed: July 2024]

[27] SNH (2016). Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds. Version 1 – July 2016. (online) Available at: https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds. [Accessed: July 2024]

3.2.18 Despite the above, the Proposed Development will involve negligible change to the baseline conditions in terms of risk of injury of birds. Only a single existing tower will be relocated, and all other towers will remain in the same position and have the same height. Birds in the vicinity of the Proposed Development therefore do so in the vicinity of the existing OHL and the risk of injury or mortality will not be increased.

Prevention of Migratory Movements of Qualifying Species

3.2.19 The creation of permanent or temporary barriers in a watercourse (e.g. a new culvert), pollution of a watercourse, or noise/ visual disturbance could all act to prevent the migratory movement of the qualifying fish species of SACs. Entrainment of fish on inlet/ outlet structures, or the possibility of fish being attracted to the flow of water out of outlets could interfere with or prevent the normal migratory movement of these species.

3.2.20 Although otter could be impacted by works in watercourses or waterbodies, this species is readily able to navigate overland. There is consequently no mechanism by which the Proposed Development could prevent the regular movements, including migration, of qualifying species other than fish.

3.2.21 The ZoI for this impact was therefore taken to be any SAC designated for fish species (or freshwater pearl mussel) for which a direct hydrological connection to the Proposed Development exists.

Changes to Surface Water or Groundwater Hydrology

3.2.22 Changes to surface water hydrology can occur as a result of engineering activities during the construction / decommissioning phase. For example, the construction or replacement of water crossings can change hydrological conditions within a watercourse. Abstraction of water (e.g. for use in dust suppression or other construction works) can also reduce water levels, as can changes to the existing flows of surface water to a watercourse. These impacts can occur either within a European site or can impact on the qualifying species of a European site if they pass through or occur within the relevant part of the watercourse. Therefore, any European site with direct freshwater hydrological connectivity (i.e. not including marine sites) could be impacted by changes to surface water hydrology.

3.2.23 Changes to groundwater conditions can occur as a result of excavations or the installation of piled structures (for example by interrupting groundwater flows). Guidance published by the Scottish Environment Protection Agency (SEPA) suggests that such activities could impact on groundwater dependent terrestrial ecosystems (GWDTE) up to 100 m from excavations less than 1 m in depth, extending up to 250 m for deeper excavations (SEPA, 2017). Therefore, any European site within a 250 m buffer is considered to be within the potential ZoI of this impact.

Waterborne Pollution

3.2.24 Construction, operational and decommissioning activities have the potential to pollute watercourses and/or waterbodies. These could themselves represent qualifying features of a European site, may be within a European site and support the qualifying features of that site, or may be outside of a European site but be functionally-linked to such a site if used by the qualifying animals. Waterborne pollution may arise through spillages of fuels, oils, chemicals or other pollutants, or from the uncontrolled released of sediment. Discharges of effluent, which could increase the nutrient levels in the water would also fall under this category of impact.

3.2.25 Waterborne pollution can degrade habitats and can lead to the direct mortality of qualifying species such as fish and freshwater pearl mussel. The distance over which such impacts could have effects would depend on the severity of the pollution. However, any European site which has a direct hydrological connection to the Proposed Development, but not including estuarine or marine designations (where a huge dilution effect on any pollution would occur from the massive volume of the sea), has the potential to be within the ZoI.

Airborne Pollution

3.2.26 Airborne pollution could occur during the construction and decommissioning phases of the Proposed Development. During operation, emissions to air will be very minor, and limited to the small number of vehicles involved in the running of the Proposed Development. As for waterborne pollution, above, airborne pollution could impact on qualifying, supporting or functionally-linked habitats.

3.2.27 Dust generated during construction and decommissioning activities can directly impact vegetation or aquatic environments and can indirectly impact animal species (for example where these habitats are used by them for foraging). During extended periods of dry weather, dust can cover plant foliage and adversely affect photosynthesis or other biological functions. Rainfall can then remove deposited dust and rapidly leach chemicals into the soil (Holman et al, 2014). Guidance published by the Institute of Air Quality Management (IAQM) advises that consideration should be given to construction-related air quality impacts on nature conservation sites within 50 m of works.

3.2.28 Vehicles and plant which operate via internal combustion engines emit airborne pollutants. The most important of these for European sites are oxides of nitrogen (NOx). At close distances to source, NOx can have a directly toxic effect on vegetation at very high concentrations. However, likely to be of greater concern is the contribution NOx makes to the deposition of nitrogen to soils. Increases in nitrogen deposition from the atmosphere can, if sufficiently great, enhance soil fertility and lead to eutrophication. This can have adverse effects on community composition and quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats. Both the IAQM and the Design Manual for Roads and Bridges (DMRB) advise that such impacts are only likely to extend to a maximum of 200 m from a road (or works area), and that air pollution levels fall sharply within the first few tens of metres[28,29].

Spread of Invasive Non-native Species

3.2.29 Invasive non-native species can have detrimental effects on native flora and fauna. The construction and decommissioning of the Proposed Development is unlikely to result in the spread of any non-native animal species.

3.2.30 Construction and decommissioning activities have the potential to cause the spread of invasive non-native plant species. Where works take place near to a European site, this could introduce such species to the site and have impacts on habitats and species. It has been assumed that the spread of invasive non-native plants could occur where construction and decommissioning works take place up to a distance of 50 m from a European site, or where there is otherwise a direct hydrological connection between the Proposed Development and a European site. As for animal species, there is no feasible way in which the operation of the Proposed Development could cause the spread of invasive non-native plant species.

3.3 European Sites Within the Zone of Influence

3.3.1 With cognisance of the impact sources described above, the ZoI for the Proposed Development, and all of the European sites within it, was determined. This is set out in Table 3-1.

3.3.2 The locations of the six European sites determined to be within the ZoI – River Tay SAC; Firth of Tay and Eden Estuary SPA; Loch of Kinnordy SPA; Loch of Linrathen SPA; Outer Firth of Forth and St Andrews Bay Complex SPA; South Tayside Goose Roosts SPA – are shown on Figure 1, Annex A. Further details on each European site, including their qualifying features and Conservation Objectives, are given in Annex B.

[28] Holman, C., Barrowcliffe, R., Harker, G., Hawkings, C., Horrocks, S. and Prismall, F. (2019). A guide to the assessment of air quality impacts on designated nature conservation sites. Institute of Air Quality Management, London.

[29] Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2019). Design Manual for Roads and Bridges. Sustainability and Environment Appraisal. LA 105: Air quality. (online) Available at: https://www.standardsforhighways.co.uk/prod/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true. [Accessed January 2024]

3.3.3 Not all impacts will have pathways for effects on the qualifying features of all European sites within the ZoI. Consequently, some sites may be within the ZoI for certain impacts, but not for others.

