March 2025

Glen Earrach Pumped Storage Hydro

Environmental Impact Assessment Report

Volume 5: Appendices
Appendix 7.2: Statement to Inform HRA

Glen Earrach Energy Ltd

Glen Earrach AECOM

Quality information

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Issue History

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Table of Contents

Figures

Tables

1. Introduction

1.1 Background

1.1.1 This appendix (**Appendix 7.2: Statement to Inform Habitat Regulations Assessment (Volume 5: Appendices)** accompanies **Chapter 7: Terrestrial Ecology, Chapter 8: Ornithology, and Chapter 9: Aquatic & Marine Ecology** of the Environmental Impact Assessment Report (EIAR) (**Volume 2: Main Report**). 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)[1] of the Proposed Development are shown on **Figure 7.2.1: European Sites Within the Zone of Influence of the Proposed Development**, within **Section 9: Figures**, at the end of this document.

1.1.2 Although 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 The Proposed Development is described in **Chapter 2: Project and Site Description** (**Volume 2: Main Report**). In summary, the main components are a large Headpond ringed with Embankments just west of Meall Fuar-mhonaidh, reached by access tracks from the River Coiltie area to the north and with underground power-related infrastructure and tunnels for water and access, and a Tailpond with Lower Control Works (LCW) (controlling water intake and outflow from Loch Ness) at the edge of Loch Ness and connected to the Headpond via further tunnels. Tunnels that pass northwards from the Headpond emerge at portals towards the River Coiltie, where there are several compounds including a large Temporary Workers Accommodation compound.

1.3 Legislative Context

1.3.1 Under the Habitats Regulations[2], a network of sites has been designated across Scotland for the purposes of nature conservation. This network comprises sites known as SACs and SPAs. 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 SACs and SPAs 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 SACs and SPAs (including any which are designated following the UK's exit from the EU)[3].

1.3.3 The Habitats Regulations or, for reserved matters, the 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)[4].

[1] The Zone of Influence of a project is the area over which ecological features may be impacted by biophysical changes as a result of its construction/operation and associated activities.
[2] The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended), more commonly referred to as the 'Habitats Regulations'.
[3] Scottish Government (2020). EU Exit: The Habitats Regulations in Scotland. December 2020. Available from: https://www.gov.scot/publications/eu-exit-habitats-regulations-scotland-2/.
[4] In the past, the term 'Appropriate Assessment' has been used to describe both the overall process and a particular stage of that process. The term 'Habitat Regulations Appraisal' has come into use in order to refer to the process that leads to an Appropriate Assessment, thus avoiding confusion. Throughout this document, HRA is used to refer to the overall procedure required by the Habitats Regulations.

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);
- Possible / 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, potential and proposed SACs / SPAs, and SCI.

1.3.6 At the time of preparing this Statement to Inform Habitats Regulations Appraisal, the Scottish Government had published a consultation paper seeking views on proposals to treat Wetlands of International Importance (more commonly known as 'Ramsar sites') in the same way as European sites, for the purposes of HRA[5]. As this proposal was still in the consultation phase, this Statement to Inform Habitats Regulations Appraisal has not specifically considered Ramsar sites, or the features for which they are designated. However, there are no Ramsar sites that are not also designated as SACs or SPAs which could be impacted by the Proposed Development. Consequently, should it become Scottish Government policy to require Ramsar sites to be included in HRA, the information and assessment provided in this document is considered to be sufficient to enable this to be carried out by the Competent Authority.

1.3.7 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.

1.3.8 The Competent Authority responsible for carrying out a HRA is the relevant consenting body for a project – in this case the Scottish Ministers. The Competent Authority is required to apply the Precautionary Principle[6], 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, and these should be in place and effective before the negative effect(s) on a European site begins.

1.3.9 Although the UK is no longer part of the EU, a series of prior rulings of the Court of Justice of the European Union (CJEU) are relevant and must be considered when conducting HRA. Some of the rulings which are of relevance, and which have been considered when preparing this Statement to Inform Habitats Regulations Appraisal, are described in NatureScot guidance[7; 8; 9].

1.3.10 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.

[5] https://www.gov.scot/publications/proposals-amend-scottish-government-policy-protection-afforded-certain-ramsar-features-consultation-paper/.

[6] The Precautionary Principle: the "*absence of scientific evidence on the significant negative effects of an action cannot be used as justification for the approval of this action. When applied to Article 6(3) procedure, the Precautionary Principle implies that the absence of a negative effect on European sites has to be demonstrated before a plan or project can be authorised. In other words, if there is a lack of certainty as to whether there will be any negative effects, then the plan or project cannot be approved",* taken from European Commission (2021).

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

[8] SNH (2015). Habitats Regulations Appraisal of Plans. Guidance for Plan-making Bodies in Scotland. Version 3 – January 2015. Available from: https://www.nature.scot/habitats-regulations-appraisal-plans-guidance-plan-making-bodies-scotland-jan-2015.

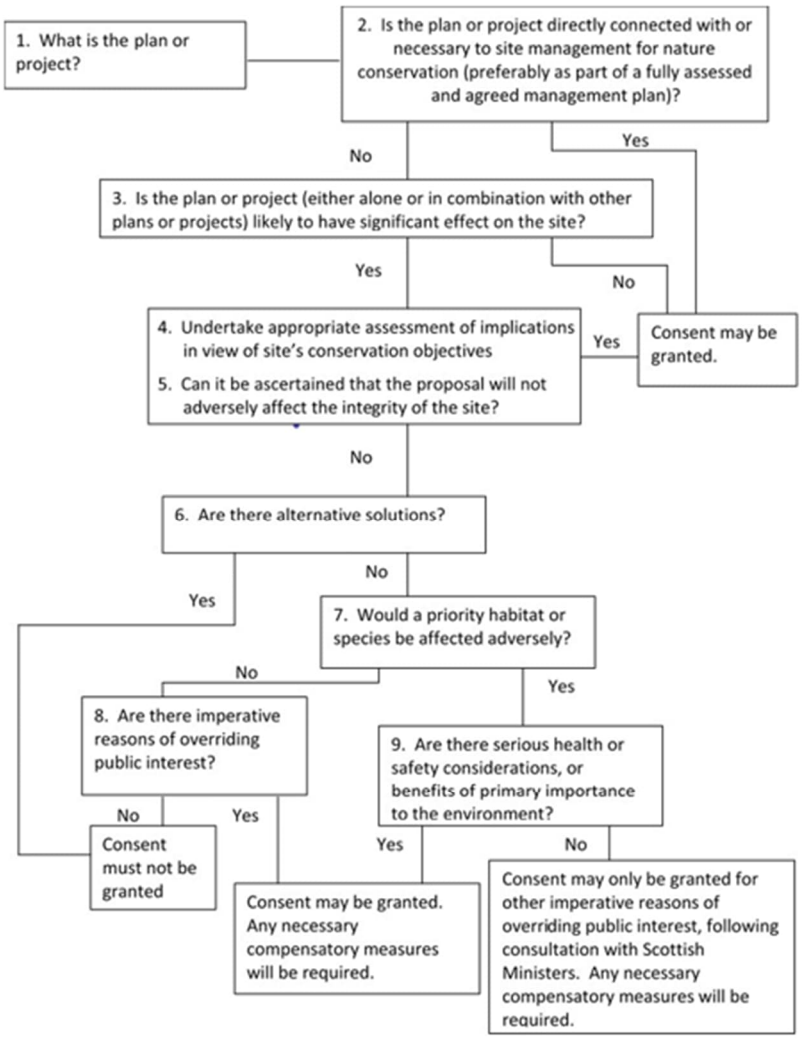
[9] SNH (2019). SNH Guidance Note: The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind CJEU judgement. Available from: https://www.nature.scot/habitats-regulations-appraisal-plans-guidance-plan-making-bodies-scotland-jan-2015.

1.4 Overview of HRA Process

1.4.1 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.

1.4.2 NatureScot recommends an approach for HRA of plans or projects, which is outlined as a series of thirteen steps[8]. However, with cognisance of case law clarifying when mitigation can be taken into account in the HRA process[10], this has been revised and a flow chart with nine steps is provided on the NatureScot website, and which is reproduced as **Diagram 1: Stages of the HRA Process**. Further guidance published by NatureScot on HRA also sets out the methods for assessing whether plans or projects will affect a European site[7].

Diagram 1: Stages of the HRA Process (taken from NatureScot online guidance[11])



1.4.3 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);
- HRA Activity 2: Appropriate Assessment;
- HRA Activity 3: Assessment of alternative solutions; and

[10] People Over Wind and Sweetman v Coillte Teoranta (C-323/17).
[11] https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra.

- HRA Activity 4: Assessment of IROPI, where no alternative solutions exist and where adverse effects remain.

1.4.4 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 – is required.

1.4.5 Appropriate Assessment considers in more detail the possibility that the likely significant effects of a project identified at the HRA Screening could result 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

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 Scottish Ministers, 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.

1.6 Quality Assurance and Statement of Authority

1.6.1 This Statement to Inform Habitats Regulations Appraisal, and the assessment described within it, has been completed in accordance with the AECOM Integrated Management System (IMS). AECOM's IMS places emphasis on professionalism, technical excellence, quality, as well as covering health, safety, environment and sustainability management. All AECOM staff members are committed to maintaining AECOM's accreditation to those parts of BS EN ISO 9001:2015 and 14001:2015 that are relevant to a consultancy service.

1.6.2 The assessment was carried out by AECOM ecologists with experience in conducting such appraisals. All are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) at the appropriate grade and adhere to their strict Code of Professional Conduct[12].

1.6.3 The document was prepared by:

- Tony Marshall, AECOM Technical Director. Tony is a Chartered Ecologist and a full member of CIEEM. He holds a 1st Class BSc (Hons) degree in Biological Sciences (Ecology) from the University of Edinburgh. Tony leads AECOM's ecology team in Scotland, Ireland, Wales and the south-west of England. He has worked for fifteen years as a professional ecologist on projects for private and public sector clients. These have ranged from large-scale infrastructure developments to conservation projects. For example, Tony was the author of the Statement to Inform Habitats Regulations Appraisal for the proposed Balliemeanoch Pumped Storage Hydro Scheme, in Argyll, and provided quality assurance on the HRA documentation for the consented Red John Pumped Storage Hydro Scheme (now known as Loch na Cathrach), on the east side of Loch Ness, near Dores;
- Nick Dadds, AECOM Associate Director. A full member of CIEEM with twenty years of professional ecologist experience. Specialising in habitats, he has worked on other pumped storage hydro schemes including Red John (now Loch na Cathrach), and a range of other energy-related projects including wind farms, power stations and overhead lines;
- Pete Cowley, AECOM Technical Director. A full member of CIEEM with 25 years experience, 14 as an ecologist. An Aquatic Ecologist specialising in biological water quality, aquatic protected species, and aquatic habitat management and mitigation. Pete has worked on other pumped storage hydro schemes including Red John (now Loch na Cathrach), and a range of large-scale infrastructure projects including water transfer schemes, and energy-related projects including wind farms and solar farms; and
- Robbie Watt, AECOM Associate Director. Robbie is an Associate member of CIEEM and holds BSc (Hons) and MRes degrees from the University of Glasgow and University of Lund respectively. Robbie has over ten years experience as a professional ecologist and in that time has authored a

[12] CIEEM (2022). Code of Professional Conduct. February 2022. Chartered Institute of Ecology and Environmental Management, Winchester.

number of HRA documents for projects in Scotland including numerous energy infrastructure projects. With respect to HRA, Robbie has attended ‘Masterclass’ training courses provided by David Tyldesley and Associates, recognised experts in this field.

1.6.4 This Statement to Inform Habitats Regulations Appraisal was verified by Dr James Riley CEnv MCIEEM. James is a Technical Director and leads AECOM’s HRA business across the UK and Ireland. He holds an Honours degree in ecology, a Master’s degree in crop protection and a Doctorate in habitat restoration. He has been working on HRA Screening and Appropriate Assessment for 22 years. James is a co-author of Institute of Air Quality Management (IAQM) guidance on air quality assessment of nature conservation sites and is a co-author of CIEEM guidance on the same subject[13]. He has lectured on HRA at Imperial College, London, and is a recognised national expert on the subject. Projects include Nationally Significant Infrastructure Projects for National Highways, Luton Airport, National Grid, BP and Boom Power.

[13] CIEEM (2023). Advisory Note: Ecological Assessment of Air Quality Impacts. Version 2 – October 2023. Chartered Institute of Ecology and Environmental Management, Winchester.

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:

- NatureScot webpage on HRA[14]
- 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[15];
- Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC[16];
- Natura Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)[7];
- Habitats Regulations Appraisal of Plans. Guidance for Plan-making bodies in Scotland[8]; and
- SNH Guidance Note. The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind CJEU judgement[9].

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 website[17].

2.1.3 Plans and projects (where relevant to in-combination assessment) were searched for via The Highland Council (THC) website[18] and planning portal and ECU website[19].

2.2 Desk Study and Field Survey

2.2.1 Desk study and targeted field surveys 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 (Section 4), further below.

Desk Study

2.2.2 A desk study was carried out to identify records of the qualifying species of potentially relevant European sites, and other information pertaining to such sites. The desk study was carried out using the data sources detailed in **Table 2-1 Desk Study Data Sources**.

Table 2-1 Desk Study Data Sources

Data Source	Date Last Accessed	Data Obtained
The Highland Council website (https://www.highland.gov.uk/)	20 January 2025	• Information on planning applications for cumulative assessment. • Local Development Plan policies relevant to nature conservation
ECU website (https://www.energyconsents.scot/ApplicationSearch.aspx)	20 January 2025	• Information on applications for consent relevant to cumulative assessment.
NatureScot SiteLink website (https://sitelink.nature.scot/home)	14 October 2024	• Information on international and national statutory designations within the ZoI of the Proposed Development.

[14] https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra.
[15] 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. Available from: https://ec.europa.eu/environment/nature/natura2000/management/pdf/methodological-guidance_2021-10/EN.pdf.
[16] European Commission (2019). Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats Directive' 92/43/EEC. Available from: https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/EN_art_6_guide_jun_2019.pdf.
[17] https://sitelink.nature.scot/home.
[18] https://www.highland.gov.uk/info/180/planning_-_applications_warrants_and_certificates/143/planning_permission/4.
[19] https://www.energyconsents.scot/ApplicationSearch.aspx.

Data Source	Date Last Accessed	Data Obtained
NBN Atlas Scotland (https://scotland.nbnatlas.org/)	08 November 2024	• Commercially available records of qualifying species within 1 km of the Proposed Development Site, made in the last ten years (2015-2024), including those collated by Highland Biological Records Group (HBRG).
NatureScot	26 November 2024	• Information on golden eagle *Aquila chrysaetos* territories within Natural Heritage Zone (NHZ) 7.
Royal Society for the Protection of Birds (RSPB)	24 February 2025	• Information on the breeding locations of Slavonian grebe.
Highland Raptor Study Group	18 June 2024	• Information on the breeding locations of raptors within approximately 6 km of the Proposed Development Site, made since 2013.
Black-throated diver national surveys in Scotland (available from NBN Atlas Scotland; data provided by the RSPB)	17 October 2024	• Data on the locations of black-throated diver *Gavia arctica* breeding sites, found by the national surveys carried out in Scotland in 1985, 1994 and 2006.
SEPA (Freedom of Information Request)	29 February 2024	• Fresh Water Pearl Mussel records within the ZoI of the Proposed Development. • Wider aquatic ecology records within the ZoI of the Proposed Development.
SEPA Water Environment Hub	03 January 2025	• Water Framework Directive (WFD) status of ecological parameters for watercourses within the ZoI of the Proposed Development. • Barriers to fish migration (natural and artificial) within the ZoI of the Proposed Development.
Ness Catchment Biosecurity Plan 2021 -2030 (https://www.invasivespecies.scot/sites/sisi8/files/Ness-Biosecurity-Plan-2020-v1.1-161220.pdf)	19 December 2024	• Invasive and non-native species (INNS) recorded within the ZoI of the Proposed Development.
National Electrofishing Programme for Scotland	29 February 2024	• Results of electric fishing surveys completed within the ZoI of the Proposed Development.
University of Otago and University of Highlands and Islands	12 December 2024	• Results of an eDNA study in Loch Ness as part of the Loch Ness Project.
Ness District Salmon Fisheries Board	12 April 2024	• Salmonoid catch returns data within the ZoI of the Proposed Development.
SEPA *Obstacles to Fish Migration* map	12 December 2024	• Obstacles to fish passage both natural and artificial within the ZoI of the Proposed Development.

Field Survey

2.2.3 A range of ecological and ornithological field surveys were carried out for the Proposed Development. Those relevant to this Statement to Inform Habitats Regulations Appraisal, because they concern qualifying habitat or species of relevant European sites, were habitat survey at Urquhart Bay Wood SAC, and surveys for Slavonian grebe *Podiceps auritus*, red-throated diver *Gavia stellata*, otter *Lutra lutra*, fish including Atlantic salmon *Salmo salar*, and freshwater pearl mussel (FWPM) *Margaritifera margaritifera*. A description of the survey methods used for these species is given below.

2.2.4 The survey areas adopted for the above species surveys were derived from an earlier design iteration of the Proposed Development, as presented at Environmental Impact Assessment (EIA) Scoping stage, in April 2024. Subsequently, the design of the Proposed Development evolved such that the survey areas do not exactly correspond to even buffers around the proposed layout of infrastructure. The largest change in this regard is the route of the permanent access tracks. At EIA Scoping stage, the design of access tracks was to connect the Headpond from the east, whereas the final design is to construct a track from Glen Coiltie in the north, with Glen Coiltie to be reached from Balnain via an existing large commercial forestry track.

2.2.5 From aerial imagery, and observations made during ornithological surveys (which covered a significantly larger area than the protected species surveys), the habitat in this area is similar to that in the surveyed parts of the open moorland, including habitats with some potential to support the protected/important species found within the survey area. However, given the relatively small amount of suitable habitat for otter and the relatively minor nature of works (when compared to construction of the Headpond), minor additional impacts to this species would not alter the significance of assessed effects described in this document.

2.2.6 While the breeding diver and Slavonian grebe survey did not encompass the full 2 km survey buffer from the final design the closest waterbody not surveyed is approximately 1.2 km west of the Proposed Development Site, northwest of Glas-bheinn Mhòr . At this distance this waterbody is unlikely to be directly affected by the Proposed Development.

2.2.7 A description of all other ecological field survey carried out for the Proposed Development, but which is not directly relevant to this Statement to Inform Habitats Regulations Appraisal, is provided in **Chapter 7: Terrestrial Ecology**, **Chapter 8: Ornithology**, and **Chapter 9: Aquatic & Marine Ecology** of the EIAR (**Volume 2: Main Report**).

Urquhart Bay Wood SAC

2.2.8 A substantial part of Urquhart Bay Wood SAC is publicly-accessible and this was visited on 18 June 2024 and 17 July 2024 to supplement habitat information provided in the SAC and Site of Special Scientific Interest (SSSI) documentation. Notes were taken on National Vegetation Classification (NVC) types (with reference to the published original NVC volumes[20,21,22,23,24] and other NVC guidance[25,26]), floristic composition, and other relevant ecological observations.

Slavonian Grebe and Red-throated Diver

2.2.9 Targeted searches were conducted for breeding Slavonian grebe and red-throated diver, which are qualifying species of the SPAs within the possible ZoI of the Proposed Development. The surveys were designed following the species-specific guidelines in Gilbert et al (1998)[27]. Two survey visits were made, one in late-May 2024 and one in July 2024, as detailed in **Table 2-2 Breeding Slavonian Grebe and Red-throated Diver Survey Visit Details**.

Table 2-2 Breeding Slavonian Grebe and Red-throated Diver Survey Visit Details

Date	Survey Visit	Start Time – End Time	Surveyor	Weather
27/05/2024	1	08:00 – 09:10	TM	Dry, excellent visibility and moderate southwesterly breeze.
28/05/2024	1	08:30 – 13:30	TM	Dry and bright, mild, with moderate winds.
29/05/2024	1	09:00 – 11:30	TM	Dry, overcast and mild. Light winds.
16/07/2024	2	09:30 – 17:20	SJ	Cloud cover 8-4, gentle southwesterly breeze, dry, excellent visibility.
22/07/2024	2	10:05 – 12:10	BW	Cloud cover 6-7, light northerly breeze, dry, excellent visibility.
23/07/2024	2	08:45 – 15:55	BW	Cloud cover 7-5, light westerly breeze, dry, excellent visibility.

2.2.10 All waterbodies within approximately 2 km of the Proposed Development Site were searched for the presence of Slavonian grebe and red-throated diver (see **Figure 7.2.2: Breeding Diver and Grebe Surveyed Waterbodies (Section 9: Figures**). Viewing was initially done from a distance using telescope and binoculars to scan the surface of the water and shoreline of the waterbodies. In instances where no birds were observed on a waterbody, surveyors slowly approached and once satisfied that grebes and divers were absent, walked the entire perimeter to look for signs that birds may have attempted to breed but had failed (for example, broken eggshells or dead chicks). Any other notes of relevance, including the presence of disturbance sources and/or evidence of predators, such as otter and grey heron *Ardea cinerea*, were also recorded.

[20] Rodwell, J.S. (ed.) (1991a). British Plant Communities Volume 1 Woodlands and Scrub. Cambridge University Press, Cambridge.
[21] Rodwell, J.S. (ed.) (1991b). British Plant Communities Volume 2 Mires and Heaths. Cambridge University Press, Cambridge.
[22] Rodwell, J.S. (ed.) (1992). British Plant Communities Volume 3 Grassland and Montane Communities. Cambridge University Press, Cambridge.
[23] Rodwell, J.S. (ed.) (1995). British Plant Communities Volume 4 Aquatic Communities, Swamps and Tall-herb Fens. Cambridge University Press, Cambridge.
[24] Rodwell, J.S. (ed.) (2000). British Plant Communities Volume 5 Maritime Communities and Vegetation of Open Habitats. Cambridge University Press, Cambridge.
[25] Averis, A.M., Averis, A.B.G., Birks, H.J.B., Horsfield, D., Thompson, D.B.A. and Yeo,m.J.M. (2004). An Illustrated Guide to British Upland Vegetation. Joint Nature Conservation Committee, Peterborough.
[26] Hall, J.E., Kirby, K.J. and Whitbread, A.M. (2004). National Vegetation Classification: Field guide to woodland. JNCC, Peterborough.
[27] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods. The Royal Society for the Protection of Birds, Sandy.

2.2.11 Additionally, each waterbody surveyed was evaluated with respect to their suitability to support breeding divers and Slavonian grebe. This was undertaken qualitatively based on breeding site suitability detailed in literature (e.g. Gilbert et al (1998)) and professional judgment. Surveyed waterbodies were assigned a ranking of either unsuitable, low suitability or suitable.

2.2.12 If any Slavonian grebe or red-throated diver were detected on a waterbody, their behaviour was observed, taking particular note of evidence that breeding may be taking place, such as birds displaying, copulating or investigating areas of suitable nesting habitat.

Otter

2.2.13 Survey for otter was carried out along suitable watercourses and waterbodies within 200 m of the EIA Scoping layout of above ground infrastructure (see **Figure 7.2.3: Otter Survey Results and Incidental Records (Section 9: Figures**). Where incidental evidence of otter was encountered during the course of other ecological / ornithological field survey carried out for the Proposed Development, this was also recorded. The survey followed guidance in published literature[28; 29; 30].

2.2.14 Evidence of otter searched for included refuges (holts and lay-ups – a holt is a well-enclosed otter refuge, such as a burrow, whilst a lay-up or couch is semi-enclosed and of lesser importance), spraints (faeces), footprints, trails and foraging signs. Where found, spraints were recorded as fresh, recent or old, according to their apparent age. Otter survey took place on 08-12 April, 29 April-03 May, and 10-14 June 2024.