Table 3-1 Establishing the Zone of Influence of the Proposed Development

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Potential Zone of Influence
Construction and Decommissioning Phases[30]		
Direct loss of or damage to habitat within a European site	The direct loss of or damage to habitat within the boundary of a European site is only possible where the Proposed Development passes through, over or immediately adjacent to an SAC or SPA. On a precautionary basis, any European site within 50m of the Proposed Development is considered to be sufficiently close that there is a risk of direct damage or loss of habitat. Towers 90 and 91 are both within 50 m of the River Tay SAC and the OHL crosses over the SAC between these two towers. Parts of the River Tay SAC are situated immediately adjacent to the A90 road, which will be used by vehicles associated with the Proposed Development. However, no works to the road in this area are proposed.	River Tay SAC
Loss of functionally-linked habitat	The Proposed Development requires negligible permanent land take to allow for widening of existing access tracks.	None.
Disturbance and displacement of qualifying species	Disturbance of qualifying animal species could arise when they occur within the boundary of a European site, or when using functionally-linked habitat outside the of the boundary of a European site. On a precautionary basis, and in accordance with SNH (2016)[19], an initial worst-case ZoI of 20 km from the Proposed Development has been used when considering the disturbance of birds using functionally-linked habitat. The following distances were used when searching for SACs for the mobile qualifying species of SACs: • marsh fritillary – 1.5 km; • great crested newt – 500 m; • otter – 40 km (only where a direct hydrological connection exists). The Proposed Development is approximately 440 m north-east from the Firth of Tay and Eden Estuary SAC, which is well within the 50 km search radius for harbour seal however, there are no marine elements to the Proposed Development.	River Tay SAC
Injury or mortality of qualifying species	Animal species may be vulnerable to injury or mortality during the construction and decommissioning phase. This could occur where works take place within a European site boundary (or within 50 m of the boundary of an SAC, on a precautionary basis), or if these species occur in functionally-linked habitat away from a European site.	River Tay SAC
Prevention of migratory movements of qualifying species	The River Tay SAC is designated for four anadromous species of fish. In-channel works may be required at a number of watercourse crossing locations, all of which are outside of the boundary of River Tay SAC. However, these may be connected to the River Tay SAC and be used by the qualifying fish species. Barriers to movement in these watercourses could therefore indirectly affect the SAC population.	River Tay SAC

[30] Potential decommissioning effects are considered to be similar to, and associated with the components described in the construction project phase, and are not separately assessed.

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Potential Zone of Influence
Changes to surface water or groundwater hydrology	During the construction and decommissioning phase, any site crossed by, adjacent to (i.e. within 50 m) or with a direct hydrological connection to the Proposed Development could be impacted by changes to surface water hydrology. Any terrestrial European site within 250 m of the Proposed Development could be impacted by changes to groundwater conditions.	River Tay SAC
Waterborne pollution	Any European site directly crossed by or adjacent (taken to mean within 50 m) to the Proposed Development has the potential to be impacted by waterborne pollution. Any other site which has a direct downstream hydrological connection to the Proposed Development (but not including estuarine or marine sites) could also be impacted by pollution affecting habitats or aquatic species.	River Tay SAC
Airborne pollution	On a precautionary basis, all European sites (with the exception of estuarine and marine sites which are not vulnerable to airborne pollution[31]) within 50 m (to account for IAQM guidance) were considered at this stage to be within the potential ZoI of this impact.	River Tay SAC
Spread of invasive non-native species	The spread of invasive non-native plants could occur where construction and decommissioning works take place up to a distance of 50 m from a European site, or where there is otherwise a direct hydrological connection between the Proposed Development and a European site (not including entirely marine sites, which are not vulnerable to this impact).	River Tay SAC
Operational Phase		
Direct loss of or damage to habitat within a European site	There is no mechanism by which operation of the Proposed Development could result in a loss of or damage to habitat within the boundary of a European site.	None.
Loss of functionally-linked habitat	There is no mechanism by which operation of the Proposed Development could result in a loss of or damage to functionally-linked habitat outside of the boundary of a European site.	None.
Disturbance and displacement of qualifying species	The intensity of activities during the operational phase of the Proposed Development will be considerably lower than during construction/ decommissioning. However, the presence of personnel and vehicles has the potential to cause disturbance of qualifying bird species, especially when breeding (at which time birds are generally considered to be more sensitive to human disturbance). Consequently, the ZoI of this impact is considered to extend up to 20 km from the Proposed Development for bird species (to account for the possibility of disturbance of birds using functionally-linked habitat). For qualifying animals of SACs, the ZoI for disturbance is also considered to be the same as for the construction and decommissioning phases, described above.	River Tay SAC Firth of Tay and Eden Estuary SPA Loch of Kinnordy SPA Loch of Linrathen SPA Outer Firth of Forth and St Andrews Bay Complex SPA
Injury or mortality of qualifying species	The Proposed Development does not change the baseline risk of birds colliding with or otherwise being killed or injured by the OHL as there will be very little change to existing tower heights or locations. Injury or mortality to other animal species during the operational phase is considered highly unlikely.	None.

[31] e.g. Air Pollution Information System (2016). Nitrogen Deposition :: Coastal saltmarsh. (online) Available at: https://www.apis.ac.uk/node/968. [Accessed: July 2024]

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Potential Zone of Influence
Prevention of migratory movements of qualifying species	There is no mechanism by which operation of the Proposed Development could result in the prevention of migratory movements of qualifying species.	None.
Changes to surface water or groundwater hydrology	The likelihood of operational activities resulting in changes to surface water or groundwater hydrology is much reduced compared to construction and decommissioning as, in general, an OHL requires very little maintenance.	None.
Waterborne pollution	The likelihood of operational activities resulting in pollution of surface water is much reduced compared to construction and decommissioning as, in general, an OHL requires very little maintenance.	None
Airborne pollution	Operation of the Proposed Development will generate negligible emissions to air and there is no possibility of this having significant effects on qualifying or supporting habitats of any European site.	None.
Spread of invasive non-native species	The operation of the Proposed Development will not involve the transfer of water between catchments. There is consequently no possibility of non-native animal species being spread. There is also no mechanism by which the operation of the Proposed Development could cause the spread of invasive non-native plant species.	None.

4. TEST OF LIKELY SIGNIFICANT EFFECTS

4.1 Overview

4.1.1 This section assesses the potential for the identified construction, decommissioning and operational phase impacts, for which pathways exist to European sites, to have likely significant effects on those sites. In accordance with case law (Waddenzee (C-127/02)), 'likely' in this context is taken to mean 'possible', while a 'significant' effect is one which could undermine the Conservation Objectives of a European site[5].