2.2.15 An attempt was also made to classify any identified holts as non-natal or as having the potential for natal use. Although there is limited published information available on natal holts, they are typically difficult to find, since breeding female otters tend to be secretive and locate them in the most well-hidden and secure holts (or sometimes 'nest' in reedbeds) that minimise risk of disturbance and cub predation[29; 31]. Infanticide by unrelated adult male otters is known to occur[32], and since male and female otters share the same watercourses for foraging and commuting, this is likely a significant risk to breeding females, and probably part of the reason that natal holts are typically more secure. Whilst natal holts have been known up to 100 m from water, they have had direct covered habitat connectivity (such as continuous woodland) to water. Some natal holts have been found beside watercourses or lakes, but these (or the paths to them) were provided security by being situated amongst reedbed, in hollow trees, amongst or through dense scrub, or in terrain of difficult access (such as high up an inaccessible and undisturbed wooded slope). Thus, typical and more obvious holts in riverbanks that are not particularly well-hidden and relatively accessible (and also if likely to frequently flood) are unlikely to be natal holts.

Fish Including Atlantic Salmon

2.2.16 Survey locations were identified according to the proximity of waterbodies to areas of proposed works, such as watercourse crossings for access tracks, UCW and LCW location, proposed culverts, Headpond location, or otherwise to assess potential impacts to water quality during the Pre-Construction and Enabling Phase and Construction Phase. As such, 13 running water sites on varying watercourses, three sites on Loch Ness and three sites on Loch nam Breac Dearga were selected for fish surveys, with each survey type completed at each survey location shown in **Table 2-3 Glen Earrach Aquatic Survey Sites** below. Survey site codes are non-consecutive as not all sites were scoped in or possible for fish surveys (refer to **Appendix 9.1 Aquatic Ecology** for further details).

Table 2-3 Glen Earrach Aquatic Survey Sites

Site Code	Surface water reference	Watercourse	Grid Reference	Surveys
Site 1	-	Trib of Allt Loch an t-Sionnaich 3	NH 44133 21900	Fish Habitat
Site 2	SW5-C	Trib of Allt Loch an t-Sionnaich 1	NH 43941 21874	Fish, Electric Fish
Site 6	SW11	Allt Coire an Ruighe	NH 47985 24938	Fish Habitat, Electric Fish
Site 10	SW27	River Enrick	NH 45008 29831	Fish Habitat
Site 14	SW14	Trib of Allt Loch an t-Sionnaich 2	NH 44167 21767	Fish Habitat, Electric Fish

[28] Chanin, P. (2003). Monitoring the Otter *Lutra lutra*, Conserving Natura 2000 Rivers Monitoring Series No. 10. English Nature, Peterborough.
[29] Liles, G. (2003). Otter Breeding Sites. Conservation and Management, Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough
[30] Strachan, R. (2007). National survey of otter *Lutra lutra* distribution in Scotland 2003-04. Scottish Natural Heritage Commissioned Report No. 211 (ROAME No. F03AC309).
[31] Harris, S. and Yalden, D.W. (2008). Mammals of the British Isles: Handbook. 4th Edition. The Mammal Society, Southampton.
[32] Kruuk, H. (2006). Otters: Ecology, behaviour and conservation. Oxford Academic, Oxford.

Site 15	SW5-D	Trib of Allt Loch an t-Sionnaich 3	NH 44148 21847	Fish Habitat, Electric Fish
Site 16	SW5	Trib of Allt Loch an t-Sionnaich 2	NH 44509 21883	Fish Habitat, Electric Fish
Site 17	SW5-E	Trib of Allt Loch an t-Sionnaich 3	NH 44302 22291	Fish Habitat, Electric Fish
Site 18	SW5-E	Trib of Allt Loch an t-Sionnaich 3	NH 44521 22641	Fish Habitat, Electric Fish
Site 20	SW9	River Coiltie	NH 46489 26715	Fish Habitat, Electric Fish
River 1	SW5	Allt Loch an t-Sionnaich	NH 43495 20836	Fish eDNA
River 2	SW3	Allt Saigh	NH 43756 19259	Fish eDNA
River 3	SW3	Allt Saigh	NH 45632 18996	Fish eDNA

Fish Habitat Assessment

2.2.17 Fish habitat assessments were completed at 10 sites in 2024 to establish suitability for fish spawning habitat and further electric fishing surveys. At each site, key aquatic features assessed included channel dimensions (including water depth), mesohabitat coverage, habitat features, substrate composition, accessibility for migratory species and potential spawning areas for salmonids. These were subsequently analysed following SEPA's Guidance for applicants on supporting information requirements for hydropower applications[33]. The degree of suitable passage was also considered, as natural or artificial barriers may impact passage of salmonids upstream on surveyed waterbodies. Where watercourses were assessed as suitable for fishes, electric fishing surveys were undertaken.

Electric Fishing

2.2.18 Electric fishing surveys were undertaken following a derivation of the standard electric fishing practice for operators and equipment, as detailed in the Environment Agency Code of Practice and Electric Fishing Equipment Annex A and B, Issue II regulations revision[34]. Electric fishing was conducted by fully trained fisheries scientists following the EA Operational Instruction 993_08, Electric fishing operations (2019) and in accordance with the Scottish Fisheries Coordination Centre protocols[35].

2.2.19 Time delineated surveys were undertaken, providing an index of abundance; catch per unit of effort (time). This method was advantageous to use as an alternative to the three-run method due to the terrain limiting the equipment that could be transported to the sites preventing the use of stop nets. Additionally, this method also facilitated a larger number of sites to be sampled in a short time frame, when weather and flow conditions allowed. Operatives electric-fished the watercourse in an upstream direction for 10 minutes where possible. The number of fish caught during this time is regarded as an index of abundance; catch per unit effort (time).

2.2.20 Subsequent fish catches were individually measured and identified to species level to inform species presence and abundance within the watercourses.

Fish eDNA Survey

2.2.21 Environmental DNA (eDNA) metabarcoding has been shown to be an effective tool for detecting and monitoring fish communities from lakes, rivers, and reservoirs[36][37][38][39]. For this study, 29 water samples were taken from Loch

[33] EPA (2005) Guidance for applicants on supporting information requirements for hydropower applications. The Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR)
[34] Beaumont, W.R.C, Taylor, A.A.L, Lee, M.J, and Welton, J.S., (2002) Guidelines for Electric Fishing Best Practice, R&D Technical Report W2-054/TR
[35] SFCC (2021) Scottish Fisheries coordination Centre Training Manual Team Leader Electrofishing. Freshwater Fisheries laboratory, Pitlochry. June 2022
[36] Di Muri, C., Lawson Handley, L., Bean, C.W., Li, J., Peirson, G., Sellers, G.S., Walsh, K., et al. (2020), "Read counts from environmental DNA (eDNA) metabarcoding reflect fish abundance and biomass in drained ponds", Metabarcoding and Metagenomics, Pensoft Publishers, Vol. 4, p.e56959
[37] Griffiths, N.P., Bolland, J.D., Wright, R.M., Murphy, L.A., Donnelly, R.K., Watson, H.V. and Hänfling, B. (2020), Environmental DNA metabarcoding provides enhanced detection of the European eel *Anguilla anguilla* and fish community structure in pumped river catchments", Journal of Fish Biology, Blackwell Publishing Ltd Oxford, UK, Vol. 97 No. 5, pp. 1375–1384.
[38] Hänfling, B., Lawson Handley, L., Read, D.S., Hahn, C., Li, J., Nichols, P., Blackman, R.C., et al. (2016), "Environmental DNA metabarcoding of lake fish communities reflects long-term data from established survey methods", Molecular Ecology, Vol. 25 No. 13, pp. 3101–3119.
[39] Pont, D., Rocle, M., Valentini, A., Civade, R., Jean, P., Maire, A., Roset, N., et al. (2018), "Environmental DNA reveals quantitative patterns of fish biodiversity in large rivers despite its downstream transportation", Scientific Reports, Vol. 8 No. 1, p. 10361.

nam Breac Dearga (n = 20), Allt Loch an t-Sionnaich (n = 3) and Allt Saigh (n = 6). Collected samples were analysed using vertebrate specific eDNA metabarcoding approaches to provide an overall assessment of the fish community.

2.2.22 All water samples were collected by AECOM staff in March 2024 from the loch and associated river. Each individual sample contained 2L of surface water. Samples were collected at roughly equidistant points around the perimeter of Loch nam Breac Dearga, and at three selected riverine sites (each with three replicates), then filtered within 24 hours. DNA was extracted following the Mu-DNA water extraction protocol. Three PCR replicates were carried out for each sample prior to being pooled. Samples were further processed and sequenced following metabarcoding protocols established at UHI Inverness using a vertebrate specific 12S marker.

2.2.23 The fish community composition was summarised using two different metrics. The first used site occupancy (the number of samples with positive detections for a given species), which is commonly used to demonstrate spatial abundance across a site. Previous studies have shown strong correlations with rank abundance of fish estimated from direct catch methods. However, the relationship with total abundance is not linear and the most common species can be underrepresented. The second shows the relative proportion of sequences assigned to each species, which provides a better estimate for the difference in total abundance between the common and rare species but can be less accurate in differentiating the relative abundance of the rarer species.

Freshwater Pearl Mussel

2.2.24 No records of FWPM were available within the study area; however, records of FWPM are generally confidential and are not held by the biological records centres. FWPM are known to be present in the River Moriston but the exact distribution of the species in that river is not known – it is therefore assumed that the species may be present in the River Moriston to its confluence with Loch Ness. Through a specific data request to SEPA, it was confirmed that there are no records of FWPM in the River Coiltie, and the species is considered absent from the Proposed Development Site itself. However, indirect effects on FWPM are assessed due to effects on Atlantic salmon, on which the former depend for their lifecycle.

2.3 Limitations

2.3.1 The aim of the desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that may not be captured by field survey alone. Information obtained during the desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for particular species does not necessarily mean they do not occur in the study area. Likewise, the presence of records for a particular species does not automatically mean that this species still occurs within the area of interest or is relevant to the Proposed Development.

2.3.2 Access to the edge of Loch Ness, at the location of the LCW, was restricted for health and safety reasons, and detailed survey for otter in this area could not be completed. Furthermore, some watercourses along the access track from Glen Coiltie to the Headpond were not surveyed due to design changes following completion of field survey. However, the habitat in the area of the LCW is typical of the shore of Loch Ness. Any impacts on otter in this area can reliably be assessed in the absence of targeted survey, on the basis that the area involved is small in extent and that there is extensive alternative and comparable habitat in the wider area. Similarly, the habitat in the open moorland between Glen Coiltie and the Headpond is typical of the rest of the survey area in this part of the Proposed Development Site. The elements of the Proposed Development that will be constructed in this area (access tracks and temporary construction areas) are relatively minor and will involve limited habitat loss when compared to the Headpond.

2.3.3 Access to several other areas was limited for safety reasons. Specifically, watercourses on access routes from the north (the existing Balnain access track) and southwest (the Alltsigh access track) are often located in steep-sided valleys within dense conifer plantation, some of which have been felled by wind-blow. These areas could not be safely accessed by surveyors. In addition, only the south bank of the River Coiltie was surveyed due to restricted access. These are not considered significant limitations as works in these areas are limited to upgrades to existing access tracks, and any unidentified otter features are unlikely to be impacted.

2.3.4 While the breeding diver and Slavonian grebe survey did not encompass the full standard 2 km survey buffer normally employed for these species around the entirety of the final design of the Proposed Development (owing to changes in the design after the surveys were undertaken, principally by access being taken from the north rather than the east), the closest waterbody not surveyed is approximately 1.2 km west of the Proposed Development Site, northwest of Glas-bheinn Mhòr. At this distance, this waterbody is unlikely to be directly affected by the Proposed Development.

2.3.5 Quantitative fish surveys were not possible as the terrain across the Proposed Development Site limited the ability of the team to carry bulky stop nets across the site. As such the team followed the time delineated methodology.

2.3.6 Due to heavy rainfall overnight, the flows on the River Enrick made electric fishing at Site 10: River Enrick unsafe; as such this site was not surveyed despite being assessed as providing suitable habitat for fish.

2.3.7 The large boulder substrate and water depths at Site 20 (the River Coiltie) prevented a full 10-minute electric fishing survey. At this site, where a zig-zag survey pattern was safe this was followed and where pools could be reached within this area these were surveyed as spot-checks.

2.3.8 There were no other limitations to the desk study, field survey or subsequent analysis, which could affect the reliability of this assessment.

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[40]. 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 ZoI of a project is the geographic extent over which ecological features may be affected by biophysical changes, as a result of a project[1] 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 project;
- The connectivity between the 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 NatureScot, in their response to the Request for Scoping Opinion for the Proposed Development (dated 25 June 2024), advised that the key European sites, which would require consideration as part of the HRA, are River Moriston SAC, Urquhart Bay Wood SAC, Moray Firth SAC, and North Inverness Lochs SPA. NatureScot provided several recommendations in relation to the assessment of impacts on these sites:

- In relation to Urquhart Bay Wood SAC, the assessment should be informed by the results of modelling of water level changes in Loch Ness which could occur due to the operation of the Proposed Development.
- That for River Moriston SAC, a number of impact pathways would require assessment, including:
  - Changes in water levels in Loch Ness and subsequently at the mouth of River Moriston, and whether this could affect FWPM near the river mouth;
  - Potential for impingement of Atlantic salmon on the LCW;
  - Potential for migrating Atlantic salmon (adults and smolts) to be attracted to water outflowing from the LCW;
  - Increased sedimentation / turbidity in Loch Ness in the LCW area, during the Construction Phase;
  - Risk of toxic contamination of Atlantic salmon in Loch Ness, for example from fuel / chemical leakage or concrete spills, during the Construction Phase;
  - Noise disturbance of Atlantic salmon in Loch Ness during Construction Phase;
  - Lower water levels in Loch Ness impeding the downstream migration of Atlantic salmon smolts; and
  - Reduced productivity in the littoral zone as a consequence of water level changes in Loch Ness, and the potential for associated effects on Atlantic salmon food supply.

[40] CIEEM (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3 – updated September 2024. Chartered Institute of Ecology and Environmental Management, Winchester.

- The potential for any reduction in Atlantic salmon smolts reaching the Moray Firth from Loch Ness to impact the qualifying population of bottlenose dolphin *Tursiops truncatus* of Moray Firth SAC.
- Although no specific impacts were referenced, NatureScot highlighted the presence of North Inverness Lochs SPA in proximity to the Proposed Development.

3.1.5 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 and operation[41] to affect the qualifying features of such sites. This process is set out in **Table 3-1 Establishing the Zone of Influence of the Proposed Development** and was conducted with cognisance of all of the impact sources (described below), and the advice provided by NatureScot, summarised above.

3.2 Potential Sources of Impact from the Proposed Development

3.2.1 A number of impacts could arise from the Pre-Construction and Enabling, Construction and Operation of the Proposed Development. A summarised description of each impact, and their potential relevance to the qualifying features of European sites, is given under the following sub-headings.

3.2.2 Decommissioning has been scoped out of assessment as the decommissioning of large-scale pumped storage hydro projects is extremely rare due to the long operational lifespan of such facilities. Potential decommissioning effects are therefore considered to be similar to and associated with the components described in the construction project phase, and are not separately assessed.

3.2.3 The impacts which could arise during the Pre-Construction and Enabling and Construction Phases are consistent, and these two phases are therefore considered together, rather than individually.

Direct Loss of or Damage to Habitat Within a European Site

3.2.4 Construction 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 it is not a qualifying feature, 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.

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

3.2.5 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.

3.2.6 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 can occur outside of the European site for which they are designated.

3.2.7 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[42]. The distances given in this guidance were used when searching for SPAs designated for birds which may be within the ZoI of the Proposed Development. Accordingly, a search radius of 6 km from the Proposed Development Site was used when searching for SPAs designated for breeding bird species, this being the 'core range' which encompasses the majority of species listed in the guidance (the search distance was extended to 10 km from the Proposed Development for diver species and osprey *Pandion haliaetus*). For SPAs designated for non-breeding birds, a search distance of 20 km from the

[41] Decommissioning has been scoped out of assessment as the decommissioning of large-scale pumped storage hydro projects is extremely rare due to the long operational lifespan of the facility. Potential decommissioning effects are therefore considered to be similar to and associated with the components described in the construction project phase and are not separately assessed.
[42] SNH (2016). Assessing Connectivity with Special Protection Areas (SPAs). Version 3 – June 2016. Available from: https://www.nature.scot/doc/assessing-connectivity-special-protection-areas.

Proposed Development was used, 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*).

3.2.8 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:

- Otter – studies quoted by Harris and Yalden[31] suggest that the mean linear range size for four male otters in northeast 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 by the same authors 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;
- Fish including Atlantic salmon – 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;
- Marsh fritillary *Euphydryas aurinia* – research has found that the average dispersal distance of male marsh fritillaries was 1.3 km, and up to 510 m for females[43]. 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[44]. 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 Proposed Development Site was used to account for all terrestrial habitat which may be functionally-linked to these features.

3.2.9 FWPM is not a mobile species. However, it relies upon salmonid fish (Atlantic salmon and brown / sea trout *Salmo trutta*) for part of its lifecycle – for the purposes of this assessment, potential effects to Atlantic salmon are assessed; however, these equally apply to brown / sea trout, which are not a qualifying species of the River Moriston SAC. Therefore, in cases where a direct hydrological connection exists between the Proposed Development and an SAC designated for FWPM, the potential impacts on this species were considered.

Disturbance and Displacement of Qualifying Species

3.2.10 Construction and operational 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. In the case of FWPM, it could also have indirect effects if this impact had adverse effects on Atlantic salmon.

3.2.11 The potential for disturbance to be caused will depend on the location and nature of construction / operational activities, the distribution of the qualifying or supporting species, and the sensitivity of the species to noise and visual disturbance from human activities. However, where disturbance is caused, it can have multiple adverse effects on species, including increased energy expenditure, reduced feeding time, behavioural changes, and displacement.

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

- Otter – 200 m, in accordance with NatureScot guidance which suggests this distance for otter breeding sites, reduced to 30 m for other resting sites not used for breeding purposes[45];

[43] 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.
[44] 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.
[45] SNH (undated). Protected Species Advice for Developers: Otter. Available from: https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20otter.pdf.

- Non-breeding waterbirds – the Waterbird Disturbance Mitigation Toolkit[46] 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 NatureScot guidance suggests that which disturbance could occur on the most sensitive species for which SPAs are designated[47].
- Atlantic salmon – catchment-scale. Salmon may be affected widely by hydrological changes in the catchment, in this case at Dochfour Weir some 22 km northeast of the Proposed Development Site. More localised effects may occur such as distraction, entrainment or impingement at the intake screen, or through noise and vibration from piling during construction. Each potential effect is considered according to the specific impact pathway.

Direct Injury or Mortality of Qualifying Species

3.2.13 The direct injury or mortality of qualifying species could occur where construction works take place within the boundary of a European site, or where the species in question may be using functionally-linked habitat outside of a European site boundary. When considering the latter possibility, the only relevant terrestrial or amphibious animal species which are sufficiently mobile to be at risk are 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 Which Supports Qualifying Species', above.

3.2.14 Construction works which take place directly within or adjacent to a watercourse or waterbody, including for example the construction of the LCW in Loch Ness, could also result in injury or mortality of Atlantic salmon. Fish could also become entrained or impinged on the LCW or distracted from their migration resulting in increased risk of predation. The ZoI for the direct injury or mortality of freshwater qualifying animals was considered to encompass any SAC designated for these species for which a direct hydrological connection to the Proposed Development exists.

3.2.15 Except where nesting, birds are not considered to be vulnerable to injury or mortality as a result of construction works as they are readily able to move away from works activities. There is no realistic possibility of mortality of bird species for which SPAs are designated during operation.

Prevention of Migratory Movements of Qualifying Species

3.2.16 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 the LCW, or the possibility of fish being attracted to the flow of water out of the LCW, could interfere with or prevent the normal migratory movement of these species. Similarly, changes in water levels in Loch Ness could affect the passage of migratory fish at Dochfour Weir. This could have direct impacts on Atlantic salmon as a qualifying species, and indirect effects on FWPM, which rely on this species.

3.2.17 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.

3.2.18 The ZoI for this impact was therefore taken to be any SAC designated for fish species (or FWPM, which relies on Atlantic salmon for part of its lifecycle) for which a direct hydrological connection to the Proposed Development exists.

Changes to Predator / Prey Interactions

3.2.19 As stated above, NatureScot advised that consideration should be given to the potential for bottlenose dolphin, the qualifying species of Moray Firth SAC, to be impacted by reduced prey availability, if the Proposed Development caused a reduction in Atlantic salmon smolt numbers in the firth.

[46] 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. Available from: https://www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/.

[47] 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. Available from: https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance.

3.2.20 NatureScot also recommended that the assessment should consider the possibility that operation of the Proposed Development leads to a reduction in the availability of food resource for Atlantic salmon in Loch Ness. NatureScot suggested that this could potentially occur due to changes in the productivity of the littoral zone (i.e. the parts of the loch near to the shore) because of changes to water levels in the loch.

3.2.21 It is not considered that there are any other pathways by which the construction or operation of the Proposed Development could result in changes to predator / prey interactions.

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 Phase. For example, the construction 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 the qualifying species of a European site if they pass through or occur within the relevant part of the watercourse. In the case of FWPM, if Atlantic salmon or other salmonids were impacted, this could have indirect effects on their productivity. 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 in water levels during the Operational Phase could have a range of impacts on the qualifying features of European sites (certain impacts that are related to surface water hydrology are also dealt with under sub-headings (e.g. the potential attraction of Atlantic salmon to water discharges from the LCW)):

- Impacts on the qualifying features of SACs designated for habitat types that may rely on surface water input (e.g. Urquhart Bay Wood SAC);
- Impacts on FWPM in the River Moriston, particularly at the river mouth, if water levels in Loch Ness are reduced; and
- Lower water levels in Loch Ness impeding the downstream migration of Atlantic salmon smolts, and the upstream migration of adult salmon; upon which FWPM depend for completion of their lifecycle.

3.2.24 Therefore, as for the Construction Phase, any European site with a direct freshwater hydrological connection to the Proposed Development was considered to be within the ZoI for changes to surface water hydrology during the Operational Phase.

3.2.25 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[48]. Therefore, any European site within 250 m of the Proposed Development Site was considered to be within the potential ZoI of this impact.

Waterborne Pollution

3.2.26 Construction and operational 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 , 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.

3.2.27 Waterborne pollution can degrade habitats and can lead to the direct mortality of qualifying species such as fish and FWPM. 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 of this impact.

[48] SEPA (2017). Land Use Planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems. Version 3. Available from: https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions-and-groundwater-dependent-terrestrial-ecosystems.pdf.

Airborne Pollution

3.2.28 Airborne pollution could occur during the Construction Phase 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. Airborne pollution could impact on qualifying plant species and / or habitats, and functionally-linked habitats.

3.2.29 Dust generated during construction 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. Guidance published by the Institute of Air Quality Management (IAQM) advises that the impacts of dust are likely to be 'low' beyond a distance of 50 m[49]. Any European site within 50 m of the Proposed Development Site was therefore considered to be within the ZoI for dust-related air quality impacts.

3.2.30 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[50; 51; 52]. Both the IAQM[53] and the Design Manual for Roads and Bridges (DMRB)[54] 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. Consequently, a ZoI extending to 200 m from the Proposed Development was used for air quality impacts arising from emissions from construction vehicles and machinery.