4.1.2 The purpose of test of likely significant effects (i.e. HRA Screening) is to determine those elements of a project regarding which it can be stated, without detailed appraisal, that significant effects on a European site are unlikely. In line with case law (People Over Wind and Sweetman v Coillte Teoranta (C-323/17)), consideration cannot be given at this stage to specific mitigation measures designed to avoid significant effects on a European site. However, NatureScot has published guidance on the handling of mitigation when carrying out HRA[11]. NatureScot advises that, although mitigation designed specifically to avoid significant effects on the qualifying features of a European site cannot be referred to at the HRA Screening stage, it is reasonable to consider the 'intrinsic elements' of a development, including those which can be regarded as 'good practice' or 'best practice' for development of that type. Standard good practice works methods which would be adopted by the Proposed Development, regardless of the presence of European sites, would include the implementation of pollution prevention measures following SEPA Guidance on Pollution Prevention (GPP) and Pollution Prevention Guidelines (PPG). Furthermore, under the Wildlife and Countryside Act 1981 (the 'WCA'), as amended by the Wildlife and Natural Environment (Scotland) Act 2011, it is an offence in Scotland to cause any animal or plant to spread or grow in the wild outside of its native range. Appropriate biosecurity measures will therefore also be implemented during works carried out during the construction, decommissioning and operational phases to prevent the spread of invasive non-native species. Such measures would be set out in a Biosecurity Management Plan, Construction Method Statement and/or other similar document(s).

4.1.3 Furthermore, all watercourse crossings will be designed following SEPA *Engineering in the water environment: Good practice guide for river crossings*[32] to ensure that the passage of fish (and other aquatic/amphibious animals) is maintained. Watercourse crossings will, therefore, by design allow migratory movements of fish species which may be associated with River Tay SAC.

4.1.4 The test of likely significant effects in this section is necessarily a high-level appraisal, with a precautionary approach adopted when reaching a conclusion. For those impacts for which likely significant effects cannot be 'screened out', further appraisal at the Appropriate Assessment stage of the HRA of the Proposed Development will be required.

4.2 Impacts With Pathways to European Sites

Impacts Screened Out of Further Appraisal

4.2.1 On the basis of the initial assessment described in Table 3-1, and considering NatureScot's guidance on the handling of mitigation in HRA, the following possible impacts have been screened out of further appraisal because: a) there is clearly no potential for them to occur, b) because such impacts would clearly not result in any significant effects on the qualifying features of any European site, and/or c) because standard good practice measures will be implemented which will incidentally (i.e. it is not their primary purpose) avoid significant adverse effects on the qualifying features of European sites:

- During the construction and decommissioning phases:
    - Loss of functionally-linked habitat;

[32] SEPA (2010). Engineering in the water environment: good practice guide. River crossings (2nd Edition). (online) Available at: https://www.sepa.org.uk/media/151036/wat-sg-25.pdf. [Accessed July 2024]

- Prevention of migratory movements of qualifying species.

- During the operational phase:
  - Direct loss of or damage to habitat within a European site;
  - Loss of functionally-linked habitat;
  - Prevention of migratory movements of qualifying species;
  - Changes to surface water or groundwater hydrology;
  - Waterborne pollution;
  - Airborne pollution;
  - Spread of invasive non-native species; and
  - Injury or mortality of qualifying species.

Impacts Tested for Likely Significant Effects

4.2.2 For all other construction and decommissioning phases and operational phase impacts given in Table 3-1, the European sites within the potential ZoI of the Proposed Development was established. Possible impacts are as follows:

- During the construction and decommissioning phases:
  - Direct loss of or damage to habitat within a European site;
  - Disturbance and displacement of qualifying species;
  - Injury or mortality of qualifying species;
  - Changes to surface water or groundwater hydrology;
  - Waterborne pollution;
  - Airborne pollution; and
  - Spread of invasive non-native species.
- During the operational phase:
  - Disturbance and displacement of qualifying species.

4.3 Screening Assessment

4.3.1 For each European site, the construction and/or operational phase impacts for which that site was determined to be within the ZoI of the Proposed Development are examined in Table 4-1to Table 4-6 for their potential to result in significant effects on the qualifying features.

4.3.2 Information on each European site relevant to the test of likely significant effects, including the list of qualifying features, Conservation Objectives, and known existing threats or pressures, was obtained from the NatureScot SiteLink website. A summary of this information for each European site is presented in Annex A.

Table 4-1 HRA Screening Assessment for the River Tay SAC

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		
Direct loss of or damage to habitat within a European site	Towers 90 and 91 are both within 50 m of the River Tay SAC and the OHL crosses over the SAC between these two towers. In order to access the towers to facilitate the works some tower foundation vegetation clearance will be required, which may go up to the SAC boundary. However, all works are terrestrial and the SAC is designated for its aquatic habitat (clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels). No in-channel works are proposed.	No
Disturbance and displacement of qualifying species	The River Tay SAC is designated for Atlantic salmon *Salmo salar*, brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis*, sea lamprey *Petromyzon marinus* and otter. Construction of a small number of watercourse crossings will be relatively minor and will take place over a very short period of time. It is highly unlikely that this level of disturbance would have any significant effect on the presence / distribution of fish in the impacted watercourses. Otter is a wide-ranging species, with home ranges extending up to around 40 km for males, and 16-21 km for females (Harris and Yalden, 2008). Towers 90 and 91 are both within 50 m of the River Tay SAC therefore, based on the home ranges given in Harris and Yalden, otter associated with the River Tay SAC could potentially occur within the vicinity of these two towers. There is also the potential for otters to be present within the wider area.	**Yes – to be taken through to Appropriate Assessment**
Injury or mortality of qualifying species	Construction works in come cases can cause mortality of fish. However, this is highly unlikely to be the case for the Proposed Development as the works will not be severe enough to cause mortality through vibrations in the water column and it is improbable, given their mobility, that fish would be directly injured during the few culvert works. A range of good practice mitigation measures, which are routinely implemented by developments of this type, and which can be considered at the HRA Screening stage, in accordance with NatureScot guidance, will minimise the risk of injury or mortality of any otters. However, even in the absence of such mitigation, the death of an individual otter, which is itself unlikely to be caused by the Proposed Development, is highly unlikely to significantly affect the population of the River Tay SAC. As set out in Annex A, otter is assessed as being in 'Favourable Maintained' condition in the site, and the loss of a single otter would be very unlikely to negatively affect the conservation status of this species within the SAC. Therefore, on the basis that: a) even in the absence of mitigation otter mortality would be rare and unlikely to result in a significant effect on the current favourable conservation status; and, b) that the likelihood of mortality is reduced even further by the implementation of standard best practice measures for general animal protection during construction works, it is concluded that there are no likely significant effects from otter mortality during the construction phase.	No
Changes to surface water or groundwater hydrology	Although there is a hydrological connection between the Proposed Development and the River Tay SAC, all watercourse crossings will be designed following good practice guidelines to ensure surface water conditions remain unchanged. There are no significant excavations proposed and therefore no changes to groundwater conditions within the SAC are likely.	No
Waterborne pollution	Any activity likely to cause pollution to the water environment must be carefully controlled and managed to prevent damage. Pollution control is managed by the Water Environment (Controlled Activities) (Scotland) Regulations 2011. A range of good practice mitigation measures, which are routinely implemented by developments of this type, and which can be considered at the HRA Screening stage, in accordance with NatureScot guidance, will minimise the risk of waterborne pollution.	No
Airborne pollution	Although not part of the Proposed Development (because no works are proposed), the A90 will be used by construction traffic associated with the Proposed Development. The A90 runs adjacent to the River Tay SAC, with approximately 1.65 km being within 200 m of the SAC, and a 183 m stretch of the M90 crosses over the SAC.	No

Impact Source	Potential Effects	Likely Significant Effects?
	As set out above, emissions from vehicles can have adverse effects on habitats up to a distance of approximately 200 m, while dust generated at construction site entrances can have impacts up to a distance of 50 m. However, for the following reasons, there will be no significant effects from airborne emissions on qualifying habitat of the River Tay SAC: the number of construction vehicles using the A90 and M90 will be low when compared to the number of vehicles using major trunk roads. It is therefore highly unlikely that there will be sufficient levels of pollution to result in changes to vegetation composition in the habitats within 200 m of the road; there will be no significant construction works. These relatively minor works will not have significant effects on vegetation composition within 50 m of the Proposed Development; and • to comply with other relevant legislation, dust suppression will be carried out, where necessary.	
Spread of invasive non-native species	The law on non-native species is covered by the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2012.). A range of good practice mitigation measures, which are routinely implemented by developments of this type and which can be considered at the HRA Screening stage, in accordance with NatureScot guidance, will minimise the risk of causing the spread of invasive species.	No
Operational Phase		
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. Most works will also take place during daylight hours, when otter are less active. It is therefore unlikely that disturbance would be caused, and even if this were to occur, it would be minor and temporary. There is consequently no likely significant effect on otter belonging to the River Tay SAC as a result of disturbance during the operational phase.	No

Table 4-2 HRA Screening Assessment for the Firth of Tay and Eden Estuary SPA

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		
Disturbance and displacement of qualifying species	The Proposed Development traverses primarily arable land, which is suitable foraging habitat for both greylag and pink-footed geese. The entirety of the Proposed Development lies within 20 km of the Firth of Tay and Eden Estuary SPA / Ramsar which, as per guidance from NatureScot[19], is within the core foraging range of both qualifying species. However, the Proposed Development will only affect a small proportion of the overall goose foraging resource at any one time and will be of short duration. It is therefore reasonable to conclude that there will be no likely significant effect on non-breeding geese. This conclusion has been acknowledged by NatureScot in their pre-application advice when stating that, based on information available at that time, it would be possible to reach a conclusion of no likely significant effects on non-breeding geese.	No

Impact Source	Potential Effects	Likely Significant Effects?
	The Firth of Tay and Eden Estuary SPA is also designated for breeding marsh harrier *Circus aeruginosus*. Marsh harriers have very specific nesting habitat requirements i.e., dense reedbed, none of which will be directly or indirectly impacted by the Proposed Development. It is therefore reasonable to conclude that there will be no likely significant effect on breeding marsh harrier. That habitats within the area covered by the Proposed Development are unsuitable for use by the SPA waterfowl assemblage, therefore it is reasonable to conclude that there will be no likely significant effect on this qualifying feature.	
Injury or mortality of qualifying species	Works involve the use of the existing towers to hang new insulators and change the wire configuration (change the current twin conductors to triple conductors). The SPA is designated for mobile features which will, by instinct, move away from danger therefore there is negligible, if any, risk of causing injury or mortality of qualifying species and therefore no likely significant effect.	No
Operational Phase		
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. For the reasons discussed for the construction and decommissioning phases, there is no likely significant effect on the qualifying features of the Firth of Tay and Eden Estuary SPA/ Ramsar as a result of disturbance during the operational phase.	No

Table 4-3 HRA Screening Assessment for Loch of Kinnordy SPA

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		
Disturbance and displacement of qualifying species	The Proposed Development traverses primarily arable land, which is suitable foraging habitat for both greylag and pink-footed geese. Towers 155 through to 182 lie within 20 km of Loch of Kinnordy SPA which, as per guidance from NatureScot[19], is within the core foraging range of both qualifying species. However, there are extensive foraging opportunities in the wider area here, and the Proposed Development will impact on relatively few fields over a short duration. It is therefore reasonable to conclude that there will be no likely significant effect on non-breeding geese. This conclusion has been acknowledged by NatureScot in their pre-application advice.	No
Injury or mortality of qualifying species	Works involve the use of the existing towers to hang new insulators and change the wire configuration (change the current twin conductors to triple conductors). The SPA is designated for mobile features which will, by instinct, move away from danger therefore there is negligible, if any, risk of causing injury or mortality of qualifying species and therefore no likely significant effect.	No
Operational Phase		

Impact Source	Potential Effects	Likely Significant Effects?
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. For the reasons discussed for the construction and decommissioning phases, there is no likely significant effect on the qualifying features of Loch of Kinnordy SPA as a result of disturbance during the operational phase.	No

Table 4-4 HRA Screening Assessment for Loch of Linrathen SPA

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		
Disturbance and displacement of qualifying species	The Proposed Development traverses primarily arable land, which is suitable foraging habitat for greylag goose. Towers 166 through to 182 lie within 20 km of Loch of Linrathen SPA which, as per guidance from NatureScot[19], is within the core foraging range of this qualifying species. However, there are extensive foraging opportunities in the wider area here, and the Proposed Development will impact on relatively few fields over a short duration. It is therefore reasonable to conclude that there will be no likely significant effect on non-breeding geese. This conclusion has been acknowledged by NatureScot in their pre-application advice.	No
Injury or mortality of qualifying species	Works involve the use of the existing towers to hang new insulators and change the wire configuration (change the current twin conductors to triple conductors). The SPA is designated for mobile features which will, by instinct, move away from danger therefore there is negligible, if any, risk of causing injury or mortality of qualifying species and therefore no likely significant effect.	No
Operational Phase		
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. For the reasons discussed for the construction and decommissioning phases, there is no likely significant effect on the qualifying features of Loch of Linrathen SPA as a result of disturbance during the operational phase.	No

Table 4-5 HRA Screening Assessment for the Outer Firth of Forth and St Andrews Bay Complex SPA

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		

Impact Source	Potential Effects	Likely Significant Effects?
Disturbance and displacement of qualifying species	The Proposed Development lies just over 12 km east form the Outer Firth of Forth and St Andrews Bay Complex SPA traverses primarily arable land. The SPA is designated for waterfowl and seabirds which are highly unlikely to travel inland to forage. Whilst herring gulls *Larus argentatus* are a generalist species, known to utilise both marine and terrestrial foraging habitats[33], however there are extensive foraging opportunities in the wider area, and the Proposed Development will impact on relatively few fields over a short duration. It is therefore reasonable to conclude that there will be no likely significant effect on herring gull. This conclusion has been acknowledged by NatureScot in their pre-application advice.	No
Injury or mortality of qualifying species	Works largely involve the use of the existing towers to hang new insulators and change the wire configuration (change the current twin conductors to triple conductors). There may also be a replacement tower (either Tower 129 or Tower 132) and the height of Towers 155 and 156 may increase by 2 m. The SPA is designated for mobile features which will, by instinct, move away from danger therefore there is negligible, if any, risk of causing injury or mortality of qualifying species and therefore no likely significant effect.	No
Operational Phase		
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. For the reasons discussed for the construction and decommissioning phases, there is no likely significant effect on the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA as a result of disturbance during the operational phase.	No