Spread of Invasive Non-native Species

3.2.31 INNS can have detrimental effects on native flora and fauna. The construction of the Proposed Development is unlikely to result in the spread of any non-native animal species given the biosecurity measures that would be implemented during construction. During operation of the Proposed Development, water transfer between the Headpond and Tailpond is predominant, with a compensatory flow between the Headpond (currently Loch nam Breac Dearga) and the connected watercourse. As this watercourse, Allt Saigh, is already connected to Loch Ness, there is a minimal risk of aquatic INNS being spread to or between surface water systems that may affect the River Moriston SAC, and INNS that may be transferred from Loch Ness are unlikely to become established in that watercourse (waterweed *Elodea* sp. and the American flatworm *Phagocata woodworthi*).

3.2.32 Loch Ness is currently inhabited by several plant INNS, as established in the baseline assessment. Equipment and materials will be transported to Loch Ness and to the Proposed Development Site by barge via the Caledonian Canal and road routes.

3.2.33 The fish assemblage in Loch Ness would be vulnerable to the introduction of other INNS that may have the potential to adversely affect fish such as salmon, for example high-impact INNS that are currently absent from Loch Ness. There is a pathway for the introduction of this and other INNS into Loch Ness, namely construction routes from the Caledonian Canal; however, this pathway already exists for regular boat traffic. Therefore, it is considered that the potential for the Proposed Development to increase the risk of introduction is low.

3.2.34 Construction activities have the potential to cause the spread of INNS. 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 INNS could occur where construction 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 marine sites).

[49] IAQM (2024). Guidance on the assessment of dust from demolition and construction. Version 2.2 – January 2024. Institute of Air Quality Management, London.
[50] Wolseley, P.A., James, P.W., Theobald, M.R. and Sutton, M.A. (2006). Detecting changes in epiphytic lichen communities at sites affected by atmospheric ammonia from agricultural sources. *Lichenologist* **38**, pp 161-176.
[51] Dijk, N. (2011). Dry deposition of ammonia gas drives species change faster than wet depositions of ammonium ions: evidence from a long-term field manipulation. *Global Change Biology* **17**, pp 3589-3607.
[52] https://www.apis.ac.uk/search-pollutant-impacts.
[53] IAQM (2019). A guide to the assessment of air quality impacts on designated nature conservation sites. Institute of Air Quality Management, London.
[54] 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.

Other Indirect Impacts

3.2.35 As described in Section 4, a substantial proportion of the known Scottish population of breeding Slavonian grebe was recorded by field surveys carried out in 2024, within approximately 2 km of the Proposed Development. On account of this, and the possibility that birds breeding in this area (or any young that they fledge) could theoretically move to other locations to breed in future years, it was considered, on a precautionary basis, that any reduction in the breeding success of Slavonian grebe (as might result from disturbance caused by the Proposed Development during the breeding season) could impact any of the SPAs designated for this species in Scotland (where designated as a breeding species, because birds using these lochans arguably all contribute to the breeding success at the SPAs).

3.2.36 Loch Ashie SPA is designated for supporting a population of non-breeding Slavonian grebe which gather on the waterbody in autumn to moult, before moving to wintering locations elsewhere. Impacts on Slavonian grebe (within and outside of SPAs designated for this species) could have indirect effects on Loch Ashie SPA. For example, if the Slavonian grebe breeding success was to be adversely affected by the Proposed Development, this could reduce the non-breeding population associated with Loch Ashie SPA. Any impacts on Slavonian grebe caused by the Proposed Development, at construction or operation, could therefore affect Loch Ashie SPA.

3.2.37 Similarly, Moray Firth SPA is designated for non-breeding Slavonian grebe and red-throated diver. Birds of either species which breed near to the Proposed Development could over-winter in this SPA. For the same reason as described for Loch Ashie SPA, any reduction in breeding success caused by the Proposed Development could, in theory, reduce the non-breeding population of Slavonian grebe and / or red-throated diver within Moray Firth SPA.

3.2.38 The Scottish non-breeding population of Slavonian grebe is estimated at 300-500 birds[55], with the UK wintering population estimated as comprising 995 birds[56]. This is made up of birds which breed within and birds which breed outside of Scotland. Therefore, unlike when considering Slavonian grebe as a breeding species, impacts on the small population within approximately 2 km of the Proposed Development would have a proportionately much smaller impact on the Scottish / UK non-breeding population. Consequently, only Moray Firth SPA, as the closest site designated for wintering Slavonian grebe, was considered to be within the ZoI for impacts on this species as a non-breeding qualifying feature.

3.2.39 No other possible indirect impacts on other European sites were considered to exist.

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 Establishing the Zone of Influence of the Proposed Development**. This step in the appraisal did not seek to determine the magnitude of any impact nor the potential significance of any effect and was focussed solely on identifying where a source-pathway-receptor linkage may exist.

3.3.2 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.

3.3.3 A total of thirteen European sites were determined to be within the ZoI of the Proposed Development (listed below in order of increasing distance from the Proposed Development Site):

- North Inverness Lochs SPA;
- Ness Woods SAC;
- Urquhart Bay Wood SAC;
- River Moriston SAC;
- Loch Knockie and nearby Lochs SPA;
- Loch Ruthven SAC;
- Loch Ruthven SPA;

[55] Forrester, R.W., Andrews, I.J., McInerny, C.J., Murray, R., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. and Grundy, D. (2007). The Birds of Scotland. Scottish Ornithologists' Club, Aberlady.
[56] https://www.bto.org/understanding-birds/birdfacts/slavonian-grebe.

- Loch Ashie SPA;
- Inner Moray Firth SPA;
- Moray Firth SPA;
- Moray Firth SAC;
- Loch Flemington SPA; and
- Loch Vaa SPA.

3.3.4 The locations of these sites are shown on **Figure 7.2.1: European Sites Within the Zone of Influence of the Proposed Development (Section 9: Figures)**. Further details on each European site, including their qualifying features and Conservation Objectives, are given in **Annex A** of this document.

3.3.5 As stated in Paragraph 3.1.1, simply because a European site was identified to be within the potential ZoI of the Proposed Development does not necessarily mean that it would be subject to impacts which are sufficient to give rise to likely significant effects. However, establishing the ZoI in this way allowed for those European sites, which needed to be included in the HRA, to be robustly identified.

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

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Zone of Influence
Pre-Construction and Enabling Phase and Construction Phase		
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 50 m of the Proposed Development Site was considered to be sufficiently close that there is a risk of direct damage or loss of habitat. A small part of North Inverness Lochs SPA extends approximately 25 m inside the Proposed Development Site. There are no other European sites within 50 m of the Proposed Development Site. The potential for other impacts, notably changes to surface and / or groundwater hydrology, to result in the indirect loss of habitat from within a European site, is considered elsewhere in this table.	• North Inverness Lochs SPA
Loss of functionally-linked habitat	On a precautionary basis, and in accordance with NatureScot guidance[42], an initial worst-case ZoI of 6 km from the Proposed Development Site was used when searching for SPAs designated for breeding birds (this being extended to 10 km for diver species and osprey) when considering the loss of functionally-linked habitat. A search distance of 20 km was used when searching for SPAs designated for non-breeding waterbirds. The following distances were used when searching for the mobile qualifying species of SACs: • otter – 40 km (only where a direct hydrological connection exists); • marsh fritillary – 1.5 km; • great crested newt – 500 m. When considering fish species and FWPM, the ZoI was considered to include any watercourse which has a direct hydrological connection to the Proposed Development. Strathglass Complex SAC is located approximately 12.2 km from the Proposed Development Site, 'as the crow flies.' However, it is in a separate water catchment to the Proposed Development, and it would require significant over-land travelling, or navigation along a considerably longer distance of watercourse, by otter to move between the Proposed Development Site and the SAC. It is thus not considered to be substantially connected to the Proposed Development via a direct hydrological pathway, and therefore not within the ZoI.	• North Inverness Lochs SPA • Ness Woods SAC • Loch Knockie and nearby Lochs SPA • Loch Ruthven SAC • Inner Moray Firth SPA • Moray Firth SPA
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. The potential ZoI for this impact was therefore considered to be the same as for the loss of functionally-linked habitat, above.	• North Inverness Lochs SPA • Ness Woods SAC • River Moriston SAC • Loch Knockie and nearby Lochs SPA • Loch Ruthven SAC • Inner Moray Firth SPA • Moray Firth SPA
Injury or mortality of qualifying species	The qualifying bird species of SPAs are not considered to be vulnerable to injury or mortality except where nesting. Part of the North Inverness Lochs SPA, which is designated for breeding Slavonian grebe, lies just within the Proposed Development Site.	• North Inverness Lochs SPA • Ness Woods SAC • River Moriston SAC • Loch Ruthven SAC

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Zone of Influence
	Other animal species may be vulnerable to injury or mortality during the Construction 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.	
Prevention of migratory movements of qualifying species	Construction activities taking place in a watercourse have the potential to disrupt the migratory movements of fish species either through the creation of physical barriers, or as a result of disturbance (caused, for example, by noise / vibration / lighting generated during works). The ZoI for this impact was therefore taken to be any SAC designated for fish species, or for FWPM (which rely on salmonids for part of their lifecycle), for which a direct hydrological connection to the Proposed Development exists.	• River Moriston SAC
Changes to predator/prey interactions	There is no mechanism by which construction activities could lead to changes in predator / prey interactions which affect the qualifying species of any European site.	None.
Changes to surface water or groundwater hydrology	During the Construction 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 Site could be impacted by changes to groundwater conditions.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC • Ness Woods SAC • River Moriston SAC • Loch Ruthven SAC
Waterborne pollution	Any European site directly crossed by or adjacent to (taken to mean within 50 m of) 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.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC • Ness Woods SAC • River Moriston SAC • Loch Ruthven SAC
Airborne pollution	All European sites (with the exception of estuarine and marine sites which are not vulnerable to airborne pollution[57]) within 200 m of the Proposed Development Site were considered at this stage to be within the potential ZoI of this impact. Additionally, Urquhart Bay Wood SAC is considered within the potential ZoI, despite lack of proximity to the Proposed Development Site itself, owing to the location of small parts of the SAC within 200 m of roads where increases in traffic during construction are predicted.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC
Spread of INNS	The spread of INNS plants could occur where construction 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). European sites which are connected to the Proposed Development via Loch Ness are not considered to be vulnerable to this impact, as any plant fragments would not be able to travel upstream against the flow of watercourses which run through them. Construction activities do not have the potential to cause the spread of INNS animals.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC
Other indirect impacts	As set out in Section 4 due to the substantial proportion of the known Scottish breeding population of Slavonian grebe present within approximately 2 km of the Proposed Development, any SPA designated for breeding Slavonian grebe located anywhere in Scotland could be indirectly impacted should there be a reduction in breeding success of this species caused by the Proposed Development.	• North Inverness Lochs SPA • Loch Knockie and nearby Lochs SPA • Loch Ruthven SPA • Loch Ashie SPA

[57] https://www.apis.ac.uk/node/968.

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Zone of Influence
	Similarly, impacts on Slavonian grebe (both those within and outside of SPAs designated for their protection) could indirectly affect Loch Ashie SPA, which is designated for supporting an aggregation of non-breeding birds during the autumn moult. Moray Firth SPA is also designated for non-breeding Slavonian grebe and non-breeding red-throated diver. Consequently, impacts from the Proposed Development on these species could indirectly affect the qualifying population of Moray Firth SPA.	• Moray Firth SPA • Loch Flemington SPA • Loch Vaa SPA
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 the direct 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 the Construction Phase. 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 6 km from the Proposed Development Site (or to 10 km for divers and osprey). For non-breeding birds and the qualifying animals of SACs, the ZoI for disturbance is also considered to be the same as for the Construction Phase, described above.	• North Inverness Lochs SPA • Ness Woods SAC • River Moriston SAC • Loch Knockie and nearby Lochs SPA • Loch Ruthven SAC • Inner Moray Firth SPA • Moray Firth SPA
Injury or mortality of qualifying species	The only way in which operation of the Proposed Development could realistically lead to the injury or mortality of qualifying species is through the possible entrainment or impingement of weak-swimming or juvenile fish (e.g., salmon smolts) at the LCW. This could have direct effects on the qualifying fish population and indirect effects on FWPM mussel as a result. Otter are strong swimmers and would not be at risk of being impinged on to the smolt screens at the LCW, where water intake speeds would be 0.3 ms^{-1}, compared to maximum horizontal swimming speed of yearling otter of 1.2 ms^{-1} and 1.5 ms^{-1} for adult otter[58]. Although otters could theoretically bypass the smolt screens at the landward edge (a somewhat unlikely scenario given that no fish prey would be present inside the smolt screens, and the nature of the operating LCW environment), the water intake speed at the diffusers would be 1 ms^{-1} and therefore still below the speeds at which otters can swim; there would also be a further screen with 10 cm between bars that would prevent at least adult otters from accessing. Similar mechanisms are present at the existing Foyers scheme. The Headpond will not support a fish prey resource, and the approach velocity of water at the Headpond intake (at maximum) is estimated to average 1 ms^{-1}, which (given the above information) otters would be able to swim against. More importantly, however, the water level in the Headpond would seldom be at or near minimum operating level (close to the turbine intake level) but mostly considerably higher, which very much reduces the likelihood of otters closely approaching the intake at the Upper Control Works (UCW). For these reasons, otter mortality at the LCW and Headpond is likely to occur very rarely, if at all..	• River Moriston SAC
Prevention of migratory movements of qualifying species	The outflow of water from the LCW into Loch Ness could distract migratory Atlantic salmon and interfere with or prevent their regular migratory movements. This could have direct effects on Atlantic salmon as a qualifying species, and indirect effects on FWPM, which rely on this species for part of their lifecycle.	• River Moriston SAC

[58] Nolet, B.A, Wansink, E.H. and Kruuk, H. (1993). Diving of otters (Lutra lutra) in a marine habitat: use of depths by a single-prey loader. Journal of Animal Ecology 62: 22-32.

Impact Source	Pathway(s) to European Site(s)	European Sites Within the Zone of Influence
	The potential for water level changes in Loch Ness to impede the migration of Atlantic salmon is considered under 'Changes to surface water or groundwater hydrology'.	
Changes to predator/prey interactions	Three impact pathways were identified regarding changes to predator / prey interactions: • Reduced availability of prey for bottlenose dolphin associated with Moray Firth SAC should the Proposed Development in reduced numbers of Atlantic salmon smolts in the firth; • Distraction or diversion of Atlantic salmon at the LCW, resulting in an increased risk of predation, e.g., by otter or pike, or piscivorous birds; • Reduced prey availability for Atlantic salmon in Loch Ness as a consequence of water level changes altering the productivity of the littoral zone.	• River Moriston SAC • Moray Firth SAC
Changes to surface water or groundwater hydrology	Changes in water level during the Operational Phase could have a range of impacts on the qualifying features of European sites, or on ecological features upon which they rely. Therefore, as for the Construction Phase, any European site with a direct freshwater hydrological connection to the Proposed Development was considered to be within the ZoI for this impact.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC • Ness Woods SAC • River Moriston SAC • Loch Ruthven SAC
Waterborne pollution	The likelihood of operational activities resulting in pollution of surface water is much reduced compared to construction. However, for the purposes of setting the ZoI, it is considered that this will be the same as for the Construction Phase.	• North Inverness Lochs SPA • Urquhart Bay Wood SAC • Ness Woods SAC • Loch Ruthven SAC
Airborne pollution	Operation of the Proposed Development will generate negligible emissions to air and there is no possibility of this having impacts on qualifying or supporting habitats of any European site.	None.
Spread of INNS	During operation of the Proposed Development, water transfer between the Headpond and Tailpond is predominant, with a compensatory flow between the Headpond (currently Loch nam Breac Dearga) and the connected watercourse. As this watercourse, Allt Saigh, is already connected to Loch Ness, there is a minimal risk of aquatic INNS being spread to or between surface water systems that may affect the River Moriston SAC, and INNS that may be transferred from Loch Ness are unlikely to become established in that watercourse. The River Moriston is already connected to Loch Ness directly, and therefore a pathway for INNS exists that could not be exacerbated by the Proposed Development. There is also no mechanism by which the operation of the Proposed Development could cause the spread of plant INNS outside of the catchment.	None.
Other indirect impacts	As described for the Construction Phase.	• North Inverness Lochs SPA • Loch Knockie and nearby Lochs SPA • Loch Ruthven SPA • Loch Ashie SPA • Moray Firth SPA • Loch Flemington SPA • Loch Vaa SPA

4. Baseline Conditions

4.1 Urquhart Bay Wood SAC

4.1.1 The SAC woodland between the Rivers Coiltie and Enrick, upstream of the confluence and as far west as the sewage treatment works, was found to be quite dry, comprising approximately 90% W9a (a dry, basic woodland type) and 10% W7 (a neutral wet woodland). The soil is clearly alluvial. Of the viewed woodland between the river confluence and Loch Ness, the woodland south of the River Enrick was considered to be W7, and woodland north of the River Enrick was drier and intermediate between W7 and W9. Woodland in the southeast corner of the SAC, in the vicinity of a spring shown on Ordnance Survey mapping, was not accessible; neither was woodland north of an older channel (that the river evidently frequently floods) that splits off from the River Enrick approximately 100 m upstream of the river confluence and flows more or less eastwards to Loch Ness.

4.1.2 The W9a has a mixed broadleaved canopy of ash *Fraxinus excelsior*, bird cherry *Prunus padus* and hazel *Corylus avellana* in particular, together with sycamore *Acer pseudoplatanus*, downy birch *Betula pubescens*, goat willow *Salix caprea* and alder *Alnus glutinosa*. The ground flora includes base indicators such as dog's mercury *Mercurialis perennis*, wood avens *Geum urbanum*, ramsons *Allium ursinum* and wood false-brome *Brachypodium sylvaticum*, frequent dryopteroid ferns and moderate amounts of common pleurocarpous mosses of neutral to basic conditions (including the base indicator *Eurhynchium striatum*). In addition to ramsons, bluebell *Hyacinthoides non-scripta* and wood stitchwort *Veronica montana* are present, which tend to indicate ancient woodland. There are also frequent ruderal species such as common nettle *Urtica dioica* and cleavers *Galium aparine*, and non-native species including pick-a-back plant *Tolmiea menziesii* and locally Japanese knotweed *Fallopia japonica*. There is a good range of epiphytic mosses and lichens.

4.1.3 The W7 incorporates elements of both the W7a and W7b sub-communities. The canopy comprises alder, grey willow *Salix cinerea*, crack willow *Salix fragilis*, ash and sycamore. The ground flora includes neutral wetland indicators such as creeping buttercup *Ranunculus repens* (very abundant), soft-rush *Juncus effusus*, meadowsweet *Filipendula ulmaria*, tufted hair-grass *Deschampsia cespitosa*, angelica *Angelica sylvestris*, marsh marigold *Caltha palustris* and reed canary-grass *Phalaris arundinacea*. There are also frequent ruderal and non-native species including those mentioned above for W9, as well as ground elder *Aegopodium podagraria* and Himalayan balsam *Impatiens glandulifera*. There is a good range of epiphytic mosses and lichens, notably including the moss *Cryphaea heteromalla*.

4.1.4 The transitional W7-W9 woodland has a canopy of alder, ash, sycamore, grey willow, goat willow, crack willow, bird cherry, rowan *Sorbus aucuparia* and downy birch. The ground flora is intermediate with several of the species mentioned above for W9 and W7; additional species here include great woodrush *Luzula sylvatica*, enchanter's nightshade *Circaea x intermedia* (an ancient woodland indicator) and water avens *Geum rivale*. Broad-leaved helleborine *Epipactis helleborine* was noted at NH 52477 29520. Pick-a-back plant is locally dominant. For much of the Loch Ness edge of this section of woodland (north of the River Enrick outflow, and south of its eastwards branch), the land was noted to end at a bank approximately 0.8 m high (i.e. a significant part of this woodland is appreciably raised, which explains the apparent lesser degree of wetness).

4.1.5 Towards the extreme south-eastern edge of the SAC, there is a small zone of swamp at the edge of Loch Ness. This is mainly S9 bottle-sedge *Carex* rostrata swamp, with small amounts of S28 reed canary-grass swamp and S14 bur-reed *Sparganium erectum* swamp. Parts of this swamp include other species such as water forget-me-not *Myosotis scorpioides*, marsh bedstraw *Galium palustre*, lesser spearwort *Ranunculus flammula*, hemlock water-dropwort *Oenanthe crocata* and Himalayan balsam.

4.2 Slavonian Grebe

4.2.1 The RSPB provided data from 2013 to 2024 inclusive from the Slavonian Grebe Annual Monitoring program. Data were provided for all waterbodies within 2 km of the Proposed Development Site with data points provided for every year of survey. Across the survey period, 2013 to 2024, breeding was confirmed or suspected at six waterbodies within 2 km of the Proposed Development Site. Breeding was confirmed or suspected at a maximum of four waterbodies during any one survey year with four confirmed or suspected breeding sites in 2024. Non-breeding individuals or pairs, including those of unconfirmed breeding status, were recorded at a further eight waterbodies during the 2023 to 2024 survey period. In line with NatureScot guidance on the presentation of data

relating to sensitive bird species, further details are provided in **Confidential Appendix 8.1: Sensitive Ornithology Assessment (Volume 6: Confidential Appendices)**.

4.2.2 A total of 32 waterbodies were surveyed for breeding Slavonian grebe. A brief description of the suitability of these waterbodies for these species is given in **Table B1, Annex B** of this document, and their locations are shown on **Figure 7.2.2: Breeding Diver and Grebe Surveyed Waterbodies (Section 9: Figures)**. Indicative photographs of each waterbody are presented in **Annex D** of **Appendix 8.1: Ornithology (Volume 5: Appendices)**. Of the 32 waterbodies surveyed, eight were considered to have suitability to potentially support breeding Slavonian grebe (several others were assessed as having very low suitability, but the probability of these being used by this species is so low that they are not included in this total).

4.2.3 Slavonian grebes were recorded on a total of ten waterbodies within the survey area between April and July 2024, including one of the waterbodies within North Inverness Lochs SPA. It is considered that seven of these waterbodies were occupied by breeding pairs based on observations of incubating birds, nest building and / or other territorial behaviour observed in suitable breeding habitat. Further details are provided in **Confidential Appendix 8.1: Sensitive Ornithology Assessment** (**Volume 6: Confidential Appendices**).

4.2.4 No evidence of successful breeding was recorded at any of the waterbodies found to support Slavonian grebe pairs in 2024, despite repeated checks and incidental observation of these waterbodies during the course of other ornithological field survey. It is therefore concluded that, although seven pairs of Slavonian grebe were present within approximately 2 km of the Proposed Development Site in 2024, and nesting almost certainly took place, there was no successful fledging of any young.

4.3 Red-throated Diver

4.3.1 No desk study records of red-throated diver were identified.

4.3.2 As set out in **Table B1, Annex B**, of the 32 waterbodies surveyed, five were considered to have suitability to potentially support breeding red-throated diver (several others were assessed as having very low suitability, but the probability of these being used by this species is so low that they are not included in this total).

4.3.3 One red-throated diver nest site was found within the survey area, details of which are provided in **Confidential Appendix 8.1: Sensitive Ornithology Assessment** (**Volume 6: Confidential Appendices**).

4.3.4 In addition to observations associated with the breeding lochan, nine records of red-throated diver were made associated with Loch nam Breac Dearga (the Headpond; foraging, loafing or in flight to / from the breeding lochan). Three of these records comprised a pair of birds, with a maximum of two birds observed at any one time. Three records of red-throated diver, including a pair of birds, were recorded on Dubh (Sron Dubh) (Waterbody 3) in April 2024, with no further occupation or evidence of breeding.

4.4 Otter

4.4.1 The NBN Atlas held a single record of otter, from a small tributary of the River Enrick, approximately 340 m north of the existing Balnain access track in the north.