Table 4-6 HRA Screening Assessment for South Tayside Goose Roosts SPA

Impact Source	Potential Effects	Likely Significant Effects?
Construction and Decommissioning Phases		
Disturbance and displacement of qualifying species	The Proposed Development traverses primarily arable land, which is suitable foraging habitat for both greylag and pink-footed goose. Towers 66 through to 109 lie within 20 km of Dupplin Lakes SSSI component of the South Tayside Goose Roosts SPA which, as per guidance from NatureScot[19], is within the core foraging range of these qualifying species. However, there are extensive foraging opportunities in the wider area here, and the Proposed Development will impact on relatively few fields over a short duration. It is therefore reasonable to conclude that there will be no likely significant effect on non-breeding geese.	No
Injury or mortality of qualifying species	Works largely involve the use of the existing towers to hang new insulators and change the wire configuration (change the current twin conductors to triple conductors). There may also be a replacement tower (either Tower 129 or Tower 132) and the height of Towers 155 and 156 may increase by 2 m. The SPA is designated for mobile features which will, by instinct, move away from danger therefore there is negligible, if any, risk of causing injury or mortality of qualifying species and therefore no likely significant effect.	No

[33] Götmark, F. (1984). Food and foraging in five European Larus gulls in the breeding season: a comparative review. Ornis Fennica, 61: 9-18.

Impact Source	Potential Effects	Likely Significant Effects?
Operational Phase		
Disturbance and displacement of qualifying species	During the operational phase the presence of personnel and vehicles will be substantially reduced. For the reasons discussed for the construction and decommissioning phases, there is no likely significant effect on the qualifying features of South Tayside Goose Roosts SPA as a result of disturbance during the operational phase.	No

5. APPROPRIATE ASSESSMENT

5.1 Introduction

5.1.1 The potential for likely significant effects on the qualifying habitats and species of the following European sites was excluded at the HRA Screening stage:

- Firth of Tay and Eden Estuary SPA;
- Loch of Kinnordy SPA;
- Loch of Linrathen SPA;
- Outer Firth of Forth and St Andrews Bay Complex SPA; and
- South Tayside Goose Roosts SPA.

5.1.2 The Appropriate Assessment therefore considers only the River Tay SAC and assesses the potential for the likely significant effects which could not be excluded to give rise to adverse effects on the integrity of the site (i.e. disturbance and displacement of otter, a qualifying species of the SAC, during the construction and decommissioning phases).

5.1.3 This impact is considered in isolation, and an in-combination assessment is also included, considering the multiple impacts which could arise from the Proposed Development, and the possible impacts of other projects or plans.

5.2 Disturbance and Displacement of Qualifying Species

Construction and Decommissioning Phases

5.2.1 Signs of otter were recorded incidentally during the habitat surveys carried out by AECOM ecologists during 2023, which prompted further species-specific surveys to be undertaken (refer to Appendix 8.3, Volume 4). Surveys for otter were conducted between 3rd April and 1st August 2024. The survey covered all watercourses within the Works Footprint plus a buffer of 200 m for otter, as far as access was feasible and safe.

5.2.2 Evidence of otter searched for included refuges (holts and layups[34]), spraints (faeces), footprints, trails, and foraging signs. Where found, spraints were recorded as fresh, recent, or old, according to their apparent age.

5.2.3 Evidence of otter activity was found across the survey area along the Fithie Burn, Fallaws Burn, Lundie Burn, Dronley Burn, Balruddery Burn, Huntly Burn, Erskine Pow, Grange Pow, Pow of Errol, Cairnie Pow, and Bow Burn (or tributaries thereof), as well as on the banks of Lochmill Loch. A well-used spraint site was also found within Pitmedden Forest, not associated with any watercourse. Within the survey area, seven holts and 12 layups were recorded across Fithie Burn, Fallaws Burn, Lundie Burn, Grange Pow, Pow of Errol, Cairnie Pow, and Lochmill Loch.

5.2.4 Guidance from NatureScot[35] states that for site works in the vicinity of active otter holts, no works should be undertaken within 200 m of such breeding sites. However, this may be reduced to 100 m depending on the nature of the works, topography and natural screening. For holts and shelters where otters are not breeding, the exclusion zone should be 30 m. The guidance clearly states that ***"Where exclusion zones of the required size are not possible, works will require a licence from NatureScot before they can proceed."***

5.2.5 None of the recorded refuges are considered viable as natal holts. Furthermore, natal holts are generally difficult to find, since breeding female otters tend to be secretive and locate them such that they are not obvious, where

[34] A holt is a well-enclosed otter refuge, often a burrow or rock cavity. A layup is partially-sheltered and is typically of less importance.

[35] NatureScot (2020). Standing advice for planning consultations – Otters. (online) Available at: Standing advice for planning consultations – Otters. [Accessed: July 2024]

risk of cub predation is not high. Additionally, optimal habitat for otter breeding sites includes vast reed beds, lakes and ponds, deciduous woodland, young conifer plantations, extensive areas of scrub, features such as large areas of block stone or boulders, and buildings/structures immediately adjacent to watercourses[36]. The survey area predominantly comprises agricultural fields with few notable areas of these preferred habitats in the vicinity of watercourses, therefore, opportunities for breeding sites are limited.

5.2.6 Two of the holts are located within 30 m of the works:

- OH03 - NO3874437222 Fithie Burn, which is an enclosed area under large dead tree trunk. There are entrances from both the top bank and mid bank with an old spraint outside lower entrance. The holt is 10 m from the Works Footprint of Tower 180, as the access track runs adjacent to the burn; and
- OH07 - NO1892820232 Cairnie Pow, which is a tunnel into the bank under exposed roots, just above the water level, with many prints in soft silt at the entrance but no spraints outside. The holt is 15 m from the Works Footprint of Towers 92 and 93 as the access track crosses and runs adjacent to Cairnie Pow.

5.2.7 Three of the otter layups are located within 30 m of the works:

- OL03 - NO3874937214 Fithie Burn, a sheltered ledge on the midbank of the watercourse under exposed tree roots with 1 old spraint. The layup is 10 m from the Works Footprint of Tower 180, as the access track runs adjacent to the burn;
- OL04 - NO3874537219 Fithie Burn, a tunnel under exposed tree roots extending slightly into the bank. No signs of use by otter, however, activity has been recorded along the watercourse. The layup is 10 m from the Works Footprint of Tower 180, as the access track runs adjacent to the burn; and
- OL09 - NO2406524214 Pow of Errol, 4 recent spraints on a silty bank with some shelter offered by a fallen conifer. The layup is 15 m from the Works Footprint of Towers 113, 114 and 115 as the access track to these Towers runs adjacent to the Pow of Errol.

5.2.8 In order to avoid causing an adverse effect on the integrity of the River Tay SAC from disturbance and/or displacement of otter caused by the construction/ decommissioning of the Proposed Development, and to be in accordance with the relevant guidance, the following measures will be adopted:

- pre-construction otter surveys will be carried out to check for any new holts or resting places that may have become occupied after the original survey. Pre-construction surveys will be completed as close to the construction period as possible, and no more than three months before the start of works; and
- licence(s) will be obtained from NatureScot for works that would otherwise result in an offence with respect to European protected species (EPS).

5.2.9 With these measures in place **it can be concluded that there will be no adverse effect on the integrity of the River Tay SAC from disturbance and/or displacement of otters caused by the construction/ decommissioning of the Proposed Development.**

Operational Phase

5.2.10 Operational activities for the Proposed Development will be of much lower frequency and intensity than those associated with the construction phase. It is considered highly unlikely that the operational activities will be of such a level to result in disturbance/ displacement of otter. **It is therefore concluded that there will be no adverse effect on the integrity of the River Tay SAC from disturbance and/or displacement of otters caused by the operation of the Proposed Development.**

[36] Liles, G. (2003). Otter Breeding Sites. Conservation and Management, Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough.

5.3 In-combination Assessment

5.3.1 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location[18].

5.3.2 A list of schemes for which cumulative assessment may be necessary has been identified in Chapter 5: EIA Approach and Methodology. The full list of schemes is not reproduced here, but those most important to otter are considered to be those schemes which are within a few kilometres of the Proposed Development as otters have very large home ranges, are adaptable and are generally not very sensitive to disturbance.

5.3.3 On this basis, the closest large scheme is the Alyth – Tealing 275 kV OHL upgrade. This scheme is 1.55 km away at its closet point, with shared access tracks. This scheme has been subject to its own HRA which concluded that, with appropriate mitigation in place, there would be no adverse no adverse effect on the integrity of the River Tay SAC from disturbance and/or displacement of otters either alone, or in-combination with other schemes. **There are therefore no in-combination effects between the Proposed Development and another scheme.**

5.4 Conclusion

5.4.1 Six European sites were determined to be within the potential zone of influence of the Proposed Development: River Tay SAC; Firth of Tay and Eden Estuary SPA; Loch of Kinnordy SPA; Loch of Linrathen SPA; Outer Firth of Forth and St Andrews Bay Complex SPA and South Tayside Goose Roosts SPA.

5.4.2 Likely significant effects on the qualifying features of the Firth of Tay and Eden Estuary SPA; Loch of Kinnordy SPA; Loch of Linrathen SPA; Outer Firth of Forth and St Andrews Bay Complex SPA and South Tayside Goose Roosts SPA were screened out. However, this could not be done for the following potential impact on the qualifying otter population of the River Tay SAC:

- disturbance and/or displacement of qualifying species during the construction, decommissioning and operational phases of the Proposed Development.

5.4.3 Detailed Appropriate Assessment, based on the results of field survey determined that any impacts from the Proposed Development on otters outside of the designated site boundary would not adversely affect the integrity of the SAC with appropriate mitigation, in line with NatureScot guidance.

5.4.4 This Statement to Inform Habitats Regulations Appraisal therefore concludes that **the construction, decommissioning and operation of the Proposed Development will not result in adverse effects on the integrity of any European site, either alone or in-combination with other projects or plans**.

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ANNEX A – FIGURE 1: EUROPEAN SITES WITHIN THE ZONE OF INFLUENCE OF THE PROPOSED DEVELOPMENT

Scottish & Southern Electricity Networks
TRANSMISSION

orms
Islands
Shingle Islands
Shingle Islands
Shingle Islands
Shingle Islands
Forest of Clunie
Dun Moss and Forest of Alyth Mires
Loch of Lintrathen
Loch of Kinnordy
River South Esk
River South Esk
Montrose Basin
Craighall Gorge
Dunkeld - Blairgowrie Lochs
Dunkeld - Blairgowrie Lochs
Dunkeld - Blairgowrie Lochs
River Tay
Barry Links
Firth of Tay and Eden Estuary
Methven Moss
South Tayside Goose Roosts
Pitkeathly Mires
Turflundie Wood
Cameron Reservoir
Loch Leven
Firth of Forth
Outer Firth of Forth and St Andrews Bay Complex
Isle of May
Forth Islands

Scale @ A3: 1:250,000
0 1 2 4 6 km

Legend

- Proposed Route Alignment
- Route Buffer - 20km
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)

Project No: 60703541
Project:Alyth-Tealing Overhead Line (OHL) 400kV Upgrade

Title:
European Sites within the Zone of Influence of the Development

Drawn by: CD Date: 22/08/2024

Drawing: Figure 1

ANNEX B – INFORMATION ON EUROPEAN SITES WITHIN THE ZONE OF INFLUENCE OF THE PROPOSED DEVELOPMENT

Overview

Below are details on the European sites which were established through this Statement to Inform Habitats Regulations Appraisal to be within the potential zone of influence of the construction, decommissioning and/or operation of the Proposed Development.

River Tay SAC

The River Tay is the longest river in Scotland and the seventh-longest in Great Britain. The Tay originates in western Scotland on the slopes of Ben Lui (Scottish Gaelic: Beinn Laoigh), then flows easterly across the Highlands, through Loch Dochart, Loch Iubhair and Loch Tay, then continues east through Strathtay, in the centre of Scotland, then southeasterly through Perth, where it becomes tidal, to its mouth at the Firth of Tay, south of Dundee. It is the largest river in the United Kingdom by measured discharge[37]. Its catchment is approximately 2,000 square miles (5,200 square kilometres).

Qualifying Features

The qualifying features [and latest condition] of the River Tay SAC are:

- Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea i.e., clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels [Favourable Maintained];
- Atlantic salmon Salmo salar [Favourable Maintained];
- Brook lamprey Lampetra planeri [Favourable Maintained];
- River lamprey Lampetra fluviatilis [Favourable Maintained];
- Sea lamprey Petromyzon marinus [Favourable Maintained]; and
- Otter Lutra lutra [Favourable Maintained].

Conservation Objectives

The Conservation Objectives for **clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels (Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*)** are:

1. To ensure that the qualifying feature of the River Tay SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of the River Tay is maintained by meeting objectives 2a, 2b and 2c for the qualifying feature.

[37] Hydrological Observatory description https://web.archive.org/web/20110720171434/https://www.peer.eu/fileadmin/user_upload/projects/flagship_projects/PEER_Euraqua/Tay%20UK.pdf

	2a	2b	2c
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels (Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*)	Maintain the extent and distribution of clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels within the site.	Maintain the structure, function and supporting processes of clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.	Maintain the distribution and viability of typical species of clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.