4.4.2 The majority of the larger watercourses within the survey area are suitable for refuge creation by otter, particularly the Allt Saigh, Allt Loch an t-Sionnaich, River Coiltie and River Enrick. The waterbodies, including Loch nam Breac Dearga, are also locally suitable. All watercourses and waterbodies within the survey area have the potential to be used by foraging and commuting otter. The bank of Loch Ness is sub-optimal for refuge creation around the LCW due to the often bare, rocky substrate.

4.4.3 During the field surveys, otter field signs were found throughout the survey area. In total, 29 otter refuges were identified, comprising two holts (OR014 (which appeared to be suitable for use as a natal holt) and OR17) and 27 lay-ups. Neither holt is within 200 m of the Proposed Development. Four lay-ups (OR15, OR16, OR22 and OR23) are within 30 m of the Proposed Development. Spraints were frequently found on the majority of watercourses.

4.4.4 Details of otter refuges and otter evidence are set out in **Table 4-1 Otter Refuges Identified During Field Surveys**, below. Unshaded (white) rows indicate that no impact on the feature is expected, and dark grey rows indicate risk of the feature being lost.

4.4.5 All otter evidence found by field surveys is shown on **Figure 7.2.3: Otter Survey Results and Incidental Records (Section 9: Figures)**. Photographs of each otter refuge are provided in **Annex A** in **Appendix 7.4:**

Mammals (**Volume 5: Appendices**). Due to the footprint of the Proposed Development evolving throughout the survey period, some otter evidence that was identified during surveys (and incidentally during the course of other ecological fieldwork) is more than 200 m from the Proposed Development. Otter refuges beyond this distance are extremely unlikely to be impacted by the Proposed Development but are presented for context.

Table 4-1 Otter Refuges Identified During Field Surveys

Ref	Type	Description	Approximate Distance from Proposed Development	Grid Reference
OR01	Lay-up	On River Enrick. Roots of overhanging trees create a dry cavity which extends c. 50 cm back under the southern bank. Four recent and one old spraint present.	172 m north of existing Balnain access track.	NH 45446 29673
OR02	Lay-up	On River Enrick. Cavity under overhanging bank with a dry, rocky area inside. A single old spraint inside.	123 m north of existing Balnain access track.	NH 45787 29549
OR03	Lay-up	On River Enrick. A steep, eroded bank with overhang which is almost fully enclosed. Internal cavity is approximately 2 m wide, 1.5 m deep and up to 1 m in height. There is a smaller cavity inside 0.5 m in height. Remnants of a single old spraint inside.	177 m north of existing Balnain access track.	NH 46436 29652
OR04	Lay-up	On River Coiltie. A dry, mossy ledge under overhanging rock face. Exposed, but semi-sheltered. One recent and one old spraint.	65 m south of existing Balnain access track / proposed northern access track.	NH 46727 26965
OR05	Lay-up	On River Coiltie. A dry, rocky area under overhanging cliff face. Remnants of an old spraint on rock within lay-up.	97 m southeast of proposed TC01.	NH 46591 26624
OR06	Lay-up	On Divach Burn. Cavity under overhanging cliff adjacent to bank which does not extend back. One old spraint on stone in cavity.	1.9 km southeast of proposed northern access track.	NH 48461 25669
OR07	Lay-up	East bank of Divach Burn. A dry, sheltered area under overhanging rocks. Three old spraints present, one on rock within, and two along sheltered pathway c. 2 m from layup.	1.8 km southeast of proposed northern access track.	NH 48415 25584
OR08	Lay-up	East bank of Divach Burn. A dry, sheltered area under overhanging rocks. A single very old spraint on rock within.	1.8 km southeast of proposed northern access track.	NH 48392 25551
OR09	Lay-up	East bank of Divach Burn. A dry, sheltered area under overhanging rocks and felled trees. Four very old spraints present on rock within.	1.8 km southeast of proposed northern access track.	NH 48344 25505
OR10	Lay-up	East bank of Divach Burn. A dry, sheltered area under overhanging rocks. Four very old spraints on rock within.	1.8 km southeast of proposed northern access track.	NH 48333 25417
OR11	Lay-up	On tributary of Grotaig Burn. A dry, flat cavity under overhanging rock adjacent to small waterfall. Cavity is approximately 1 m deep and 50 cm in height. Two old spraints within.	2.6 km east of proposed Spillway.	NH 48440 23618
OR12	Lay-up	On tributary of Grotaig Burn. A dry ledge approximately 1.5 m above water level beside slightly overhanging rock. A single fresh spraint under overhanging rock.	2.7 km east of proposed Spillway.	NH 48476 23571
OR13	Lay-up	On tributary of Allt Coire an Ruighe. Cavity under overhanging boulder which is sheltered but does not extend back.	1.1 km northeast of proposed Spillway.	NH 46717 23647

Ref	Type	Description	Approximate Distance from Proposed Development	Grid Reference
		One old spraint recorded on boulder in cavity.		
OR14	Holt (with potential for natal use)	On Loch nan Oighreagan. On bank with slide leading to lochan. Two entrances which extend back west into peat bank as far as visible. Four fresh spraints at entrance and just within.	280 m northwest of proposed Saddle Dam 1.	NH 44812 23355
OR15	Lay-up	On Loch nam Breac Dearga. A small, sheltered cavity in crevice of rock face, just above water level. Two old spraints inside.	Within the proposed Headpond.	NH 45353 22366
OR16	Lay-up	On Loch nam Breac Dearga. Large cave-like feature in rocky cliff face by loch side. Approximately 4.5 m above water level. Not fully enclosed. Eight spraints inside, and clear paths to loch.	Within the proposed Headpond.	NH 45347 22355
OR17	Holt (non-natal)	On Allt Loch nam Breac Dearga and tributaries. Single entrance cavity under overhanging bank which extends parallel to the bank for > 1.5 m as far as visible. Two spraints were recorded at the entrance in April. In July, no spraints were recorded, and the entrance was partially obscured by vegetation.	239 m south of proposed access track to Valve House. 319 m from proposed Valve House.	NH 44163 21861
OR18	Lay-up	On Allt Loch nam Breac Dearga and tributaries. A dry, sheltered cavity under overhanging bank which extends back for approximately 60 cm. One fresh spraint recorded in April, but no spraints recorded in July.	340 m south of proposed access track to Valve House. 370 m from proposed Valve House	NH 44154 21756
OR19	Lay-up	On Allt Loch nam Breac Dearga and tributaries. Large, sheltered cavity under overhanging rock on southern bank. A single old spraint on a rock inside.	326 m southeast of proposed track to Valve House.	NH 43879 21611
OR20	Lay-up	On Allt Loch nam Breac Dearga and tributaries. Sheltered cavity under overhanging rock on northern bank. A single old spraint was recorded on a rock inside.	307 m southeast of proposed track to Valve House.	NH 43855 21602
OR21	Lay-up	On Allt Loch an t-Sionnaich. Sheltered rocky area under overhanging bank. One old spraint within.	93 m northwest of existing Alltsigh access track / proposed track to Valve House.	NH 43337 21402
OR22	Lay-up	On Allt Loch an t-Sionnaich. Dry cavity under metal bridge on north-west bank. Three old spraints.	Beneath existing Alltsigh access track.	NH 43492 20819
OR23	Lay-up	On Allt Loch an t-Sionnaich. Dry boulders under metal bridge on south-east bank. Seven old spraints.	Beneath existing Alltsigh access track.	NH 43492 20815
OR24	Lay-up	On Allt Loch an t-Sionnaich. Sheltered area under overhanging rock face on bank. Area is relatively open. Remnants of a single very old spraint recorded.	61 m west of existing Alltsigh access track.	NH 43424 20528
OR25	Lay-up	On Allt Loch an t-Sionnaich. Sheltered cavity under flat rock. Some water within but a dry platform is present at back. Single old spraint recorded.	73 m west of existing Alltsigh access track.	NH 43410 20448
OR26	Lay-up	On Allt Loch an t-Sionnaich. Rocky shelter under overhanging bank. Does not extend back. Two old spraints recorded.	82 m west of existing Alltsigh access track.	NH 43400 20400
OR27	Lay-up	On Allt Loch an t-Sionnaich.	102 m west of existing Alltsigh access track.	NH 43360 20301

Ref	Type	Description	Approximate Distance from Proposed Development	Grid Reference
		Sheltered area under overhanging bank on Allt Loch an t-Sionnaich. Does not extend back. Three old spraints recorded.		
OR28	Lay-up	On Allt Loch an t-Sionnaich. Sheltered cavity under large boulder in the middle of watercourse. Some water within, but dry rocks with four old spraints recorded inside.	102 m west of existing Alltsigh access track.	NH 43155 19985
OR29	Lay-up	On Allt Saigh. Corner of boulder above Allt Saigh, quite open and possibly just a sprainting site. Two old spraints recorded at base of boulder.	132 m south of existing Alltsigh access track.	NH 43341 19161

4.5 Fish, Including Atlantic Salmon

4.5.1 It is known that Atlantic salmon and brown / sea trout are present in Loch Ness and its tributaries, with the upstream extent of migration limited in places by the presence of natural and artificial barriers, for example waterfalls and hydro-electric dams respectively. These species pass through Loch Ness on their migration, downstream as juvenile smolts, and upstream as adults. Both salmon and trout are present in the River Moriston and are vital for FWPM to complete their lifecycle – FWPM larvae, glochidia, attach to the gills of salmon and trout, where they develop before detaching and dropping to the riverbed to grow into adults. FWPM depend upon both migratory salmonids and resident brown trout to a greater or lesser extent.

4.5.2 As described below, upland watercourses within Proposed Development Site, and Loch nam Breac Dearga itself, are dominated by resident brown trout, with salmon present in the downstream reaches of Allt Saigh, the River Enrick and River Coiltie to the north, both of which enter Loch Ness at Urquhart Bay.

4.5.3 As there were no records of salmonids returned in the NBN dataset within the last 10 years, the search was then extended to 1960. It is assumed that where there are historical records, residual populations may remain present due to the under-recording of such species. A more recent study of Loch Ness, led by the University of Otago in 2018, identified the eDNA of trout and salmon. The results of both are shown in **Table 4-2 Desk Study Records for Fish in Loch Ness and on the Proposed Development Site** below.

Table 4-2 Desk Study Records for Fish in Loch Ness and on the Proposed Development Site

	NBN Atlas data				
Species	Number of records	Closest Record	Most recent year	eDNA Present (2018)	Designations
Atlantic salmon *Salmo salar*	15	On site	1995	✓	Bern-A3 OSPAR HabDir-A2*, HabDir-A5, BAP-2007 Scottish Biodiversity List
Brown trout *Salmo trutta*	5	3.0km E (River Ness)	1981	✓	BAP-2007 Scottish Biodiversity List
Brown / Sea trout *Salmo trutta*	18	On site	1995	✓	BAP-2007 Scottish Biodiversity List
Sea trout *Salmo trutta trutta*	2	3.5km S (Loch Ness)	1972	✓	BAP-2007 Scottish Biodiversity List

4.5.4 Catch records from Ness District Salmon Fishery Board (NDSFB) show the presence of salmon every year between 2000 and 2020 within Loch Ness. NDSFB also have three monitoring locations on the River Coiltie and four on the River Enrick; all of these monitoring locations are downstream of the LCW. The results of NDSFB 2022 quantitative surveys are shown in **Table 4-3 2022 NDSFB Juvenile Salmonid Survey Results for the Rivers Coiltie and Enrick** below.

Table 4-3 2022 NDSFB Juvenile Salmonid Survey Results for the Rivers Coiltie and Enrick

			Number of individuals caught			
River	Site (and NDSFB site code)	Distance from Site	Salmon Fry	Salmon Parr	Trout Fry	Trout Parr
Enrick	Enrick, EFPS1	1.33	236	33	6	1
	Enrick, Kilmichael Burn, EFPS2	1.53	3	3	0	0
	Enrick, EFPS3	1.59	107	21	6	1
	Enrick, EFPS4	1.74	152	18	2	0
Coiltie	Bottom of old bridge footing	1.77	50	26	7	0
	Left channel, start at point of island	2.47	152	40	22	0
	Downstream large gravel bar	2.60	379	21	31	0

Fish Habitat

4.5.5 Fish habitat assessments were completed at all sites and identified the presence of suitable habitat for resident fish and / or fish spawning for all sites. Loch nam Breac Dearga and the upland watercourses in the vicinity of the Headpond were dominated by brown trout, with some barriers to migration downstream restricting the upstream migration of salmonid species.

4.5.6 At Site 1 Trib of Allt Loch an t-Sionnaich 3 (NH 44133 21900) a fish habitat appraisal was undertaken at this site. This indicated that the watercourse was deep enough to support fish with depths between 8 and 14 cm. However, due to the channel width being 0.2 m on average and partly subterranean, it was not possible to electric fish this area.

4.5.7 A fish habitat assessment was also undertaken at Site 19 (Trib of Allt Coire an Ruighe 9, NH 46455 23578). Downstream of Site 18 (Trib of Allt Loch an t-Sionnaich 3, NH 44521 22641), between Sites 17 (Trib of Allt Loch an t-Sionnaich 3, NH 44302 22291) and 18, the watercourse spread across the moorland and became a flowing wetland at several intervals preventing fish from moving up- and downstream within this watercourse. At the surveyed area, the watercourse formed a waterfall, run, riffle sequence with a 2 m waterfall at the upstream extent.

Electric fishing

4.5.8 An electric fishing survey was completed at Site 2, a single 10-minute run was carried out over a 41 m length of watercourse between two cascades and no fish were caught. Three fish were seen and not caught but were considered likely to be trout. The water temperature recorded was 11.32°C and conductivity measured 32.4 μScm^{-1}.

4.5.9 At site 6 in Allt Coire an Ruighe (NH 47985 24938), approximately 3.5 km northeast of Loch nam Breac Dearga in the River Coiltie catchment, a single 10-minute run was carried out over a 23 m length of watercourse; one brown trout was caught with a fork length of 100 mm (Plate 1: Brown Trout at Site 6 1). The water temperature recorded was 10.6°C and conductivity measured 40 μScm^{-1}.

Plate 1: Brown Trout at Site 6 Allt Coire an Ruighe

4.5.10 No electric fishing surveys were undertaken at Site 10 due to fast currents making the reach unsafe to enter, however due to the size of the watercourse, it is assumed that fish are supported within the watercourse.

4.5.11 For electric fishing surveys at site 14 trib of Allt Loch an t-Sionnaich flowing out of Loch nam Breac Dearga some 750 m upstream, a single 10-minute run was carried out over a 57 m length of watercourse, one trout was caught with a fork length of 88 mm (Plate 2). The water temperature recorded was 12.3 °C and conductivity measured 33.0 µScm^{-1}.

Plate 2: Brown Trout at Site 14 Trib of Allt Loch an t-Sionnaich 2

4.5.12 At site 15, a single 10-minute run was carried out over a 25 m length of watercourse, however no fish were caught. The water temperature recorded was 11.9 °C and conductivity measured 28.6 µScm^{-1}.

4.5.13 For electric fishing surveys at site 16, a single 10-minute run was carried out over a 40 m length of watercourse, with no fish caught. However, site 16 is between site 14 and Loch nam Breac Dearga and as brown trout have been identified at both sites it is highly likely that brown trout are present at site 16. The water temperature recorded was 12.1°C and conductivity measured 26.6 µScm^{-1}.

4.5.14 A fish habitat assessment was undertaken at site 17. Upstream and downstream of this reach has several waterfalls between 0.5 and 1 m in height with limited pools between steps in several waterfalls. Upstream of the surveyed area, the watercourse was 0.3 m wide and 0.2 m deep. For electric fishing surveys, a single 5-minute run was carried out over a 15 m length of watercourse (refer to **Appendix 9.1 Aquatic Ecology** for further detail of survey methodologies), however no fish were caught. The water temperature recorded was 12.1°C and conductivity measured 29.7 µScm^{-1}

4.5.15 For electric fishing surveys at Site 20 (River Coiltie, NH 46489 26715), a single 6-minute run was carried out over a 20 m length of watercourse, however no fish were caught. The water temperature recorded was 8.1°C and conductivity measured 24.7 μScm^{-1}.

Fish eDNA

4.5.16 The species found in the eDNA samples across the site are shown in **Table 4-4 Results of eDNA surveys for fish species**.

4.5.17 Within the river samples, River 3 (Allt Saigh, NH 45632 18996) was adjacent to Loch Ness and River 1 (Allt Loch an t-Sionnaich, NH 43495 20836) was in the headwaters within close proximity to Loch nam Breac Dearga, and River 2 (Allt Saigh, NH 43756 19259) was between the two sites.

4.5.18 Five fish species were detected in the eDNA sample for River 3. Brown trout had the highest percentage of sequence reads on average across the three subsamples (77.6%), other species sequenced included minnow (9.6%), three spined stickleback (6.1%), European eel (3.7%) and Atlantic salmon (3.0%). The latter was the only record of Atlantic salmon outside of Loch Ness in the eDNA surveys and was immediately upstream of the confluence of Allt Saigh with Loch Ness.

4.5.19 Three fish species were sequenced in the eDNA sample for River 2. Across the three subsamples, minnow dominated the sequence reads (50.0%) on average, brown trout were also present at a high frequency of sequence reads (49.7%).

4.5.20 Three-spined stickleback was also present at River 2 in low proportions of sequence reads (0.3%). Only brown trout were sequenced in the eDNA sequence for River 1. Whilst River 3 was the most diverse sample, River 2 had a greater number of sequenced reads.

4.5.21 eDNA samples were also taken from Loch nam Breac Dearga; from these only brown trout eDNA was sequenced, with no areas with higher sequenced reads.

Table 4-4 Results of eDNA surveys for fish species

Common name	Scientific Name	LnBD	River 1 Allt Loch an t-Sionnaich	River 2 Allt Saigh upstream	River 3 Allt Saigh conf. with Loch Ness
European eel	*Anguilla anguilla*				✓
Three Spined Stickleback	*Gasterosteus aculeatus*			✓	✓
Minnow	*Phoxinus phoxinus*			✓	✓
Salmon	*Salmo salar*				✓
Brown Trout	*Salmo trutta*	✓	✓	✓	✓

4.6 Freshwater Pearl Mussel

4.6.1 There were no records of FWPM within the search area (Proposed Development Site + 2 km). A data request to SEPA showed that there are no FWPM records in the River Coiltie catchment, and as such surveys for FWPM were scoped out. The nearest records of FWPM are in the River Moriston SAC, approximately 6.8 km south east of the LCW, although the distribution of FWPM in the River Moriston is not known due to the confidentiality of species records. Therefore, it is assumed that FWPM may be present in the River Moriston to the confluence with Loch Ness, although this is considered unlikely.

4.7 Marine Ecology

Bottlenose Dolphin

4.7.1 A number of marine species rely on migratory fish associated with Loch Ness and the Proposed Development Site as a food source, such as the bottlenose dolphin (*Tursiops truncatus*) and harbour seal (*Phoca vitulina*) which are known to prey upon Atlantic salmon. Atlantic salmon are an anadromous fish species, meaning that they use both fresh and saltwater throughout their life cycle. After salmon spawn in rivers and streams (Jonsson and

Jonsson, 2011), juveniles migrate down-river to the ocean usually in spring to early summer (Thorstad et al., 2012). Adults then spend 1-5 years at sea before returning to their spawning rivers.[59] The occurrence of bottlenose dolphin within the inner reaches of the Moray Firth are thought to coincide with this migration period of Atlantic salmon out to sea.[60,61]

4.7.2 The Moray Firth is located within the ICES Greater North Sea Ecoregion, within which bottlenose dolphin are considered resident. Bottlenose dolphins have a near global distribution and are common throughout UK waters. Within the UK, the Inter-Agency Marine Mammal Working Group (IAMMWG) has established management units (MU) for commonly occurring cetacean species. The Proposed Development is located within the Greater North Sea MU for bottlenose dolphin, within which the most recent abundance estimate is 1,885 individuals.[62]

4.7.3 In Scotland, there are two main resident groups of bottlenose dolphin. The Moray and Cromarty Firths on the east coast hosts the main population, whilst the west coast hosts a smaller population.[63] Of this population, >50% is known to use the Moray Firth, resulting in its designation as an SAC.[64] This area has been regularly monitored since 1989 and the most recent assessment of bottlenose dolphin abundance associated with the Moray Firth SAC has reported 94 individuals. Whilst this has been a decline from the previous monitoring effort (which observed 122 individuals) long-term stability in the use of the SAC by bottlenose dolphins has been reported from 2001-2022.[64] Data have also indicated that the proportion of the population using the SAC has declined in recent years, but increased habitat usage has been noted elsewhere along the Scottish east coast, namely the Tayside region.[64]

4.7.4 Passive acoustic monitoring of the region has also indicated intra-annual variability, with a peak in dolphin abundance observed during summer months within the SAC.[64] This peak in abundance has been linked to the seasonal migration of Atlantic salmon, which are a known important prey species for local bottlenose dolphin.[60,61] However, dolphin in the area have also been observed feeding upon mackerel, flatfish, cod, saithe, whiting, haddock, and cephalopods.[61]

Harbour Seal

4.7.5 Harbour seal (*Phoca vitulina*) are also known to haul out within the Moray Firth and also prey upon Atlantic salmon.[65] Approximately 32% of the European harbour seal population is found in the UK, with a current population estimate in UK waters of 30,855 individuals.[66] Similar management units have been delineated for seals in UK waters by the University of St. Andrews Sea Mammal Research Unit (SMRU) Special Committee on Seals (SCOS). The Proposed Development occurs within the Moray Firth MU, within which the most recent abundance estimate is 690 individuals.[67]

4.7.6 Harbour seals live in discrete regional populations, usually staying within 50 km of the coast.[68,69] They come onshore at haul-out sites, where they rest, breed, and moult. In Scotland, seal haul-out sites are protected under Section 117 of the Marine (Scotland) Act 2010. Protected haul-out sites within the Moray Firth are located at Beauly Firth, Ardersier, Findhorn, and the Cromarty Firth. Additionally, connectivity has been indicated between the haul-out sites within the Moray Firth and the Dornoch Firth SAC.[70] The most recent counts for harbour seals

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[64] Cheney, BJ, Arso Civil, M, Hammond, PS and Thompson, PM. (2024). Site Condition Monitoring of bottlenose dolphins within the Moray Firth Special Area of Conservation 2017-2022. NatureScot Research Report 1360.

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[70] Butler, JRA, Middlemas, SJ, McKelvey, SA, McMyn, I, Leyshon, B, Walker, I, Thompson, PM, Boyd, IL, Duck, C, Armstrong, JD, Graham, IM, Baxter, JM. (2008). The Moray Firth Seal Management Plan: an adaptive framework for balancing the

at these haul-out sites are provided in **Table 4-5 Mean harbour seal counts at haul out sites within the Moray Firth**.

Table 4-5 Mean harbour seal counts at haul out sites within the Moray Firth

Seal Haul Out Site	Mean Harbour Seal Count (2014)
Beauly Firth	37
Ardersier	28
Findhorn	260
Cromarty Firth	100

4.7.7 More recent estimates of hauled out seals within these areas have been estimated, but over slightly larger areas than that of the current protected haul out sites.[71] These areas reflect subunits within the Moray Firth SMU and are provided in **Table 4-6 August counts of harbour seal by subunit of the Moray Firth seal management area.**.

Table 4-6 August counts of harbour seal by subunit of the Moray Firth seal management area.

Moray Firth Subunit	Harbour Seal Count (2019)
Beauly Firth to Fort George	24
Ardersier to Findhorn	729
Cromarty Firth	84

conservation of seals, salmon, fisheries, and wildlife tourism in the UK. Aquatic Conservation: Marine and Freshwater Ecosystems 18:1025-1038.

[71] Morris, CD, Duck, CD,and Thompson, D. (2021). Aerial surveys of seals in Scotland during the harbour seal moult, 2016-2019. NatureScot Research Report 1256.

5. Test of Likely Significant Effects

5.1 Overview

5.1.1 This section assesses the potential for the identified Construction and Operational Phase impacts, for which pathways to European sites exist, to have likely significant effects on those sites. NatureScot summarises case law on the meaning of likely significant effects, as follows:

- An effect is 'likely' if it "*cannot be excluded on the basis of objective information*";
- An effect is 'significant' if it "**is likely to undermine the conservation objectives**" of a European site.

5.1.2 While use of the Precautionary Principle, as defined by the European Commission[6], sets the threshold for 'likely' to be quite low, the CJEU ruled in the Boggis judgement that there should be "*credible evidence that there was a real, rather than hypothetical risk*"[72].

5.1.3 The significance of effects should be determined in relation to the specific features and environmental conditions of the European site concerned, taking particular account of the site's Conservation Objectives and ecological characteristics[16].The nature of the likely interactions between the Proposed Development and the integrity of a European site will depend upon: the sensitivity of the European site's qualifying features to potential impacts arising from the project; the current conservation status of the European site and its qualifying features; and, any likely changes to key environmental indicators (e.g. water quality) that underpin the conservation status of European sites and their qualifying features, in combination with other plans and projects.

5.1.4 The purpose of 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[10], 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[8]. 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.

5.1.5 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 and Operational Phases to prevent the spread of INNS. Such measures would be set out in a Biosecurity Management Plan, Construction Environmental Management Plan and / or other similar document(s).

5.1.6 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 is required (Section 7 of this document).

5.2 Impacts Excluded from Appraisal

5.2.1 On the basis of the initial assessment described in **Table 4: Establishing the Zone of Influence of the Proposed Development**, and considering NatureScot's guidance on the handling of mitigation in HRA, the following possible impacts have been excluded from further appraisal because there is clearly no potential for them to occur:

- During the Construction Phase:
  - Changes to predator / prey interactions;
- During the Operational Phase:

[72] Court of Appeal case C1/2009/0041/QBACF Citation No [2009] EWCA Civ. 1061.

- Direct Loss of or damage to habitat within a European site;
- Loss of functionally-linked habitat;
- Airborne pollution;
- Spread of INNS.

5.3 Screening Assessment

5.3.1 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 5-1** to **Table 5-13** for their potential to result in likely significant effects on the qualifying features.

5.3.2 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 NatureScot SiteLink website. A summary of this information for each European site is presented in **Annex A**.

Table 5-1 HRA Screening Assessment for North Inverness Lochs SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling Phase and Construction Phase		
Direct loss of or damage to habitat within a European site	North Inverness Lochs SPA extends approximately 25 m into the northern part of the Proposed Development Site. No infrastructure is proposed in this area, with the nearest being the access track and crossing point of the River Coiltie, approximately 800 m south of the SPA. Construction will therefore not take place in proximity to the designated site and there will be no direct loss of habitat in North Inverness Lochs SPA from these works. The north side of Glen Coiltie within or near the existing (not completely effective) deer enclosure has been identified as an area for habitat enhancement to be delivered by the Proposed Development. This will include tree planting (of native species). No planting will take place within the boundary of North Inverness Lochs SPA; however, it is possible that natural regeneration of tree species may occur in this area, as herbivore grazing pressure will be reduced through the installation of deer fencing in the wider landscape. Slavonian grebe occasionally nest in the branches of trees around lochans[27], and native tree planting has been carried out around Loch Ruthven (which is an RSPB reserve and designated as an SPA for Slavonian grebe); approximately half of the shore of Loch Ruthven is fringed by native woodland[73]. The presence of native woodland in the area around North Inverness Lochs SPA would therefore not adversely impact Slavonian grebe or act in such a way as to effectively lead to a loss of otherwise suitable habitat.	No
Loss of functionally-linked habitat	The only waterbodies that will be lost to the Proposed Development are Loch nam Breac Dearga (Waterbody ID 16, see **Annex B** of this document), Loch nam Breac Dearga Lochan (Waterbody ID 15) and Glas-bheinn Mhòr Southern Swamp (Waterbody ID 14), which lie within the footprint of the Headpond. No observations of Slavonian grebe were recorded on any of these waterbodies during AECOM surveys in 2024 and none were suitable to support breeding. No waterbody which was found to be used by Slavonian grebe will be lost to the Proposed Development.	No
Disturbance and displacement of qualifying species	As stated above, although a small part of North Inverness Lochs SPA lies just within the Proposed Development Site, construction works will take place approximately 800 m from the nearest waterbodies encompassed by the designation. NatureScot guidance suggests that the maximum distance at which disturbance of breeding Slavonian grebe can occur is between 150 m to 350 m[47]. The two waterbodies within the component part of North Inverness Lochs SPA closest to the Proposed Development are therefore well beyond that distance and are also visually screened from the closest works areas by topography (they are situated at higher elevation than the northern access track) and forestry. It is concluded that there will be no disturbance of Slavonian grebe breeding within the boundary of North Inverness Lochs SPA. Birds which breed within the SPA boundary are expected to remain on the nesting lochan(s) and not make use of any habitat outside of the designated site while nesting. Disturbance of these birds outside of the SPA is therefore not considered to be possible. The possibility of non-SPA birds being disturbed / displaced, and this having indirect effects on the SPA population (for example through reduced recruitment to the SPA population in future years) is considered under 'Other indirect impacts', further below.	No
Injury or mortality of qualifying species	Slavonian grebe predominantly nest in areas of emergent vegetation[55], although nesting in loch-side bushes and overhanging branches has also been recorded[27]. As is typical for the species, within the survey area for the Proposed Development, all nesting is believed to have been within areas of emergent sedge, which were often not dense. There are no trees or bushes around any of the surveyed waterbodies and so nesting in such features within approximately 2 km of the Proposed Development is impossible.	No

[73] NatureScot (2010). Loch Ruthven Site of Special Scientific Interest Site Management Statement. Available from: https://sitelink.nature.scot/site/1047.

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	These birds are only vulnerable to injury or mortality when nesting. As all nesting within approximately 2 km of the Proposed Development took place within emergent vegetation in waterbodies that will not be lost to the Proposed Development, there is no potential for injury or mortality of any Slavonian grebe.	
Changes to surface water or groundwater hydrology	The two waterbodies within the nearest part of North Inverness Lochs SPA are situated up-gradient of proposed infrastructure. There is consequently no possibility of there being impacts on the surface water hydrology of these waterbodies. Similarly, and at approximately 750 m from the nearest construction works, there is no possibility of there being impacts on groundwater conditions within the SPA (based on SEPA guidance[48]). As far as possible, watercourse crossings will be constructed as clear-span structures and the natural bed and channel of watercourses retained, as per SEPA guidance[74], so as to maintain surface water flows. There is consequently no possibility of surface water changes affecting other waterbodies, outside of the SPA boundary, which may be used by Slavonian grebe for nesting. The geology underlying the Proposed Development and majority of Slavonian grebe lochans comprises essentially impermeable strata with minor fracture flow with negligible impacts predicted on groundwater quantity or quality (see **Chapter 10: Water Environment (Volume 2: Main Report)**); two lie upon Old Red Sandstone but are over 1.5 km south of the Proposed Development on the opposite side of Meall Fuar-mhonaidh, with no likelihood of a significant effect.	No
Waterborne pollution	During the Construction Phase, the Proposed Development will be legally required to implement pollution prevention measures to ensure no pollution of the water environment. North Inverness Lochs SPA is up-gradient of construction works areas, so there is no possibility of direct pollution of the SPA. Furthermore, with the implementation of standard pollution prevention measures (which constitutes embedded mitigation and can be considered at this HRA Screening stage), there will be no pollution of other waterbodies used by Slavonian grebe for breeding.	No
Airborne pollution	Although North Inverness Lochs SPA is located just within the boundary of the Proposed Development Site, it is approximately 750 m from the nearest construction works. According to IAQM guidance[49] [53], there is consequently no possibility of there being air quality impacts on this site. No breeding waterbodies for Slavonian grebe were recorded within 50 m of the Proposed Development Site during the 2024 AECOM surveys or were provided by the RSPB between 2013 and 2024. As such there is negligible potential for dust to impact these waterbodies and therefore affect breeding success. One breeding waterbody was recorded within 200 m of the Proposed Development site and therefore could theoretically be affected by air quality impacts from construction traffic. The Design Manual for Roads and Bridges (DMRB) advises that air quality impacts only need to be assessed where a project would increase annual average daily traffic (AADT) of light vehicles (e.g. cars) by more than 1,000 movements and / or heavy duty vehicles (HDV) by more than 200 movements[75] [53]. Even allowing for worst case scenario assumptions the number of HDV movements during enabling and construction is not expected to exceed 200 per day (See **Chapter 7: Terrestrial Ecology (Volume 2: Main Report)**). As such there is no potential for deductions in air quality to affect Slavonian grebe breeding waterbodies.	No
Spread of INNS	North Inverness Lochs SPA is up-gradient of construction works and there is consequently no possibility of INNS plants being spread by water transfer. The SPA is also, at closest, approximately 750 m from the Proposed Development, so construction works are not likely to spread INNS plants to the designated site. Biosecurity measures will be implemented by the Proposed Development as standard good practice. There is consequently no likely significant effect from the spread of INNS.	No
Other indirect impacts	Although likely significant effects on birds occurring within the boundary of North Inverness Lochs SPA are not considered to be possible (as described in the rows above), the disturbance of Slavonian grebe nesting on other waterbodies, outside of the designated site boundary, could lead to indirect effects on the designation.	**Yes**

[74] SEPA (2010). *Engineering in the water environment: good practice guide – River crossings*. 2nd edition. SEPA.
[75] Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2019). Design Manual for Roads and Bridges. Sustainability & Environment Appraisal LA 105 Air quality. (online) Available at: https://www.standardsforhighways.co.uk/tses/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true.

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	For example, maintenance of the SPA population may be reliant, even if only in certain years, on recruitment from breeding pairs occurring in the wider area. Consequently, any reduction in breeding success of Slavonian grebe on nearby waterbodies caused by disturbance from the Proposed Development could have likely significant effects on North Inverness Lochs SPA. Based on the appraisal in the rows above, the only mechanism by which the breeding success of pairs outside of the European site boundary could be caused is through disturbance / displacement impacts.	
Operational Phase		
Disturbance and displacement of qualifying species	For the reasons set out in relation to the Construction Phase, there is no possibility of operational activities disturbing Slavonian grebe breeding within North Inverness Lochs SPA.	No
Changes to surface water or groundwater hydrology	Operation of the Proposed Development will have no impacts on the surface water or groundwater hydrological conditions of the upland waterbodies which could be used by Slavonian grebe for breeding. Loch Ness, which is the only standing waterbody that will be subject to hydrological changes, is not suitable for use by Slavonian grebe for breeding.	No
Waterborne pollution	As described for the Construction Phase, the Proposed Development will not lead to waterborne pollution of the waterbodies within North Inverness Lochs SPA, or of any other waterbody which could be used by Slavonian grebe for breeding.	No
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of North Inverness Lochs SPA could arise. As described in relation to the Construction Phase, this could indirectly affect North Inverness Lochs SPA.	**Yes**

Table 5-2 HRA Screening Assessment for Urquhart Bay Wood SAC

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Changes to surface water or groundwater hydrology	Urquhart Bay Wood SAC is located approximately 1.9 km from the Proposed Development, on the western side of Loch Ness. Impacts on hydrology during the Construction Phase will be relatively limited and could occur due to, for example, excavation of the Headpond, abstraction of water for construction purposes, etc. Where this impacts watercourses / waterbodies which drain into Loch Ness, outside of the SAC boundary, the massive buffering capacity of Loch Ness is such that any changes are extremely unlikely to be of sufficient magnitude to have an effect on the hydrological conditions within Urquhart Bay Wood SAC. However, Urquhart Bay Wood SAC lies at the confluence of the River Enrick and River Coiltie, both of which flow directly from the Proposed Development Site (and not first via Loch Ness). Any impacts on the hydrology of the River Enrick or River Coiltie which arise during the Construction Phase could, therefore, have a greater impact on hydrological conditions within the SAC. The potential for likely significant effects via this impact pathway cannot therefore be excluded without further assessment / mitigation.	**Yes**
Waterborne pollution	The Proposed Development will, to comply with environmental protection legislation, implement standard pollution prevention measures during the Construction Phase. This will ensure no pollution of the water environment. Even if it were to be generated in the absence of standard good practice measures, waterborne pollution entering Loch Ness would be subject to the massive buffering capacity of the waterbody, and it would likely disperse widely. The flow of the Rivers Enrick and Coiltie through Urquhart Bay Wood SAC would also prevent pollutants from entering the European site boundary. Following the course of the River Coiltie from the Proposed Development Site, it is approximately 6.5 km to Urquhart Bay Wood SAC. For the River Enrick, this distance is approximately 7.6 km. Again, over this distance, pollutants would be subject to substantial dilution and would be discharged into Loch Ness. For these reasons, there are no likely significant effects on the qualifying habitat of Urquhart Bay Wood SAC from waterborne pollution during the Construction Phase.	No
Airborne pollution	Small parts of Urquhart Bay Wood SAC lie within 200 m of the A82, for which traffic assessment (**Chapter 13: Access, Traffic and Transport (Volume 2: Main Report)**) has predicted increases in traffic during construction at 'Drumnadrochit North' and 'Urquhart Castle'. For 'Drumnadrochit North', there are predicted daily increases during construction of 76 heavy goods vehicles (HGV) and 34 other vehicles, and for 'Urquhart Castle' 4 HGV only. The large difference is because construction traffic would largely approach from the north rather than the south. For 'Urquhart Castle' and non-HGVs at 'Drumnadrochit North', the increases are very slight, representing an approximate 1% increase in the already-high 2028 baseline daily rates of 311 HGV at 'Urquhart Castle' and 3,817 non-HGV at 'Drumnadrochit North'. For 'Drumnadrochit North' the increase for HGV is 46% on the existing daily rate of 165 HGV, giving a total daily rate during construction of 241 HGV. Background nitrogen deposition for 'forest' at the SAC is 6.8-6.9 $kgNha^{-1}yr^{-1}$ [76]. This is low for the UK, no doubt owing to the Highland location, even with baseline daily rates at 'Drumnadrochit North' and 'Urquhart Castle' well above the assessment thresholds of 200 HGV or 1000 other vehicles per day stated in DMRB and IAQM guidance[77] [53]. Slight 1% increases in traffic movements would involve inconsequential changes to nitrogen deposition within the likely baseline variation and also could not increase nitrogen deposition rate from 6.8-6.9 k ha^{-1} yr^{-1} to anywhere near the critical load for 'Broadleaved Deciduous Forest' of 10-20 k ha^{-1} yr^{-1}, which is stated to be reliable[78]. The daily HGV rate at 'Drumnadrochit North' could cause the deposition rate within 200 m of the A82 north of	No

[76] https://www.apis.ac.uk/app
[77] Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2019). Design Manual for Roads and Bridges. Sustainability & Environment Appraisal LA 105 Air quality. (online) Available at: https://www.standardsforhighways.co.uk/tses/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true
[78] https://www.apis.ac.uk/node/965

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	Drumnadrochit to approach the lowest end of the critical load range. However, it is also important to note that a) the ground flora in the SAC will be heavily affected by nitrogen and other inputs from regular river flooding and deposited alluvium, and b) this would only be during construction, whereas changes to vegetation through atmospheric gaseous effects (except where emissions are very high and directly toxic) occur through long-term on-going change. Therefore, there is not likely to be a significant effect on Urquhart Bay Wood SAC from emissions by construction traffic.	
Operational Phase		
Changes to surface water or groundwater hydrology	The sole qualifying feature of Urquhart Bay Wood SAC is Alder woodland on floodplains, a habitat which is strongly influenced by hydrological conditions. The qualifying habitat is assessed as being in Unfavourable No change condition, with water management being identified as an existing negative pressure. The operation of the Proposed Development could lead to water levels in Loch Ness rising and falling. The degree and frequency of this impact could be sufficient to alter conditions within Urquhart Bay Wood SAC, which could become unsuitable for the wet woodland habitat type for which the site is designated (either by drying out or increasing inundation to too great a degree). This could prevent the Conservation Objectives of the SAC being met, in particular to maintain the extent and distribution of habitat within the site, to restore the structure, function and supporting processes of the habitats, and to restore the distribution and viability of typical species of the habitat. Without further investigation, the potential for likely significant effects cannot be excluded.	**Yes**
Waterborne pollution	As described for the Construction Phase, the Proposed Development will not lead to waterborne pollution of habitat within Urquhart Bay Wood SAC.	No

Table 5-3 HRA Screening Assessment for Ness Woods SAC

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Loss of functionally-linked habitat	Ness Woods SAC is designated for woodland habitats and otter. The loss of functionally-linked habitat is only relevant to otter, which can move beyond the boundary of the SAC. Ness Woods SAC is located approximately 1.5 km south of Proposed Development at its closest, on the east side of Loch Ness. Otter has very large home ranges, extending up to 48 km for males and 21 km for females[31]. The only waterbodies that will be lost to the Proposed Development are Loch nam Breac Dearga (Waterbody ID 16), Loch nam Breac Dearga Lochan (Waterbody ID 15) and Glas-bheinn Mhòr Southern Swamp (Waterbody ID 14), which lie within the footprint of the Headpond.. These are approximately 4.2 km from the nearest part of Ness Woods SAC, 'as the crow flies', and approximately 8.1 km following hydrological linkage. It was found by aquatic ecology surveys to contain brown trout *Salmo trutta*, a prey resource for otter. A small area of bankside will be lost in Loch Ness to the LCW. This is approximately 3.1 km from Ness Woods SAC. There will also be a loss of terrestrial habitat across the Proposed Development Site which could support amphibians, which at certain times of year can be an important prey resource to otter. However, for the following reasons, no significant effects on the qualifying otter population of Ness Woods SAC are predicted: • Although the Proposed Development lies within the potential home range of otter associated with Ness Woods SAC, given the substantial distances involved, it is unlikely that individuals would regularly commute between the two locations, with the possible exception of the LCW on Loch Ness; • The loss of habitat from the Proposed Development will be very small in the context of the size of otter home ranges; • Only two lay-ups were found at Loch nam Breac Dearga, which will be lost to construction of the Headpond. No holts will be lost, and this waterbody is not of apparent importance to otter; and • There is a very large area of suitable habitat which is likely to be of much greater importance to otter between the Proposed Development Site and Ness Woods SAC. In particular this includes Loch Ness and the larger watercourses flowing into it. With specific reference to the Conservation Objectives of the site, therefore, the minor loss of potentially functionally-linked habitat is highly unlikely to affect the population or distribution of otters within Ness Woods SAC.	No
Disturbance and displacement of qualifying species	There is no possibility of construction works disturbing otters when present inside the boundary of Ness Woods SAC given the minimum separation distance of 1.5 km. For the reasons given above in relation to functionally-linked habitat, otters associated with Ness Woods SAC are unlikely to regularly commute to locations in the vicinity of the Proposed Development Site, with the possible exception of the LCW. Even in instances where otters belonging to the SAC do occur on or near the Proposed Development Site, they are likely to do so at night, generally at times when above-ground works are not taking place. The distance over which otters could be disturbed / displaced by any works which are taking place is only likely to extend over a short distance, and there will remain substantial areas of other suitable habitat for foraging, including in Loch Ness, numerous watercourses and terrestrial habitat which may support prey such as amphibian species. Therefore, disturbance of otters associated with Ness Woods SAC is unlikely to occur, and even if it were to occur, would not result in a significant effect on the qualifying population (the size and distribution of the population within the European site are very unlikely to change as a consequence).	No

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Injury or mortality of qualifying species	As set out in **Annex A**, otter is assessed as being in 'Unfavourable Declining' condition in Ness Woods SAC. However, the level of confidence in the assessment of the conservation status of otter in this site is low due to difficult terrain and the loss of a bridge spraint site. Moreover, survey conditions during the site condition monitoring which recommended this conservation status were highly unfavourable, and signs of otter may have been removed by heavy rain and high-water levels[79]. Evidence of otter was still found at 67% of sites and the predicted occupancy is 64% (though this may be an underestimate, based on lack of certainty in the assessment). 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[9], 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 unlikely to be caused by the Proposed Development, is highly unlikely to significantly affect the population of Ness Woods SAC. Given the highly suitable habitat within the SAC and the presence of otter throughout the Loch Ness catchment area, a territory made vacant through mortality would likely be quickly reoccupied by another individual. 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 conservation status; and, b) that the likelihood of mortality is reduced even further by the implementation of standard good 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	Ness Woods SAC is located on the opposite side of Loch Ness from the Proposed Development. Any impacts on hydrology during the Construction Phase will be relatively limited and could occur due to, for example, excavation of the Headpond, abstraction of water for construction purposes, etc. With the massive buffering capacity of Loch Ness, any such impacts are extremely unlikely to be of sufficient magnitude to have an effect on the hydrological conditions within Ness Woods SAC.	No
Waterborne pollution	The Proposed Development will, to comply with environmental protection legislation, implement standard pollution prevention measures during the Construction Phase. This will ensure no pollution of the water environment. Works within Loch Ness could be considered 'non-standard' construction and therefore specific pollution prevention measures will be required during the course of those. However, even in the absence of these, pollution caused by works in Loch Ness would very likely extend over a small area, relative to an otter home range. There would remain abundant alternative foraging habitat which could be used by otter. There is consequently no likely significant effect on otter from waterborne pollution during the Construction Phase.	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 is 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 Ness Woods SAC as a result of disturbance during the Operational Phase.	No
Changes to surface water or groundwater hydrology	For both of the qualifying woodland habitat types of Ness Woods SAC, the Conservation Advice Package states that levels of moisture/humidity are important for supporting the characteristic bryophyte and lichen assemblages, and the ground flora. The operation of the Proposed Development could lead to water levels in Loch Ness rising and falling. The degree and frequency of this impact could be sufficient to alter conditions within Ness Woods SAC, and this could lead to changes in the vegetation communities. This could prevent the Conservation Objectives of the SAC being met, in particular to restore the structure, function and supporting processes of the habitats, and to restore the distribution and viability of typical species of the habitat. Without further investigation, the potential for likely significant effects cannot be excluded.	**Yes**

[79] Findlay, M., Alexander, L. and Macleod, C. (2015). Site condition monitoring for otters (*Lutra lutra*) in 2011-2012. Scottish Natural Heritage Commissioned Report No. 521.