The Conservation Objectives for **all species features** are:

1. To ensure that the qualifying features of River Tay SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of the River Tay is maintained by meeting objectives 2a, 2b and 2c for each qualifying feature.

	2a	2b	2c
Sea lamprey, brook lamprey and river lamprey	Maintain the population of the lamprey species' as viable components of the site.	Maintain the distribution of the lamprey species' throughout the site.	Maintain the habitats supporting the lamprey species' within the site, and availability of food.
Atlantic salmon	Maintain the population of Atlantic salmon, including range of genetic types, as a viable component of the site.	Maintain the distribution of Atlantic salmon throughout the site.	Maintain the habitats supporting Atlantic salmon within the site and availability of food.
Otter	Maintain the population of otter as a viable component of the site.	Maintain the distribution of otter throughout the site.	Maintain the habitats supporting otter within the site and availability of food.

Further information on Conservation Objectives for the qualifying features can be found in the Conservation Advice Package for the River Tay SAC.

Negative Pressures

Negative pressures identified for **clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels** are:

- water management.

Negative pressures identified for **Atlantic salmon** are:

- extraction;
- game/ fisheries management;
- invasive species;
- water management; and
- water quality.

Negative pressures identified for **brook lamprey, river lamprey and sea lamprey** are:

- development;
- water management; and
- water quality.

Negative pressures identified for **otter** are:

- agricultural operations;
- invasive species;
- recreation/ disturbance; and
- water management.

Firth of Tay and Eden Estuary SPA

The Firth of Tay and Eden Estuary SPA is a complex of estuarine and coastal habitats in eastern Scotland from the mouth of the River Earn in the inner Firth of Tay, east to Barry Sands on the Angus coast and St Andrews on the Fife coast. For much of its length the main channel of the estuary lies close to the southern shore and the most extensive intertidal flats are on the north side, west of Dundee. In Monifieth Bay, to the east of Dundee, the substrate becomes sandier and there are also mussel beds. The south shore consists of fairly steeply shelving mud and shingle. The Inner Tay Estuary is particularly noted for the continuous dense stand of common reed along its northern shore. These reedbeds, inundated during high tides, are amongst the largest in Britain. Eastwards, as conditions become more saline, there are areas of saltmarsh, a relatively scarce habitat in eastern Scotland.

Qualifying Features

The qualifying features [and latest condition] of the Firth of Tay and Eden Estuary SPA are:

Regularly supporting populations of European importance of the Annex I species:

- Marsh harrier *Circus aeruginosus* [Favourable Maintained];
- Little tern *Sternula albifrons* [Unfavourable No change]; and
- Bar-tailed godwit *Limosa lapponica* [Favourable Declining].

Regularly supporting populations of European importance of the migratory species:

- Redshank *Tringa tetanus* [Favourable Declining];
- Greylag goose *Anser anser* [Unfavourable Declining]; and
- Pink-footed goose *Anser brachyrhynchus* [Favourable Maintained].

Regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of the following species [Favourable Maintained]:

- Velvet scoter *Melanitta fusca* [Unfavourable Declining];
- Pink-footed goose [Favourable Maintained];
- Graylag goose [Unfavourable Declining];
- Redshank [Favourable Declining];
- Cormorant *Phalacrocorax carbo* [Favourable Maintained];
- Shelduck *Tadorna tadorna* [Unfavourable Declining];
- Eider *Somateria mollissima* [Favourable Recovered];

- Bar-tailed godwit [Favourable Declining];
- Common scoter *Melanitta nigra* [Unfavourable Declining];
- Black-tailed godwit *Limosa limosa islandica* [Favourable Maintained];
- Goldeneye *Bucephala clangula* [Unfavourable Declining];
- Red-breasted merganser *Mergus serrator* [Unfavourable Declining];
- Goosander *Mergus merganser* [Favourable Maintained];
- Oystercatcher *Haematopus ostralegus* [Favourable Maintained];
- Grey plover *Pluvialis squatarola* [Favourable Maintained];
- Sanderling *Calidris alba* [Favourable Maintained];
- Dunlin *Calidris alpina alpina* [Favourable Declining]; and
- Long-tailed duck *Clangula hyemalis* [Unfavourable Declining].

Conservation Objectives

To avoid deterioration of the habitats of the qualifying species (listed above) 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:

- population of the species as a viable component of the site;
- distribution of the species within site;
- distribution and extent of habitats supporting the species;
- structure, function and supporting processes of habitats supporting the species; and
- no significant disturbance of the species.

Negative Pressures

Negative pressures identified for **black-tailed godwit** are:

- recreation/ disturbance; and
- water management.

Negative pressures identified for **little tern** are:

- natural event.

Negative pressures identified for **marsh harrier** are:

- recreation/ disturbance.

Negative pressures identified for **pink-footed goose** are:

- natural event; and
- recreation/ disturbance – dog walking.

Negative pressures identified for **redshank** are:

- invasive species.

Negative pressures identified for **waterfowl assemblage, non-breeding** are:

- climate change; and

- recreation/ disturbance.

Loch of Kinnordy SPA

Loch of Kinnordy SPA is a eutrophic loch with associated wet meadows and marshes. The site is of international importance for its wintering and breeding birds.

Qualifying Features

The site qualifies as a SPA by regularly supporting populations of European importance of the migratory species:

- Greylag goose [Unfavourable Recovering];
- Pink-footed goose [Unfavourable No change].

Conservation Objectives

To avoid deterioration of the habitats of the qualifying species (listed above) 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:

- population of the species as a viable component of the site;
- distribution of the species within site;
- distribution and extent of habitats supporting the species;
- structure, function and supporting processes of habitats supporting the species; and
- no significant disturbance of the species.

Negative Pressures

NatureScot's Sitelink does not identify any negative pressures.

Loch of Linrathen SPA

This inland loch is a reservoir for Angus and Dundee. During the summer, the area is home to breeding songbirds, and in winter, large numbers of wintering birds, particularly greylag geese.

Qualifying Features

The site qualifies as a SPA by regularly supporting, in winter, internationally important numbers of the following species:

- Greylag goose [Unfavourable No change].

Conservation Objectives

To avoid deterioration of the habitats of the qualifying species (listed above) 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:

- population of the species as a viable component of the site;
- distribution of the species within site;
- distribution and extent of habitats supporting the species;
- structure, function and supporting processes of habitats supporting the species; and

- no significant disturbance of the species.

Negative Pressures

NatureScot's Sitelink does not identify any negative pressures

Outer Firth of Forth and St Andrews Bay Complex SPA

The Outer Firth of Forth and St Andrews Bay Complex is an extensive SPA off the south-east coast of Scotland. It stretches from Arbroath in the North to St Abb's Head in the South and encompasses the Firth of Forth, the outer Firth of Tay and St Andrews Bay. The waters in this SPA attract one of the largest and most diverse marine bird concentrations in Scotland and the site is classified for the protection of 21 seabird and waterbird species.