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	Otter is an adaptable species that can forage in a wide range of aquatic environments, including standing freshwater, watercourses and other areas of wetland (e.g. for amphibians). They have a wide diet. Further, the home range of otter is very large, and for individuals associated with Ness Woods SAC is likely to encompass a number of watercourses and lochs / lochans, as well as Loch Ness. Consequently, it is very unlikely that fluctuations in water levels in Loch Ness would prevent otter from having access to sufficient prey. With reference to the Conservation Objectives for the SAC, therefore, water level changes in Loch Ness would not prevent the population and distribution of otter within the site from being maintained, or the availability of food for otter from also being maintained.	
Waterborne pollution	As described for the Construction Phase, the Proposed Development will not lead to waterborne pollution of waterbodies which are either within Ness Woods SAC or which could be used by otter associated with Ness Woods SAC.	No

Table 5-4 HRA Screening Assessment for River Moriston SAC

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling Phase and Construction Phase		
Loss of functionally-linked habitat	For the assessment of the River Moriston, any likely significant effects to Atlantic salmon (and sea trout) are also considered to result in a likely significant effect to FWPM due to the intrinsic links of their lifecycles. The assessment is therefore not duplicated for both qualifying species of the SAC.	**Yes**
Disturbance and displacement of qualifying species	There will be temporary disturbance to the shoreline and margins of Loch Ness, with the temporary cofferdam extending out into the loch. The cofferdam is a water-tight, temporary structure that will encircle the area required for the LWC works. The area within the cofferdam will be pumped dry to facilitate the construction of the Tailpond inlet / outlet structure.	**Yes**
Injury or mortality of qualifying species	The effects on habitats within Loch Ness will be localised to the relatively small area of the cofferdam (0.01% of the total loch area). These effects will consist of disruption and removal of substrate, including dredging after removal of the cofferdam, and de-watering of this area. Additionally, the migratory routes of salmon and other migratory species through Loch Ness are not well known, but it is likely that these species will be present in the vicinity of the cofferdam during their migration: late spring and early summer for salmon smolt migration; late autumn or early winter for adult migration. In the absence of mitigation, the potential effects on Atlantic salmon and sea trout in Loch Ness through construction of the cofferdam are considered likely to be significant due to the disruption of migratory behaviour and potential mortality and physical injury to fish.	**Yes**
Prevention of migratory movements of qualifying species	As described above, the construction of the cofferdam has the potential to impact upon migratory fish species (Atlantic salmon and sea trout) and therefore have an adverse impact (and thus likely significant effect) upon their migratory success. This could be due to such effects as noise and vibration distracting fish from their migratory route, impacts to water quality leading to the injury, mortality, or impairment of migrating fish, or distraction from the migratory route resulting in an increased risk of predation, for example by otter, pike, or other predatory fish species.	**Yes**
Changes to surface water or groundwater hydrology	The effects on surface water or groundwater hydrology during construction will be minimal due to the maintenance of compensatory flows in receiving watercourses and the localised nature of the LCW in the margins of Loch Ness. Therefore, this is considered not to represent a likely significant effect on Atlantic salmon and sea trout.	No
Waterborne pollution	Works within Loch Ness could be considered ‘non-standard’ construction and therefore specific pollution prevention measures will be required during the course of those. However, even in the absence of these, pollution caused by works in Loch Ness would very likely extend over a small area, relative to that within the home range of migratory Atlantic salmon and sea trout. Loch Ness is approximately 1.4 km wide at the location of the LCW and therefore migratory species would be able to navigate away from the localised area of disturbance. However, in the absence of mitigation, there is consequently the potential for a likely significant effect on Atlantic salmon and sea trout from waterborne pollution during the Construction Phase.	**Yes**
Operational Phase		
Disturbance and displacement of qualifying species	The disturbance or displacement of qualifying species (Atlantic salmon and sea trout) may arise from the operation of the LCW causing the entrainment, impingement, or distraction of migrating fish, or from changes in water levels in Loch Ness resulting in fish being unable to complete their migration, for example due to inability to navigate Dochfour Weir (upstream or downstream). These factors are assessed in further detail below; however, this is considered to constitute a likely significant effect.	**Yes**
Injury or mortality of qualifying species	Lasting effects of the inlet / outlet structure on the Loch Ness shoreline, including effects in relation to loch priority habitat, fish (e.g., entrainment / impingement of fish, and distraction from migratory routes), and INNS. In the absence of mitigation, this is considered to constitute a likely significant effect.	**Yes**

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Prevention of migratory movements of qualifying species	Loch Ness is classified in the WFD assessment as 'High Status' for the 'fish barrier' element, indicating that there are currently no constraints to the migration of fish in and out of the loch. However, during consultation with NDSFB, concerns were raised over the current effectiveness of fish passage at Dochfour Weir due to ineffective fish passage, especially at times of low flow over the weir. Under the current configuration, Dochfour Weir and the existing fish pass are not conducive to successful migration of Atlantic salmon upstream or salmon smolts downstream. Therefore, fluctuating water levels in Loch Ness have the potential to impact upon fish passage on Dochfour Weir using the associated fish pass, and therefore impact on the migratory success of fish species in the loch and River Ness, including Atlantic salmon and sea trout. The operation of the Proposed Development will depend on water level constraints within Loch Ness as well as electricity generation market conditions. The time required to fully discharge or fill the Headpond is around 15 hours of continuous operation. However, the duration and frequency of operation will reflect energy generation needs at a particular time and cannot be predicted with certainty. Due to regular energy generation cycles with water being pumped up to the Headpond then returned to the loch, changes in the frequency and extent of water level fluctuations in Loch Ness will be greater than in the baseline scenario. As such, there will be resulting effects on fish passage at Dochfour Weir due to fluctuating water levels. Downstream migration of smolts could also be impeded by a reduction in water levels at Dochfour Weir and flows in the River Ness downstream. Salmon smolts migrate to the sea in late spring or June having spent two to three years in rivers. Downstream migration is largely passive, with smolts drifting downstream with the current. To aid this migration, a smolt pass and bypass culvert have been installed in Dochfour Weir and between the Caledonian canal and the River Ness respectively. As with the fish pass, there are concerns about the efficiency and the general design of these smolt passes as it is known that a proportion of smolts (potentially 15 – 20% according to previous smolt tracking studies, NDSFB, pers. comm.) are carried into the canal and fail to successfully complete their migration to the sea. Given the potential reduction in flows to the River Ness under all flow scenarios, apart from under Q10 (a high flow scenario), there is a risk that smolt passage will be reduced with a greater proportion seeking the higher flows through the lift gates or being diverted down the Caledonian canal. Both routes are likely to result in mortality of salmon smolts. While it is considered that the intake of the Proposed Development will not pose a significant impact to the downstream migration of smolts as it has been designed to best practise (i.e. 12.5 mm aperture screen and intake and outflow velocities of ≤0.3 m/s), it is not clear how the smolt migration is affected by either level fluctuations in the loch and potential changes in flows within the loch as a result of energy generation pumping. In particular, the spatial extent of the hydraulic change caused by the outflow has not been modelled. As smolt migration is largely passive, with smolts drifting downstream with the current, there is a risk that flow input from the energy generation cycle may disorientate their movements leading to delays in their migration and potentially becoming lost to the system unable to reach the sea, for example due to entrainment or impingement at the LCW – such effects in combination delay migration and lead to an increased risk of mortality or predation. Therefore, the prevention of migratory movements of Atlantic salmon (and sea trout) and subsequent effects on the recruitment success of FWPM are considered a likely significant effect.	**Yes**
Changes to predator/prey interactions	Changes to predation risk for Atlantic salmon and sea trout, in particular juveniles / smolts, arise from the distraction or diversion of migrating fish at the LCW as described above, and the subsequent risk of predation by otter or pike, for example. In the absence of mitigation, this is therefore considered a likely significant effect. Loch Ness levels fluctuate, owing in part to the existing SSE pumped storage hydro scheme operating at Foyers which includes a HoF at 15.33 m AOD where pumping is required to be curtailed, and also due to natural climatic variations. Modelling for the Proposed Development has shown that these fluctuations would become more frequent. The more frequent fluctuations would result in marginal habitat being wetter for longer. Given that research has shown that lochs subject to	**Yes**

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	PSH schemes (with headponds showing much greater fluctuations in level than tailponds) have impoverished marginal macrophyte and macroinvertebrate assemblages , additional marginal wetting as a result of increased fluctuations may provide a benefit to marginal aquatic ecological communities – especially as the magnitude of fluctuations in a water body the size of Loch Ness are predicted to be minor. The Proposed Development will operate between a lowest water level for abstraction of 15.38 m AOD, to an upper level of 17.35 m AOD, without mitigation. This is compared to a baseline maximum water level of 17.53 m AOD. However, on a precautionary basis (subject to the further Loch Ness surveys to be completed in spring 2025) and the uniformity of aquatic habitats in the margins, this is not considered to represent a likely significant effect on Atlantic salmon.	
Changes to surface water or groundwater hydrology	Changes to surface water hydrology are predicted and modelled as changes in water levels and the frequency of level fluctuations in Loch Ness as a result of the operation of the Proposed Development. This will result, for example, in changes in water levels at Dochfour Weir, and may impede the ability for upstream or downstream migrating fish to navigate the weir, which as described above is already impeded in the baseline scenario. Therefore, as described above, this has the potential to result in a likely significant effect. Changes to groundwater hydrology will not result in a likely significant effect on the River Moriston SAC.	**Yes**
Waterborne pollution	As assessed in detail in **Chapter 10: Water Environment (Volume 2: Main Report)**, there are no pathways for waterborne pollution into Loch Ness or receiving water bodies during operation. Any changes to temperature due to the transfer of water from the Headpond to Loch Ness and vice versa will be negligible due to the altitude of the Headpond and the buffering capacity of Loch Ness. Therefore, this is not considered to represent a likely significant effect.	No

Table 5-5 HRA Screening Assessment for Loch Knockie and nearby Lochs SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Loss of functionally-linked habitat	The only waterbodies that will be lost to the Proposed Development are Loch nam Breac Dearga (Waterbody ID 16), Loch nam Breac Dearga Lochan (Waterbody ID 15) and Glas-bheinn Mhòr Southern Swamp (Waterbody ID 14), which lie within the footprint of the Headpond. No observations of Slavonian grebe were recorded on any of these waterbodies during the 2024 AECOM surveys and none were suitable to support breeding. No other waterbody which was found to be used by Slavonian grebe will be lost to the Proposed Development. There is no possibility of a loss of functionally-linked habitat which could be used by Slavonian grebe associated with Loch Knockie and nearby Lochs SPA.	No
Disturbance and displacement of qualifying species	Loch Knockie and nearby Lochs SPA is more than 4 km from the Proposed Development. NatureScot guidance suggests that disturbance of Slavonian grebe can occur at distances of between 150 m to 350 m[47]. There is consequently no possibility of construction activities disturbing birds when present within the SPA boundary. As set out in **Table 5-1 HRA Screening Assessment for North Inverness Lochs SPA**, birds which breed within the SPA boundary are expected to remain on the nesting lochan(s) and not make use of any habitat outside of the designated site while nesting. Disturbance of these birds outside of the SPA is therefore not considered to be possible. The possibility of non-SPA birds being disturbed / displaced, and this having indirect effects on the SPA population (for example through reduced recruitment to the SPA population in future years) is considered under 'Other indirect impacts', further below.	No
Other indirect impacts	The disturbance of Slavonian grebe nesting on other waterbodies, outside of the designated site boundary, could indirectly affect Loch Knockie and nearby Lochs SPA. For example, maintenance of the SPA population may be reliant, even if only in certain years, on recruitment from breeding pairs occurring in the wider area. Consequently, any reduction in breeding success of Slavonian grebe on nearby waterbodies caused by disturbance from the Proposed Development could have likely significant effects on Loch Knockie and nearby Lochs SPA.	**Yes**
Operational Phase		
Disturbance and displacement of qualifying species	For the reasons set out in relation to the Construction Phase, there is no possibility of operational activities disturbing Slavonian grebe breeding within Loch Knockie and nearby Lochs SPA.	No
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of Loch Knockie and nearby Lochs SPA could arise. As described in relation to the Construction Phase, this could indirectly affect Loch Knockie and nearby Lochs SPA.	**Yes**

Table 5-6 HRA Screening Assessment for Loch Ruthven SAC

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Loss of functionally-linked habitat	Loch Ruthven SAC is designated for freshwater habitat and otter. The loss of functionally-linked habitat is only relevant to otter, which can move beyond the boundary of the SAC. Loch Ruthven SAC is located approximately 9.8 km from the Proposed Development Site, on the east side of Loch Ness. Otter has very large home ranges, extending up to 48 km for males and 21 km for females[31]. The only waterbody that will be lost to the Proposed Development which supports a prey resource for otter is Loch nam Breac Dearga; this supports brown trout. It is approximately 15 km from the nearest part of Loch Ruthven SAC, 'as the crow flies', and considerably more than 25 km following hydrological linkage. A very small part of Loch Ness will be lost to the LCW. The LCW is approximately 12 km from Loch Ruthven SAC. There will also be very small loss of other standing water within the Proposed Development Site that could support common amphibians (which at certain times of year can be an important prey resource to otter). However, for the following reasons, no significant effects on the qualifying otter population of Loch Ruthven SAC are predicted: • Although the Proposed Development lies within the potential home range of otter associated with Loch Ruthven SAC, given the substantial distances involved, it is unlikely that individuals would regularly commute between the two locations, with the possible exception of the LCW on Loch Ness; • The loss of habitat from the Proposed Development will be very small in the context of the size of otter home ranges; • Only two lay-ups were found at Loch nam Breac Dearga, which will be lost to construction of the Headpond. No holts will be lost, and this waterbody is not of apparent importance to otter; and • There is a very large area of suitable habitat which is likely to be of much greater importance to otter between the Proposed Development Site and Loch Ruthven SAC. In particular this includes Loch Ruthven itself, Loch Ness and the larger watercourses in the area. With specific reference to the Conservation Objectives of the site, therefore, the minor loss of potentially functionally-linked habitat is highly unlikely to affect the population or distribution of otters within Loch Ruthven SAC.	No
Disturbance and displacement of qualifying species	There is no possibility of construction works disturbing otters when present inside the boundary of Loch Ruthven SAC given the minimum separation distance of 9.8 km. For the reasons given above in relation to functionally-linked habitat, otters associated with Loch Ruthven SAC are unlikely to regularly commute to locations in the vicinity of the Proposed Development Site, with the possible exception of the LCW. Even in instances where otters belonging to the SAC do occur on or near the Proposed Development Site, they are likely to do so at night, generally at times when above-ground works are not taking place. The distance over which otters could be disturbed / displaced by any works which are taking place is only likely to extend over a short distance, and there will remain substantial areas of other suitable habitat for foraging, including in Loch Ruthven, Loch Ness, numerous watercourses and terrestrial habitat which may support prey such as amphibian species. Therefore, disturbance of otters associated with Loch Ruthven SAC is unlikely to occur, and even if it were to occur, would not result in a significant effect on the qualifying population (the size and distribution of the population within the European site are very unlikely to change as a consequence).	No
Injury or mortality of qualifying species	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. For example, in a study commissioned by NatureScot[79], evidence of otter was found at 100% of	No

Impact Source	Potential Effects	Potential for Likely Significant Effects?
	survey sites within the SAC, with 100% occupancy therefore predicted. A territory made vacant through mortality would therefore likely be quickly reoccupied by another individual. 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[9], 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 unlikely to be caused by the Proposed Development, is highly unlikely to significantly affect the population of Loch Ruthven SAC. Given the highly suitable habitat within the SAC and the presence of otter throughout the catchment area, a territory made vacant through mortality would likely be quickly reoccupied by another individual. 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 conservation status; and, b) that the likelihood of mortality is reduced even further by the implementation of standard good 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.	
Changes to surface water or groundwater hydrology	Loch Ruthven SAC is located on the opposite side of Loch Ness from the Proposed Development, and uphill from Loch Ness. Any impacts on hydrology during the Construction Phase will be relatively limited and could occur due to, for example, excavation of the Headpond, abstraction of water for construction purposes, etc. With the massive buffering capacity of Loch Ness, any such impacts are extremely unlikely to be of sufficient magnitude to have an effect on the hydrological conditions within Loch Ness, and there is no possibility of there being direct impacts on Loch Ruthven (given it is located at higher altitude than Loch Ness).	No
Waterborne pollution	The Proposed Development will, to comply with environmental protection legislation, implement standard pollution prevention measures during the Construction Phase. This will ensure no pollution of the water environment. Loch Ruthven SAC is located on the opposite side of Loch Ness from the Proposed Development, and at higher altitude than Loch Ness. There is therefore no possible pathway for direct waterborne pollution of this European site. Works within Loch Ness, which could be used as functionally-linked habitat by otter associated with Loch Ruthven SAC, could be considered 'non-standard' construction and therefore specific pollution prevention measures will be required during the course of those. However, even in the absence of these, pollution caused by works in Loch Ness would very likely extend over a small area, relative to an otter home range. There would remain abundant alternative functionally-linked foraging habitat which could be used by otter. There is consequently no likely significant effect on otter from waterborne pollution during the Construction Phase.	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 is 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 Loch Ruthven SAC as a result of disturbance during the Operational Phase.	No
Changes to surface water or groundwater hydrology	Otter is an adaptable species that can forage in a wide range of aquatic environments, including standing freshwater, watercourses and other areas of wetland (e.g. for amphibians). They have a wide diet. Further, the home range of otter is very large, and for individuals associated with Loch Ruthven SAC, home ranges will likely encompass a number of watercourses and lochs / lochans, as well as potentially Loch Ness. Consequently, it is very unlikely that fluctuations in water levels in Loch Ness would prevent otter from having access to sufficient prey. With reference to the Conservation Objectives for the SAC, therefore, water level changes in Loch Ness would not prevent the population and distribution of otter within the site from being maintained, or the habitats and availability of food for otter from also being maintained.	No

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Waterborne pollution	As described for the Construction Phase, the Proposed Development will not lead to waterborne pollution of Loch Ruthven itself or of other habitat outside of the boundary of Loch Ruthven SAC which could be used as functionally-linked habitat by otter associated with this European site.	No

Table 5-7 HRA Screening Assessment for Loch Ruthven SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Other indirect impacts	Loch Ruthven SPA is designated for breeding Slavonian grebe. The disturbance of Slavonian grebe nesting on other waterbodies, outside of the designated site boundary, could indirectly affect Loch Ruthven SPA. For example, maintenance of the SPA population may be reliant, even if only in certain years, on recruitment from breeding pairs occurring in the wider area. Consequently, any reduction in breeding success of Slavonian grebe on nearby waterbodies caused by disturbance from the Proposed Development could have likely significant effects on Loch Ruthven SPA.	**Yes**
Operational Phase		
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of Loch Ruthven SPA could arise. As described in relation to the Construction Phase, this could indirectly affect Loch Ruthven SPA.	**Yes**

Table 5-8 HRA Screening Assessment for Loch Ashie SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Other indirect impacts	Loch Ashie SPA is designated for supporting a non-breeding aggregation of Slavonian grebe, which gather on the waterbody in the autumn to moult, post-breeding, before migrating to wintering habitats elsewhere. The qualifying population of Slavonian grebe is assessed as being in 'Unfavourable Declining' condition, suggesting that numbers have been reducing, however, according to the SPA citation, the site supports up to 60 birds. The loss of only one bird could therefore represent a potentially significant (greater than 1%) decline. Any impacts from the Proposed Development which contribute to fewer Slavonian grebe visiting Loch Ashie to moult could therefore represent a significant effect. Further appraisal is consequently required at the Appropriate Assessment stage.	**Yes**
Operational Phase		
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of Loch Ashie SPA could arise. As described in relation to the Construction Phase, this could indirectly affect Loch Ashie SPA.	**Yes**

Table 5-9 HRA Screening Assessment for Inner Moray Firth SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Loss of functionally-linked habitat	Inner Moray Firth SPA is designated for a range of non-breeding waterbirds, breeding common tern *Sterna hirundo* and breeding osprey. The core foraging range of osprey during the breeding season is stated by NatureScot as being 10 km[42]. The Proposed Development Site is approximately 16.3 km from Inner Moray Firth SPA, meaning that it is beyond the distance at which osprey would be likely to forage outside of the European site boundary. The habitat within the Proposed Development Site is therefore very unlikely to be functionally-linked to the Inner Moray Firth SPA, with respect of osprey. The non-breeding waterbirds for which the site is designated are largely or exclusively marine during the non-breeding season. The Proposed Development Site, which is located at altitudes of up to around 500 m above sea level, contains no suitable habitat which could be used by any of the non-breeding birds associated with Inner Moray Firth SPA during the non-breeding season. There is consequently no possibility of a loss of functionally-linked habitat for these species.	No
Disturbance and displacement of qualifying species	Inner Moray Firth SPA is located approximately 16.3 km from the Proposed Development Site, and there is no possibility of construction activities causing disturbance of birds when inside the SPA boundary. As described above, there is no functionally-linked habitat for any of the qualifying species of Inner Moray Firth SPA within the Proposed Development Site. On this basis, no birds associated with the SPA are likely to occur within the Proposed Development Site, and there is no likely significant effect from disturbance / displacement of qualifying birds.	No
Operational Phase		
Disturbance and displacement of qualifying species	As described for the Construction Phase, above.	No

Table 5-10 HRA Screening Assessment for Moray Firth SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Loss of functionally-linked habitat	Moray Firth SPA is designated for breeding shag *Phalacrocorax aristotelis* and a range of non-breeding waterbirds, including Slavonian grebe and red-throated diver. Shag is an exclusively marine species during the breeding season, and there is no possibility of occurrence of this species within the Proposed Development Site. There is consequently no possibility of a loss of functionally-linked habitat for shag. The other non-breeding waterbirds are also largely or entirely restricted to the marine environment during the non-breeding season. The Proposed Development Site, which is located at altitudes of up to around 500 m above sea level, contains no suitable habitat which could be used by any of the non-breeding birds associated with Moray Firth SPA during the non-breeding season. There is consequently no possibility of a loss of functionally-linked habitat for these species.	No
Disturbance and displacement of qualifying species	Moray Firth SPA is located approximately 18.2 km from the Proposed Development Site, and there is no possibility of construction activities causing disturbance of birds when inside the SPA boundary. As described above, there is no functionally-linked habitat for any of the qualifying species of Moray Firth SPA within the Proposed Development Site. On this basis, no birds associated with the SPA are likely to occur on site, and there is no likely significant effect from disturbance / displacement of qualifying birds.	No
Other indirect impacts	Moray Firth SPA is designated for supporting several non-breeding waterbirds, including Slavonian grebe and red-throated diver. Both species were recorded (unsuccessfully) breeding on the Proposed Development Site by targeted field surveys carried out in 2024. The population of Slavonian grebe is stated in the SPA citation as having a mean annual peak of 43 individuals during the years 2001/02-2005/06. The population of red-throated diver for the SPA is quoted as having a mean annual peak of 324 individuals between 2001/02-2006/07. In relation to Slavonian grebe, the loss of only one bird could therefore represent a potentially significant (greater than 1%) decline in the non-breeding population of Moray Firth SPA. Consequently, any impacts from the Proposed Development which contribute to fewer Slavonian grebe wintering within the SPA (e.g. reduced breeding success due to disturbance), could represent a significant effect. Further appraisal is therefore required at the Appropriate Assessment stage. One pair of red-throated divers was recorded breeding within approximately 2 km of the Proposed Development in 2024. With an SPA population quoted as being 324 individuals, any impacts on this species from the Proposed Development (e.g. from reduced breeding success) would be highly unlikely to affect 1% of the SPA population, and likely significant effects on this qualifying feature are therefore not considered to be possible[80].	**Yes**
Operational Phase		
Disturbance and displacement of qualifying species	As described for the Construction Phase, above.	No

[80] Regardless of this assessment, there are legal requirements to ensure the protection of breeding red-throated diver. The Proposed Development will still implement measures, where required, to ensure compliance with relevant legislation.