Qualifying Features

The qualifying features [and latest condition] of the Outer Firth of Forth and St Andrews Bay Complex SPA are:

Regularly supporting a non-breeding population of European importance of the following Annex 1 species:

- Red-throated diver *Gavia stellata* [Favourable Maintained];
- Slavonian grebe *Podiceps auratus* [Favourable Maintained];
- Little gull *Larus minutus* [Favourable Maintained];
- Common tern *Sterna hirundo* [Favourable Maintained]; and
- Arctic tern *Sterna paradisaea* [Favourable Maintained].

Regularly supporting populations of European importance of the following migratory waterfowl species:

- Eider [Favourable Maintained].

Regularly supporting in excess of 20,000 individual waterfowl including nationally important populations of the following species [Favourable Maintained]:

- Long-tailed duck [Favourable Maintained];
- Common scoter [Favourable Maintained];
- Velvet scoter [Favourable Maintained];
- Goldeneye [Favourable Maintained]; and
- Red-breasted merganser [Favourable Maintained].

Regularly supporting populations of European importance of the following migratory species of seabird:

- European shag *Phalacrocorax aristotelis* [Favourable Maintained]; and
- Northern gannet *Morus bassanus* [Favourable Maintained].

Regularly supporting in excess of 20,000 individual seabirds during the breeding season including nationally important populations of the following species [Condition Not Assessed]:

- Atlantic puffin *Fratercula arctica* [Favourable Maintained];
- Black-legged kittiwake *Rissa tridactyla* [Favourable Maintained];
- Manx shearwater *Puffinus puffinus* [Favourable Maintained];
- Common guillemot *Uria aalge* [Favourable Maintained]; and
- Herring gull *Larus argentatus* [Favourable Maintained].

Regularly supporting in excess of 20,000 individual seabirds during the non-breeding season including nationally important populations of the following species [Favourable Maintained]:

- Black-headed gull *Chroicocephalus ridibundus* [Favourable Maintained];
- Common gull *Larus canus* [Favourable Maintained];
- Herring gull [Favourable Maintained];
- Common guillemot [Favourable Maintained];
- European shag [Favourable Maintained];
- Black-legged kittiwake [Favourable Maintained]; and
- Razorbill *Alca torda* [Favourable Maintained].

Conservation Objectives

1. 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.
2. 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 objectives 2a, 2b and 2c for each qualifying feature:
    a. The populations of the qualifying features are viable components of the Outer Firth of Forth and St Andrews Bay Complex SPA.
    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 qualifying features and their prey resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.

Negative Pressures

The following tables show activities which are considered capable of affecting the protected features of the Outer Firth of Forth and St Andrews Bay Complex SPA. Where a cell is coloured grey this indicates that management is already in place, this includes where there are existing regulatory requirements for new proposals. Cells are also coloured grey where it is considered there is no additional management required to achieve the Conservation Objectives. An * has been used to highlight those activities to which the advice under 'Boat use associated with both commercial and recreational activities' also applies.

Waterfowl

Red-throated diver, Slavonian grebe, red-breasted merganser	**Eider, goldeneye, common scoter, scaup, long-tailed duck, velvet scoter**
Activities considered capable of affecting the protected features	
Boat use associated with both commercial and recreational activities.	
Coastal development	
Commercial shipping*	
Dredging/extraction of material* (inc. maintenance dredging and capital dredging)	
Fishing – demersal mobile/active gear (inc. mechanical trawls and benthic trawls)*	
Fishing – hydraulic dredge*	
Fishing – cockle hand gathering and tractor dredging	
Fishing – static gear (drift nets and bottom set nets inc. fyke nets)*	
Fishing – hand gathering of mussels and oysters	

Red-throated diver, Slavonian grebe, red-breasted merganser	**Eider, goldeneye, common scoter, scaup, long-tailed duck, velvet scoter**
	Fishing – intertidal shellfish and bait digging.
Fishing – pelagic*	
Infrastructure – cables*	
Marine disposal sites*	
Ports and harbours (inc. development and ship-to-ship transfer)	
Renewable energy (wind)	
Tourism & recreation (inc. jet-skiing, wildfowling, angling, boating, diving, kayaking)	
Seaweed harvesting	
Wildlife tour operators*	

Seabirds

Arctic tern, common tern, kittiwake, gannet, guillemot, puffin, Manx shearwater, razorbill.	**Black-headed gull, little gull, common gull, herring gull**	**European shag**
Activities considered capable of affecting the protected features		
Boat use associated with both commercial and recreational activities.		
Coastal development		
Commercial shipping*		
Dredging/extraction of material* (inc. maintenance dredging and capital dredging)		
Fishing – demersal mobile/active gear (inc. mechanical trawls and benthic trawls)*		
Fishing – hydraulic dredge*		
Fishing – cockle hand gathering and tractor dredging		
Fishing – static gear (drift nets and bottom set nets inc. fyke nets)*		**Fishing – static gear (drift nets and bottom set nets inc. fyke nets)***
Fishing – hand gathering of mussels and oysters		
Fishing – intertidal shellfish and bait digging.		
Fishing – pelagic*		
Infrastructure – cables*		
Marine disposal sites*		
Ports and harbours (inc. development and ship-to-ship transfer)		
Renewable energy (wind)		
Tourism & recreation (inc. jet-skiing, wildfowling, angling, boating, diving, kayaking)		
Seaweed harvesting		
Wildlife tour operators*		

South Tayside Goose Roosts SPA

South Tayside Goose Roosts SPA comprises seven lochs, a number of smaller water bodies and other wetland habitats in Strathearn and Strathallan to the west of Perth. The site is overlapped completely by parts of three Sites of Special Scientific Interest (SSSI): Carsebreck and Rhynd Lochs SSSI, Drummond Lochs SSSI, and Dupplin Lakes SSSI.

Qualifying Features

The qualifying features [and latest condition] of the South Tayside Goose Roosts SPA are:

Regularly supporting populations of European importance of the migratory species:

- Greylag goose [Unfavourable Declining];
- Pink-footed goose [Unfavourable Declining]; and
- Wigeon [Condition Not Assessed].

Regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of the following species [Favourable Declining]:

- Pink-footed goose [Unfavourable Declining]; and
- Greylag goose [Unfavourable Declining].

Conservation Objectives

To avoid deterioration of the habitats of the qualifying species (listed above) 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:

- population of the species as a viable component of the site;
- distribution of the species within site;
- distribution and extent of habitats supporting the species;
- structure, function and supporting processes of habitats supporting the species; and
- no significant disturbance of the species.

Negative Pressures

Negative pressures identified for **greylag goose** are:

- climate change.

Negative pressures identified for **pink-footed goose** are:

- Forestry operations.

Negative pressures identified for **wigeon** are:

- proactive on-site management;
- recreation/ disturbance; and
- undergrazing.

No negative pressures have been identified for the **waterfowl assemblage.**