Other indirect impacts	As described for the Construction Phase, above.	**Yes**

Table 5-11 HRA Screening Assessment for Moray Firth SAC

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Operational Phase		
Changes to predator / prey interactions	As described above for the River Moriston SAC, the prevention of migratory success of Atlantic salmon and sea trout is considered a likely significant effect. Impacts to Atlantic salmon within Loch Ness may reduce the availability of smolts within the Moray Firth to serve as prey items for marine mammals such as bottlenose dolphin and harbour seal. Atlantic salmon is a key prey item for both species and a peak in abundance of bottlenose dolphin within the Moray Firth in summer months is thought to align with the migration of salmon smolt out to sea.[61] However, Atlantic salmon migrate to the Moray Firth from a number of local catchments. In addition to the River Ness, the River Beauly and the River Nairn have been identified as Scottish Salmon Rivers within the inner firth. In the wider Moray Firth, 18 total salmon rivers have been identified.[70] Within the firth, salmon abundance has been declining since the mid-1980s.[70] More recently, the Moray Firth Tracking Project by the Atlantic Salmon Trust has reported that about half of juvenile salmon do not survive their downstream migration out to sea in the region. Furthermore, an assessment of salmon migration associated with Loch Ness reported that only approximately 20% of salmon survived out to sea in 2020 and 2021.[81] When considering the large number of important salmon rivers which outlet into the Moray Firth, it is unlikely that impacts to salmon from the Proposed Development will affect marine mammals within the Moray Firth. Additionally, salmon have been declining in the region for decades and this has not been correlated with any local declines in bottlenose dolphin or harbour seal abundance, and both populations are considered stable. Furthermore, both species are known to have a reasonably varied diet, with bottlenose dolphin also observed feeding on mackerel, flatfish, cod, saithe, whiting, haddock, and cephalopods[61] and harbour seal preying upon flatfish, gadoids, and sand eel.[82] In the Moray Firth specifically, the harbour seal diet is seemingly dominated by sand eel.[82] Therefore, as the number of salmon migrating into the Moray Firth from the River Ness is already low and both bottlenose dolphin and harbour seal exhibit stable local populations which feed on a variety of prey items, indirect effects to marine mammals through impacts to prey species is considered to be of low magnitude; however, in the absence of mitigation this is considered to represent a likely significant effect.	**Yes**

[81] Ness District Salmon Fishery Board, personal communication.
[82] Sea Mammal Research Unit (2015) CSD 3.2 Report: Harbour seal diet composition and diversity. Report to Scottish Government, Marine Mammal Scientific Support Research Programme.

Table 5-12 HRA Screening Assessment for Loch Flemington SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Other indirect impacts	Loch Flemington SPA is designated for breeding Slavonian grebe. The disturbance of Slavonian grebe nesting on other waterbodies, outside of the designated site boundary, could indirectly affect Loch Flemington SPA. For example, maintenance of the SPA population may be reliant, even if only in certain years, on recruitment from breeding pairs occurring in the wider area. Consequently, any reduction in breeding success of Slavonian grebe on nearby waterbodies caused by disturbance from the Proposed Development could have likely significant effects on Loch Flemington SPA.	**Yes**
Operational Phase		
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of Loch Flemington SPA could arise. As described in relation to the Construction Phase, this could indirectly affect Loch Flemington SPA.	**Yes**

Table 5-13 HRA Screening Assessment for Loch Vaa SPA

Impact Source	Potential Effects	Potential for Likely Significant Effects?
Pre-Construction and Enabling and Construction Phase		
Other indirect impacts	Loch Vaa SPA is designated for breeding Slavonian grebe. The disturbance of Slavonian grebe nesting on other waterbodies, outside of the designated site boundary, could indirectly affect Loch Vaa SPA. For example, maintenance of the SPA population may be reliant, even if only in certain years, on recruitment from breeding pairs occurring in the wider area. Consequently, any reduction in breeding success of Slavonian grebe on nearby waterbodies caused by disturbance from the Proposed Development could have likely significant effects on Loch Vaa SPA.	**Yes**
Operational Phase		
Other indirect impacts	Although routine operational works will be considerably less intensive than those during the Construction Phase, it is still possible that disturbance of Slavonian grebe breeding on waterbodies outside of the boundary of Loch Vaa SPA could arise. As described in relation to the Construction Phase, this could indirectly affect Loch Vaa SPA.	**Yes**

5.4 In-combination Assessment

5.4.1 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location[40].

5.4.2 Likely significant effects on Loch Ruthven SAC and Inner Moray Firth SPA from the Proposed Development acting in isolation have been excluded. There is also no possibility of the Proposed Development acting in-combination with other plans or projects to give rise to likely significant effects on the qualifying features of either site for the following reasons:

- In relation to Loch Ruthven SAC, there will be no direct impacts on the loch itself, and the Proposed Development cannot therefore act cumulatively with other plans or projects to affect the biophysical conditions within the site. Although, there could be impacts on otter associated with the site, these are expected to be so small that, even if other plans or projects were also to impact on the qualifying population, the contribution of the Proposed Development would be nugatory, and would not lead to significant effects; and
- For Inner Moray Firth SPA, there is no possibility of birds associated with the European site occurring on or near to the Proposed Development Site (the Proposed Development Site is beyond the core foraging range of breeding osprey belonging to the SPA, and the habitat within the Proposed Development Site is unsuitable for the non-breeding qualifying species).

5.4.3 It is therefore concluded that likely significant effects on Loch Ruthven SAC or Inner Moray Firth SPA from the Proposed Development, whether individually or in-combination with other plans or projects, can be excluded.

5.4.4 The potential for the Proposed Development, in isolation, to give rise to likely significant effects on the non-breeding red-throated diver population of Moray Firth SPA has been excluded. The basis for this was that the Proposed Development could only realistically reduce the breeding success of a single pair of red-throated divers, and that this could reduce the SPA population by, at most, a single bird in each year (for example, studies of red-throated diver in Shetland found productivity to be between 0.36 to 0.51 chicks fledged per breeding pair per year[83]). In relation to the quoted SPA population, this would represent less than 1% and would not be significant. However, if a number of other projects or plans in the area were all to have similar impacts on this species, this could cumulatively contribute to a reduction in the SPA population of more than 1%. Consequently, the potential for likely significant effects on the non-breeding red-throated diver population of Moray Firth SPA due to the in-combination impacts of the Proposed Development with other projects and plans has been screened into Appropriate Assessment.

5.4.5 For all other impacts and species / European sites for which likely significant effects have not been excluded, assessment of in-combination effects has been carried out as part of the Appropriate Assessment and is reported in Section 7 of this document.

5.5 HRA Screening Conclusion

5.5.1 The appraisal set out in this section of this Statement to Inform Habitats Regulations Appraisal excluded the possibility of likely significant effects from the Proposed Development, either alone or in-combination with other plans or projects, on two European sites which were initially identified as potentially being within the ZoI: Loch Ruthven SAC and Inner Moray Firth SPA.

5.5.2 Likely significant effects on certain qualifying features of eleven European sites were identified, when considering the Proposed Development in isolation and / or in-combination with other plans / projects.

5.5.3 The eleven European sites taken forward to Appropriate Assessment were therefore:

- North Inverness Lochs SPA;
- Ness Woods SAC;
- Urquhart Bay Wood SAC;
- River Moriston SAC;

[83] Gomersall, C.H. (2006). Breeding performance of the Red-throated Diver *Gavia stellata* in Shetland. *Ecography* **9(4)**, pp 277-284.

- Loch Knockie and nearby Lochs SPA;
- Loch Ruthven SPA;
- Loch Ashie SPA;
- Moray Firth SPA;
- Moray Firth SAC;
- Loch Flemington SPA; and
- Loch Vaa SPA.

6. Mitigation

6.1 Embedded Mitigation

6.1.1 Unlike specific mitigation measures (for which see below), embedded mitigation measures (also known as 'design') can and have been taken into account during the HRA Screening stage. This is consistent with NatureScot guidance on the interpretation of relevant case law which advises that such measures include the design, location, or layout of the project, or other measures which are routinely implemented as standard good practice[9]. Embedded design measures which will help to avoid significant effects on the qualifying features of European sites include:

- Watercourse crossings (including those which are temporary and those which are permanent) will, as far as possible be clear span or bottomless structures, and will regardless be designed so as to be passable to otters and fish. SEPA guidance on the design of watercourse crossings will be followed[84], as well as other relevant guidance to ensure that this is achieved;
- The Proposed Development components have been sited to avoid water features where possible, although for large spatial components such as the Headpond, this is not possible. As per advice from SEPA, all water features have had a 30 m buffer applied to them to ensure that, wherever possible, new permanent infrastructure or temporary compounds are set back. This will help to mitigate the risk from Construction and Operational Phase run-off, as well as avoid physical impacts;
- The access route to the Headpond from the north has been designed to maximise the distance between it and waterbodies found to support breeding Slavonian grebe and red-throated diver. The saddle dams at the northern side of the Headpond were also designed so as to maximise the distance to the same waterbodies;
- The design includes compensation flow discharge from the Headpond, via permanent compound PC12 into the Allt Loch an t-Sionnaich and by extension Allt Saigh, to maintain its typical hydrological regime, which will minimise impact on associated terrestrial riparian habitats. The discharge rate will be agreed with SEPA;
- Water will be drawn from Loch Ness to the Headpond and returned to Loch Ness via the tunnels and spillway pipes. However, a compensation flow will remain from the Headpond to Allt Saigh and connected watercourses. Therefore, the risk of water spilling into adjacent water bodies will be negligible. Loch nam Breac Dearga (the Headpond location) is already connected to Loch Ness via Allt Saigh, and therefore a pathway for the spread of INNS already exists, which will not be significantly increased;
- The LCW (the intake and outlet to Loch Ness) will have a smolt screen designed according to best practice guidance located approximately 37 m out from the main intake with a 12.5 mm aperture mesh installed with intake and energy generation velocities not exceeding 0.3 m/s. To achieve this the proposed screen will be 220 m wide and approximately 14 m deep below the normal water level. This will ensure entrainment and / or impingement of salmon smolts (and other fish) from Loch Ness is minimised. This screen will also minimise the potential transfer of INNS from Loch Ness;
  - Screening at the LCW on Loch Ness has been implemented to minimise the entrainment and / or impingement of fish. More information on development operation (e.g., turbine design & flow/velocity), and liaison with SEPA would be required should deviation from best-practice screening be considered appropriate, for example in the presence of additional mitigation, such as non-physical deterrent to deter fish from the inlet / outlet structure; and

6.2 General Mitigation

6.2.1 In addition to embedded mitigation, there is a range of general mitigation measures that will also be implemented by the Proposed Development. These measures would be used to comply with other relevant legislation (for example legislation protecting breeding birds, or legislation protecting the water environment), and / or as good

[84] SEPA (2010). Engineering in the water environment: good practice guide. River Crossings. 2nd Edition. Available from: https://www.sepa.org.uk/media/151036/wat-sg-25.pdf.

practice. However, their implementation may also incidentally provide some degree of avoidance or minimisation of impacts on the qualifying features of European sites[85]. These measures include:

- All personnel involved in the construction and operation of the Proposed Development will be made aware of the ecological features within the ZoI and the mitigation measures and working procedures that must be adopted. This will be achieved as part of the induction process and through the delivery of Ecological Toolbox Talks, where required;
- An ECoW will be employed for the duration of the construction of the Proposed Development. The remit of the ECoW will include, but may not be limited to:
  - Carrying out pre-construction surveys for protected species, including otter;
  - Carrying out pre-works checks for important bird species and nesting birds;
  - Advising on exact infrastructure placement within micro-siting tolerances;
  - Monitoring of, and advising on, storage of overburden to minimise habitat damage;
  - Monitoring of any peat / vegetated turves that may be stored for later reinstatement;
  - Advising on habitat reinstatement;
  - Monitoring of pollution control measures and advising on placement of ditches, settlement ponds, etc. to minimise habitat damage;
- A CEMP will be prepared and submitted for approval by THC, in consultation with SEPA and NatureScot, where necessary, prior to commencement of construction. The CEMP will set out all environmental management measures and the roles and responsibilities of construction personnel;
- During all Phases of the Proposed Development, pollution prevention measures will be adopted, following SEPA Pollution Prevention Guidelines (PPG) and Guidance on Pollution Prevention (GPP), including the following:
  - The Proposed Development will, to comply with environmental protection legislation, implement standard pollution prevention measures during the Construction Phase. This will ensure no pollution of the water environment;
  - Controls and contingency measures will be provided to manage run-off from construction areas and to manage sediment;
  - All oils, lubricants or other chemicals will be stored in an appropriate secure container in a suitable storage area, with spill kits provided at the storage location and at places across the Proposed Development Site;
  - In order to avoid pollution impacts to soils, vegetation and watercourses / waterbodies during construction, all refuelling and servicing of vehicles and plant will be carried out in a designated area which is bunded and has an impermeable base. This will be situated at least 50 m away from any watercourse;
- Any artificial lighting required for construction works would be directional to avoid or minimise light spill beyond immediate works areas, and away from water bodies, and would be turned off when not required;
- Any excavations will be left with a method of escape for any animal that may enter overnight, and will be checked at the start of each working day to ensure no animals are trapped within them;
- Any pipes will be capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped; and
- Biosecurity protocols would be implemented to prevent the spread of INNS both within and off-site, including vehicle washing facilities, washing and disinfection stations for plant, equipment and PPE, and briefing of construction staff of the risks of INNS transfer, especially in high-risk areas.

[85] General mitigation measures which are adopted to comply with other environmental legislation, but which do not have the primary function of avoiding significant effects on the qualifying features of European sites can be considered at the HRA Screening stage. Consequently, standard pollution prevention mitigation (not including measures required during the course of works within Loch Ness) and measures to avoid the spread of invasive non-native species were considered at the HRA Screening stage of this appraisal, but they are described here to provide further detail on the measures to be adopted.

6.2.2 In the breeding season prior to commencement of construction and in the breeding seasons throughout the Construction Phase, the ECoW or another suitably experienced ornithologist will be responsible for carrying out a full programme of survey for sensitive bird species, including Slavonian grebe and red-throated diver. These surveys will follow good practice guidelines as adopted during the fieldwork completed to inform this Statement to Inform Habitats Regulations Appraisal and the wider EIA for the Proposed Development. The purpose of these surveys will be to determine if and where sensitive bird species, including Slavonian grebe and red-throated diver, may establish nest sites, and to therefore allow for appropriate avoidance and / or mitigation measures to be implemented to avoid or minimise impacts upon them. Full details of the pre- and during-construction ornithological monitoring programme will be set out in a Bird Protection Plan (BPP) for the Proposed Development, to be submitted to THC and NatureScot in advance of the commencement of construction.

6.3 Specific Mitigation

6.3.1 Additional mitigation which is not part of the design of the Proposed Development, or which is not standard good practice and / or implemented to comply with other environmental protection legislation, and which can therefore only be considered for HRA purposes during the Appropriate Assessment stage, is referred to in this Statement to Inform Habitats Regulations Appraisal as 'specific mitigation'.

6.3.2 A description of all of the specific mitigation measures to be implemented by the Proposed Development is given under the following sub-headings. These measures have been taken into account in the Appropriate Assessment section of this Statement to Inform Habitats Regulations Appraisal (Section 7).

Construction Phase

6.3.3 Displacement of nesting Slavonian grebe and red-throated diver from potential breeding waterbodies during construction will be avoided through the implementation of works exclusion zones. Works exclusion zones will be implemented over and above those measures already included as part of the Bird Protection Plan to safeguard breeding birds, including those, like Slavonian grebe and red-throated diver, protected from disturbance under the Wildlife and Countryside Act (1981). These embedded measures also include Pre-Construction and Enabling and Construction Phase breeding bird surveys and monitoring. The Bird Protection Plan will also include the measures detailed below.

6.3.4 Slavonian grebes were identified breeding on seven waterbodies, and red-throated diver on one waterbody, within approximately 2 km of the Proposed Development Site in 2024. On a precautionary basis, and to reduce the risk that on-going works prevent birds from prospecting waterbodies, works exclusion zones will be established around all of the lochans which were found to be used by breeding Slavonian grebe and red-throated diver in 2024. Works exclusion zones will also be established around any additional breeding waterbodies identified during subsequent Pre-Construction and Enabling works and Construction Phase monitoring surveys. The following works exclusion zones will apply for all works, except for above ground blasting, based on NatureScot guidance[86]:

- No works will be permitted within 350 m of the seven waterbodies used by breeding Slavonian grebe in 2024 (with the exception of blasting works, which are dealt with separately below), unless otherwise agreed with the ECOW or NatureScot;
- No works will be permitted within 750 m of the single waterbody on which red-throated divers nested in 2024 (with the exception of blasting works, which are dealt with separately below) unless otherwise agreed with the ECOW or NatureScot;

6.3.5 The above works exclusion zones are default distances, which will be applied with respect to all works activities unless and until agreed in advance with the ECoW. Due to the nature of the proposed works it is likely that the exclusion zones will apply to the majority of works activities. The ECoW will be empowered to permit low impact / magnitude works judged to have a low likelihood of resulting in displacement or disturbance. These works exclusion zones will be implemented from 01 April to 15 September (inclusive) each year of the Construction Phase of the Proposed Development, or until such a time that the ECoW / ornithologist is confident that no breeding by the species is taking place. However, the earliest date on which a works exclusion zone could be lifted would be the 30 June – by this date, if no evidence of breeding has been recorded by the ECoW / ornithologist, it is reasonable to assume that no breeding attempts will commence this late in the season. The extents of these initial works exclusion zones are shown in **Confidential Figure 8.1.5: Slavonian Grebe and**

[86] Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Red-Throated Diver Works Exclusion Zones (Confidential Appendix 8.1: Sensitive Ornithology Assessment) (Volume 6: Confidential Appendix).

6.3.6 Certain other waterbodies, including Loch nam Breac Dearga, can be used by red-throated divers for foraging. However, this and other waterbodies are unsuitable for nesting by red-throated divers, and a works exclusion zone will not be implemented around these.

6.3.7 In summary, works exclusion zones of 350 m for Slavonian grebe and 750 m for red-throated diver will be established around all relevant waterbodies found to be used by these species for breeding in 2024, as well as any other waterbodies found to be used by these species during Pre-Construction and Enabling works and Construction Phase ornithology surveys. The works exclusion zones will be implemented between 01 April and 15 September each year, with the possibility of being removed after 30 June, but only once the ECoW or ornithologist is confident that no breeding is taking place at that waterbody. A works exclusion zone, once implemented, will not be lifted before the 30 June.

Blasting Specific Restrictions

6.3.8 Where possible, all above ground blasting activities should be undertaken during the non-breeding season, which would be October to March inclusive with respect to the range of species potentially affected. If not possible the measures detailed below will apply.

6.3.9 Due to the uncertainty with respect to the ZoI for blasting activities, and the number of sensitive and specially protected birds recorded, restrictions on above ground blasting activities during the breeding season will be implemented until an appropriate blasting exclusion zone can be determined. No above ground blasting will be permitted on site between April and September inclusive, unless and until an appropriate ZoI is demonstrated by the Construction Contractor specific to the blasting methodology that will be employed. A project specific Blasting Plan will be produced by the Construction Contractor, supported by appointed ECoW, for review and approval by THC in consultation with NatureScot (the Blasting Plan could be appended onto the Bird Protection Plan). It is anticipated that the Blasting Plan would be informed by the following:

- A literature review on the responses of breeding birds to blasting activities to determine a potential ZoI from blasting sites with respect to noise and vibration; and
- A program of initial or ‘test blasting’, undertaken with the supervision of the ECoW, to monitor baseline noise and vibration levels at specific distance bands from blasting locations and / or sensitive sites (e.g. Slavonian grebe breeding sites). If trial blasting is carried out in the breeding season (i.e. between 01 April and 15 September), then this will be done at minimum distance of 1.5 km from the nearest waterbody found by surveys in 2024 to be occupied by Slavonian grebe or red-throated diver, or any additional waterbody found pre-works to be used by these species.

6.3.10 Based on the results of the above two activities a breeding season blasting exclusion zone will be implemented for Slavonian grebe and red-throated diver with temporal restrictions as detailed above under ‘Works Exclusion Zones’.

Operational Phase

6.3.11 The potential for disturbance and displacement of Slavonian grebe and red-throated diver will be significantly lower during the Operational Phase than during the Construction Phase. Above ground operational activities will be limited to routine monitoring and surveillance of structures including the Dams, UCW and Access Tracks. The potential for disturbance / displacement of Slavonian grebe and red-throated diver will be further reduced by the following measures, implemented between 01 April and 15 September within the works exclusion zones at specified times shown in **Confidential Figure 8.1.5: Slavonian Grebe and Red-Throated Diver Works Exclusion Zones (Confidential Appendix 8.1: Sensitive Ornithology Assessment) (Volume 6: Confidential Appendix).**

- No stopping on access tracks except for access / egress to Dams, Compounds or other structures; and
- No flashing lights on vehicles.

6.3.12 Monitoring will be required to identify the presence of breeding Slavonian grebe and red-throated diver, and any other Schedule 1 birds, which may be disturbed by operational maintenance activities and is likely to be required annually throughout the Proposed Development’s operational lifespan. The scope of the monitoring programme will be developed in consultation with NatureScot and further operational restrictions may be required if breeding is recorded within the ZoI of operational activities.

Compensation Flow

6.3.13 To avoid significant impacts on the downstream Allt Loch an t-Sionnaich, both on ecology and the existing watercourse hydroelectric scheme, a suitable compensation flow would be maintained. Since the Proposed Development would abstract water from Loch Ness, the existing surrounding catchment would be able to provide compensatory water flow. This would be via a valve house at permanent compound PC12 beside the Main Dam, fed by an outlet in the Headpond set below lowest operating water level, so that water is always available. The compensation flow will be determined as part of the CAR Licence application.

Fisheries Mitigation

6.3.14 There have been few studies on the migration of Atlantic salmon smolts through large bodies of still water such as Loch Ness. Generally, smolts move more slowly through lentic water with lower survival rates in these habitats, partly due to predation. Migration through lentic water is in random directions, with daylight affecting movements differently seasonally, and wind direction playing an important role in the direction of smolt movement – the south-westerly prevailing wind in Loch Ness is generally favourable in facilitating the downstream migration of smolts toward Dochfour Weir.

6.3.15 The final design and implementation of the specific mitigation measures set out below will be evaluated using the results of the on-going salmon smolt tracking study in spring / summer 2025, which will provide further information of the timing and routes of smolt migration through Loch Ness and Loch Dochfour, the success of smolt migration over Dochfour Weir and in the River Ness downstream, and the diversion of smolts down the Caledonian Canal. The results of previous smolt tracking studies undertaken by NDSFB and the Atlantic Salmon Trust will also feed into the data available to inform the mitigation design.

6.3.16 The design of the smolt tracking study has allowed for the gathering of data on the direction, speed, and depth of smolt migration, and on the routes taken by smolts through Loch Ness. This will be critical to inform the detailed design of the mitigation measures described below.

6.3.17 Specific mitigation is also proposed at the LCW and smolt screen to prevent the distraction, entrainment and impingement of salmon smolts and other fish at the screen.

6.3.18 A hierarchy of specific mitigation options is provided below, and it is likely that a combination of these will be implemented to negate the potential significant effects of the Proposed Development, including cumulative effects with other schemes:

- Construction of the cofferdam and LCW:
  - Avoidance of salmon smolt (downstream) migration seasons (April to June inclusive) – it is considered that the proposed mitigation below will be sufficient to deter adult salmon from the LCW during their upstream migration and therefore negate adverse effects.
  - To minimise the effects of noise from piling on fish, there should be a ‘soft start’ to piling works to deter fish from the immediate area where physical injury may occur. Mason and Collett (2011) suggest a soft start to piling using a blow energy of 150 kJ and show that using a soft start will have a lower impact on the salmon initially. Alternatively, vibro-driven piles will be used to minimise the effects of underwater noise and vibration on fish, including Atlantic salmon.
  - The installation of a silt curtain / bubble screen (or other non-physical deterrent) to deter fish from the works area, positioned a minimum 30 m distance from the location of piling.
- Watercourse crossings for temporary and permanent access tracks and culverting of watercourses:
  - Installation of watercourse crossings outside the migration and spawning seasons of brown / sea trout and Atlantic salmon, where these species are present.
  - Avoid suitable spawning habitat, if present (to be identified through Pre-Construction and Enabling checks). If suitable spawning habitat is not present, the avoidance of spawning season will not be required
- Distraction of migratory species at the inlet / outlet, and entrainment / impingement of fish at the intake screen:
  - Installation of a non-physical deterrent (to be finalised at detailed design) to deflect fish away from the smolt screen during key migration seasons (downstream smolt migration April to June inclusive). A literature review has established that there is little evidence of the effectiveness of

such deterrents in still waters; however, this will be explored further to inform detailed design. In summary:

  - There is limited literature on deterrents and the significance of their success, especially in large bodies of still water such as Loch Ness.
  - Flexible fish fences were deemed the most efficient deterrent, with the efficiency of [strobe] light deterrents depending on environmental factors.
  - Multi-modal stimuli are most effective at diverting brown trout (Salmo trutta), i.e., light, sound, physical deterrent.
  - The non-physical deterrent 'screen' should be placed at an angle on the upstream end to deflect fish away from the loch shore and around the permanent intake screen. It could be operated during the migration season, or as required.

- Effects on Water Levels at Dochfour Weir and on fish passage (upstream and downstream):
  - A fish pass or fish passes will be designed and installed on Dochfour Weir to facilitate and improve the upstream and downstream passage of migratory fish compared to the current sub-optimal situation. The fish pass(es) will be designed according to current best practice guidance as part of the weir mitigation described below and will be confirmed through detailed design. However, it is considered that this presents an opportunity to improve fish passage in the catchment for all migratory species, for which there is currently concern about reductions in their numbers and recruitment in the catchment.
- Diversion of migratory fish species (notably salmon smolts) down the Caledonian Canal:
  - Installation of a non-physical deterrent at the entrance of the Caledonian Canal adjacent to Dochfour Weir to prevent the diversion of smolts along the canal. The current culvert to direct smolts from the entrance of the canal to the River Ness is inadequate and ineffective, as is the smolt pass on the Dochfour Weir itself, and therefore in combination with the fish pass(es) described above, this will serve to enhance fish passage down the River Ness above the current baseline situation.
- Effects on Water Levels at Dochfour Weir and in Loch Ness:
  - • A proposed scheme, referred to as Dochfour Weir Upgrades: An upgrade project to the existing Ness Weir is being considered and promoted by Scottish Canals, backed by the Scottish Government and in partnership with the existing PSH operator and future operators, the Applicant for this Proposed Development and Loch na Cathrach. Whilst the Dochfour Weir Upgrades do not form part of this application it would form part of the additional mitigation measures to the Proposed Development. The scheme consists of the construction and operation of a variable weir that will adjust the height of the weir to manage flows within the River Ness and isolate the flows in the River Ness from the impact of the PSH activities in Loch Ness. This will result in a more natural flow in the River Ness controlled by metrological conditions rather than PSH activities. Additional details are included in **Appendix 2.1 Dochfour Weir Upgrade Description (Volume 5: Appendices)**. This will be a permanent installation that through automated control will maintain flows in the River Ness downstream at current levels.
  - As a final mitigation option, curtailment of the operation of the Proposed Development could be instigated during the smolt migration season, both to negate the effects of distraction of migrating smolts at the intake screen, and the effects of water level fluctuations at Dochfour Weir. In combination with the fish pass(es) and other mitigation described above, this would allow the enhanced migration of smolts to the River Ness and onward to the Moray Firth.

Construction of the cofferdam on the shoreline of Loch Ness, including piling, de-watering, and substrate removal

6.3.19 A fish rescue will be required during de-watering of the cofferdam as it is highly likely that fish will congregate in these sheltered areas during construction and then become trapped as the cofferdam is sealed. Detailed methodology will be provided in the Construction Environmental Management Plan (CEMP).

7. Appropriate Assessment

7.1 Overview

7.1.1 This section describes the Appropriate Assessment stage.

7.1.2 The HRA Screening stage described in Section 5 could not exclude the potential for likely significant effects on the qualifying features of eleven European sites, as a result of the construction and / or operation of the Proposed Development. Therefore, the potential for there to be adverse effects on the integrity of these sites was 'screened in' for detailed Appropriate Assessment.

7.1.3 **Table 7-1 Impacts Screened into Appropriate Assessment for Each European Site** summarises the findings of the HRA Screening, setting out which Construction and / or Operational Phase impacts could lead to likely significant effects, and which therefore require further appraisal in the Appropriate Assessment, with cognisance of the Conservation Objectives for each European site.

7.1.4 The assessment accounts for the mitigation in Section 6 and is informed by the data collected through desk study and field survey, described in Section 4. Each European site is considered in turn, with assessment of the potential for the Construction and / or Operational Phase impacts screened into assessment to have adverse effects on the integrity of the site.

7.1.5 Summarised information on the qualifying features is provided for each European site. However, further information, including Conservation Objectives and existing threats, pressures and activities with impacts on the sites can be found in **Annex A**, and on NatureScot's SiteLink website[17].

Table 7-1 Impacts Screened into Appropriate Assessment for Each European Site

European Site	Impacts Screened into Appropriate Assessment for Having Likely Significant Effects										
	Direct Loss of Habitat Within a European Site	Loss of Functionally-linked Habitat	Disturbance and Displacement of Qualifying Species	Injury or Mortality of Qualifying Species	Prevention of Migratory Movements of Qualifying Species	Changes to Predator / Prey Interactions	Changes to Surface Water or Groundwater Hydrology	Waterborne Pollution	Airborne Pollution	Spread of INNS	Other Indirect Impacts
North Inverness Lochs SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Ness Woods SAC	X	X	X	X	X	X	✓ o	X	X	X	X
Urquhart Bay Wood SAC	X	X	X	X	X	X	✓ c, o	X	X	X	X
River Moriston SAC	X	✓ c	✓ c, o	✓ c, o	✓ c, o	✓ o	✓ o	✓ c	X	X	X
Loch Knockie and nearby Lochs SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Loch Ruthven SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Loch Ashie SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Moray Firth SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Moray Firth SAC	X	X	X	X	X	✓ o	X	X	X	X	X
Loch Flemington SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o
Loch Vaa SPA	X	X	X	X	X	X	X	X	X	X	✓ c, o

X – no likely significant effects on the qualifying feature(s) of European site from this impact source.
✓ – likely significant effects on qualifying feature(s) of European site from this impact source could not be ruled out at HRA Screening stage.
c – applicable during the Construction Phase.
o – applicable during the Operational Phase.

7.2 North Inverness Lochs SPA

Overview

7.2.1 North Inverness Lochs SPA encompasses five lochans in two discrete areas. One of the component areas, containing three of the five lochans, is located approximately 2.4 km from the Proposed Development Site to the north of Milton. The other area, which encompasses two lochans, is located just within the boundary of the Proposed Development Site. However, the closest edge of the SPA boundary is approximately 800 m from the nearest infrastructure associated with the Proposed Development.

7.2.2 According to the SPA citation, the SPA regularly supported a population of seven breeding pairs of Slavonian grebe between 1991 and 1995. This species is the sole qualifying feature of the site, and the latest assessed condition for the feature is Favourable Maintained.

7.2.3 According to the citation for Dubh Lochs SSSI, which underlies the SPA in the component area nearest to the Proposed Development, the site and current management are considered to be suitable for maintaining the feature interest. Factors which could affect the condition of the site, and its ability to support breeding Slavonian grebes include:

- Long-term encroachment of vegetation into areas of open water;
- Changes in water quality or level;
- Increases in the number of recreational visitors (including anglers and birdwatchers); and
- The introduction of pike *Esox lucius* or other fish species (including stocking the lochs with trout *Trutta* spp).

Other Indirect Impacts During the Construction Phase

7.2.4 NatureScot guidance[47] suggests that Slavonian grebe have 'medium' sensitivity to disturbance, and that buffer zones of between 150-350m be adopted during the breeding season to avoid disturbing breeding birds. The two waterbodies within the component part of North Inverness Lochs SPA closest to the Proposed Development are approximately 800 m from the nearest planned infrastructure. This is well beyond the maximum extent of the suggested buffer zone, and it is considered very unlikely that birds within the SPA boundary will be subject to disturbance / displacement from the Proposed Development.

7.2.5 Scotland holds the entire UK breeding population of Slavonian grebe, with the British Trust for Ornithology (BTO) stating that the population between 2013-2017 comprised 28 pairs[56], and *The Birds of Scotland* estimating a population of between 30-80 pairs[55]. However, it is widely recognised that the breeding population has suffered significant declines in recent years[87] and, according to the RSPB in their Response to the Request for Scoping Opinion for the Proposed Development (dated 30 May 2024), in 2023, fifteen pairs were recorded.

7.2.6 Slavonian grebe pairs were recorded on a total of seven waterbodies within approximately 2 km of the Proposed Development in 2024, only one of which was within the boundary of North Inverness Lochs SPA. Although no chicks were ever observed, and thus successful breeding is not believed to have occurred, these lochans may be used in future years, and fledging of chicks may occur.

7.2.7 The seven pairs within approximately 2 km of the Proposed Development could therefore represent in the region of 25% of the current Scottish (and UK) population (based on the BTO estimate from 2013-2017).

7.2.8 In a study of site faithfulness by breeding Slavonian grebe in Norway[88], for sites that maintained breeding pairs in different years, it was not clear whether persistence was maintained by site faithfulness by the same individuals returning in successive breeding seasons, or by replacement of individuals at these sites via source-sink dynamics (because the study did not follow individuals). However, the authors refer to evidence from other studies[89] which suggests that recruitment from within the regional population may well play a role in site population persistence.

[87] e.g. https://rbbp.org.uk/2023/12/31/60-years-of-slavonian-grebe-monitoring/.
[88] Stien, J., Strann, K.B., Jepsen, J.U., Frivoll, V. and Ims, R.A. (2015). Breeding persistence of Slavonian Grebe (*Podiceps auritus*) at long-term monitoring sites: predictors of a steep decline at the northern European range limit. *Journal of Ornithology* **157**, pp 75-84.
[89] Ferguson, R.S. (1981). Territorial attachment and mate fidelity by horned grebes. *Wilson Bulletin* **93**, pp 560-561.

7.2.9 It is therefore possible that birds breeding outside of North Inverness Lochs SPA are important to maintaining the population of the designation by providing a pool of recruits. For this reason, and with a significant proportion of the national population present in the area surrounding the Proposed Development, any disturbance / displacement of Slavonian grebes breeding on waterbodies outside of North Inverness Lochs SPA could still have effects on the population of this European site.

7.2.10 Two of the six waterbodies found to support Slavonian grebe pairs, and which were not within the boundary of North Inverness Lochs SPA, are within 350 m of any proposed construction works areas (see **Confidential Appendix 8.1: Sensitive Ornithology Assessment** (**Volume 6: Confidential Appendices**) for more details). All other waterbodies which supported pairs of Slavonian grebes in 2024 were more than 400 m from any proposed infrastructure / construction areas, and three were beyond 800 m. No additional breeding waterbodies within 400 m of the Proposed Development Site were identified by the RSPB from surveys undertaken since 2013.

7.2.11 According to the NatureScot guidance[47] on bird disturbance referred to at the beginning of this section, therefore, only two pairs of Slavonian grebe occupied a waterbody within the distance at which disturbance, and possibly displacement, is expected to occur (in the absence of mitigation). As a precaution it is assumed that above ground blasting activities associated with the Borrow Pit, UCW and Tunnel Portals would have a greater ZoI than detailed in NatureScot guidance, potentially encompassing all identified breeding waterbodies.

7.2.12 Consequently, to avoid adverse effects on breeding Slavonian grebe, and to comply with the requirements of Schedule 1 of the WCA, a works exclusion zone will be established around the waterbodies occupied by pairs of Slavonian grebes in 2024 which were within 350 m of the Proposed Development (and all other waterbodies found to be occupied by breeding Slavonian grebe in 2024, even those are beyond 350 m from works areas, on a precautionary basis). This exclusion zone will be extended as required following the establishment of a blasting specific ZoI. As described in Section 6, the works exclusion zone will be implemented from 01 April to 15 September, inclusive, each year during the Construction Phase of the Proposed Development. The works exclusion zone will remain in place until at least 30 June and would only then be lifted if the ECoW / ornithologist was confident that no breeding by Slavonian grebe was taking place. The works exclusion zone would apply to all works activities by default with works only permitted within the exclusion zone if agreed in advance with the ECoW / ornithologist.

7.2.13 A programme of pre- and during-construction bird surveys will also be carried out, including targeted surveys of waterbodies for breeding Slavonian grebes. If any other waterbody with suitability for Slavonian grebe breeding is found to be occupied by this species, then an exclusion zone will be implemented around it immediately. As described earlier in this document, there are no other impacts beyond the potential for disturbance / displacement which could act on Slavonian grebe breeding outside of North Inverness Lochs SPA boundary. For example, there will be no direct loss of habitat, no pollution (either waterborne or airborne) or the habitat supporting the species, and no changes to the water levels in any breeding lochan.

7.2.14 With the implementation of the works exclusion zones described above, disturbance / displacement of Slavonian grebe breeding outside of North Inverness Lochs SPA during the Construction Phase will be avoided. The breeding success of these birds will therefore not be adversely affected, and the potential for these birds to act a source of recruits to North Inverness Lochs SPA population will be maintained.

7.2.15 There will consequently be no change to the population or distribution of Slavonian grebe within the European site, or significant disturbance of the species. With specific reference to these Conservation Objectives, it is therefore concluded that there will be no adverse effect on the integrity of North Inverness Lochs SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.2.16 Works during the Operational Phase of the Proposed Development will be substantially reduced compared to the Construction Phase. However, maintenance and other activities still have the potential to cause disturbance of Slavonian grebe, if they take place sufficiently close to a nesting waterbody.

7.2.17 As for the Construction Phase, two waterbodies found to support breeding Slavonian grebe in 2024 lie within 350 m of the Proposed Development. Operational activities would be restricted to the occasional passage of vehicles along Access Tracks with personal on foot required to access Dams and the UCW. Mitigation is proposed that would reduce the likelihood of disturbance and displacement of Slavonian grebe and ornithological monitoring will continue during the Operational Phase.

7.2.18 As for the Construction Phase, therefore, it is concluded that there will be no adverse effect on the integrity of North Inverness Lochs SPA from indirect impacts on birds breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.3 Urquhart Bay Wood SAC

Overview

7.3.1 Urquhart Bay Wood is located at the edge of the village of Drumnadrochit, on the west side of Loch Ness, at the confluence of the River Enrick and River Coiltie. The River Coiltie flows directly from the Proposed Development Site and into Urquhart Bay Wood SAC, along a distance of approximately 6.5 km of watercourse. An access track from the A831 to the Headpond lies within the River Enrick catchment.

7.3.2 The sole qualifying feature of Urquhart Bay Wood SAC is Alder woodland on floodplains. The latest assessed condition of the qualifying feature is Unfavourable No change, with identified negative pressures being invasive species, over-grazing and water management. Frequent inundation by floods and changes in channels and topography caused especially by river action, together with accumulations of woody debris, are key to the functioning of the site. Any changes in local and / or catchment hydrology could adversely affect the site.

Changes to Surface Water Hydrology During the Construction Phase

7.3.3 As stated in **Table 5-2 HRA Screening Assessment for Urquhart Bay Wood SAC**, although construction of the Proposed Development could have impacts on surface waters which drain into Loch Ness, these are likely to be so small relative to the volume of water in Loch Ness, and which flows into it from numerous other sources across its extremely large catchment area, that there will be negligible effect on Loch Ness, or on Urquhart Bay Wood SAC. The potential exception to this is where the Proposed Development impacts the Rivers Enrick and Coiltie, both of which flow directly into Urquhart Bay Wood SAC from the Proposed Development Site, without first entering Loch Ness (and therefore being subject to the buffering offered by the loch).

7.3.4 Excepting more distant upstream parts that lie over 8 km west of the Proposed Development with intervening higher ground, the River Enrick lies within Glen Urquhart. The River Coiltie lies within Glen Coiltie and is separated from the River Enrick by the hill of Carn Macsna and associated high ground, such that the catchments of these rivers are well-separated in the vicinity of the Proposed Development. Their catchments only approach closely at their confluence at Urquhart Bay beside Loch Ness.

7.3.5 Consequently, the only infrastructure associated with the Proposed Development that lies within the catchment of the River Enrick is the northern part of the Balnain access track from the A831. This is an existing forestry track, which may require limited upgrades including of watercourse crossings, but no major work. However, watercourse crossings will either be extended or will be replaced, in which case hydrological conditions will either be maintained as they are currently or will be improved (for example in situations where better designed water crossings are installed). Considering the minor nature of works in this area, there is no likelihood of any significant effect on the hydrology of River Enrick, and no possibility of there being adverse effects on Urquhart Bay Wood SAC via this hydrological connection to the Proposed Development.

7.3.6 The area of the Headpond itself (including Loch nam Breac Dearga, a more or less natural loch that will be lost to the Headpond) drains westward and lies within the separate catchment of the Allt Saigh, entirely outside the River Coiltie catchment. Construction of the Headpond, which represents by far the largest component of above-ground infrastructure, and the element of the Proposed Development likely to have greatest impacts on surface water hydrology, will therefore be outside the River Coiltie catchment.

7.3.7 The catchment of the River Coiltie covers the parts of the Proposed Development in Glen Coiltie and from there southwards to the lochans just north of the Headpond. Infrastructure that would be constructed within the River Coiltie catchment would comprise permanent access tracks and various temporary and permanent compounds. All watercourse crossings would be designed to maintain surface water flows, and access tracks and compounds would be constructed so as to maintain flows of clean water towards the River Coiltie and its tributaries.

7.3.8 A Water Framework Directive (WFD) Assessment has been carried out for the River Coiltie (and other waterbodies) and is presented in **Appendix 10.1 Water Framework Directive Assessment** (**Volume 5: Appendices**). It concludes that there will be no significant residual adverse effects on the River Coiltie, and that the Proposed Development would therefore be compliant with the WFD.

7.3.9 It is therefore concluded that there will be no adverse effect on the integrity of Urquhart Bay Wood SAC from changes to surface water hydrology during the Construction Phase of the Proposed Development.

Changes to Surface Water Hydrology During the Operational Phase

7.3.10 The only watercourse discharging from Loch nam Breac Dearga is the Allt Loch an t-Sionnaich, which flows out of the southwestern end and flows westward. The Allt Loch an t-Sionnaich is already intercepted by a watercourse hydroelectric scheme (part of the flow entering an intake at a small dam approximately 1.4 km downstream of Loch nam Breac Dearga), however as described in **Section 6 Mitigation**, compensation flows will be provided by a valve house at permanent compound PC12, maintaining the current flow regime as closely as possible. In respect of other watercourses in the catchment, the operational Proposed Development will not abstract water from these but rather from Loch Ness. Operation of the Proposed Development will therefore not directly impact on retained watercourses within the Proposed Development Site, including the River Coiltie and River Enrick. There will consequently be no impacts on Urquhart Bay Wood SAC via hydrological impacts during operation on watercourses.

7.3.11 However, pumping of water from and back to Loch Ness during operation, and hence changes to Loch Ness water level, has potential to adversely affect wet woodland in Urquhart Bay Wood SAC, the eastern end of which lies immediately adjacent to Loch Ness at Drumnadrochit and is generally shallowly-sloping and in part low-lying. The qualifying woodland interest of Urquhart Bay Wood SAC is Annex I H91E0 alluvial alder woodland[90]. Although it is all considered to constitute the Annex I type, and certainly it is all alluvial, a large part of the SAC woodland is NVC type W9, a basic but essentially dry woodland type in which alder and large willows are a minor component, and species such as ash, sycamore and birch are more common. A smaller part is wet woodland of NVC type W7, most frequently close to Loch Ness, in which alder is common, and crack willow also occurs, as well as a range of less obviously wetland trees and shrubs.

7.3.12 Water level within the SAC will be heavily influenced by the large Rivers Coiltie and Enrick, which pass through it to reach Loch Ness – the Conservation Advice Package indicates that these rivers frequently cause changes to topography in the SAC during flood events, which are key to the functioning of the SAC, and also notes that such woodland typically occurs where there is periodic inundation, and that favourable structure and function should allow for species that thrive with a high water table (which at this site would include alder as a key species). Ash as well as alder are species that tend to require periodic disturbance (as occurs by high-energy river flooding) to persist as dominant species. In addition to the rivers, the underlying sandstone aquifer (see **Chapter 10: Water Environment (Volume 2: Main Report)**) will also contribute groundwater to the SAC – there are a number of 'issues' and a spring marked on Ordnance Survey (OS) mapping within the SAC that supply water to the woodland, and water will likely also be directly supplied by the underlying aquifer to the alluvium above. Although the SAC woodland is generally shallow-sloping, it does rise away from Loch Ness, and OS mapping shows that much of the woodland between the two rivers is at or above 20 m AOD. The highest level of Loch Ness inundation in recent years was to just over 17.5 m AOD in 2015 – inundation by Loch Ness to this level, and similarly high levels, is a rare occurrence that would not have a significant effect on the vegetation. Given the topography and water sources, the impact of Loch Ness water level on the SAC woodland will therefore be of most potential consequence to the woodland nearer the loch, where changes to the Loch Ness water level would more frequently affect the woodland, and where there are existing low-lying areas of woodland.

7.3.13 The effect of the Proposed Development on Loch Ness water levels has been subject to hydrological modelling, for a ten-year period. **Table 7-2: Percentage exceedance of key contours by Loch Ness water level, at baseline and with the Proposed Development** below indicates percentage exceedance of key contours (in metres Above Ordnance Datum (AOD)) in spring, summer and autumn (the growing season is key for the reasons given in the following paragraphs). Exceedances are given for the existing baseline, and for the Proposed Development with and without improvement of the Dochfour Weir to a seasonal variable weir (which as noted is considered mitigation for the Proposed Development, for reasons of aquatic ecology, and is therefore taken account of here).

[90] The full Annex I name (given in: European Commission (2013) *Interpretation manual of European Union habitats*. European Commission DG Environment), not repeated hereafter, is: 'Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)'. It is also termed 'residual alluvial alderwood'. The full Annex I name and description in the interpretation manual indicate that trees other than alder can be present, including ash, white willow *Salix alba*, crack willow and downy birch. Other than white willow, these were all observed in the SAC during the field inspection, along with sycamore and various other trees and shrubs (see **Section 4 Baseline Conditions**).

7.3.14 Extremes of flood and drought could occur through natural events that are beyond the extents of fluctuation in the ten-year hydrological modelling period. However, these can reasonably be expected to be rare and would therefore not be expected to significantly affect the nature of vegetation in the SAC.

Table 7-2 Percentage exceedance of key contours by Loch Ness water level, at baseline and with the Proposed Development (with and without an improved seasonal variable Loch Dochfour Weir).

m AOD	Period	Baseline	Proposed Development	
		weir not changed	weir not changed	seasonal variable weir
15.82	Spring	40.5	37.4	54.7
	Summer	16.8	18.3	63.8
	Autumn	59.3	48.6	63.8
	Annual	49.1	43.6	63.2
15.90	Spring	20.6	23.7	39.4
	Summer	4.6	9.5	50.1
	Autumn	36.3	34.8	49.1
	Annual	30.4	31.1	48.8
16.00	Spring	6.3	11.1	23.7
	Summer	0.6	3.2	33.9
	Autumn	13.6	20.0	32.4
	Annual	13.5	18.1	32.1

7.3.15 The key species in the SAC wet woodland beside Loch Ness is alder *Alnus glutinosa*. In combination with its alluvial situation at this SAC, it is considered a suitable species to investigate effects on the wet woodland as a whole. The CABI dataset on alder[91] provides general information about this species. It notes that alder favours “impeded” and “seasonally waterlogged” soils and is “very resistant to flooding”. It also notes that a greater risk than flooding or waterlogging is drought, to which alder is intolerant.

7.3.16 Claessens *et al.* (2010)[92] provide more detailed information on the environmental requirements and adaptations of alder. Atmospheric humidity is important to reproduction. However, this would not be significantly impacted at the SAC where it will largely be determined by climate and through-flowing rivers and given also that Loch Ness mean water level would not be lowered, and fluctuation would be frequent. Alder requires groundwater (whose roots can approach 5 m length to reach it) where precipitation does not exceed 1500 mm / year, as is the case at the SAC[93]. It commonly grows at riverside sites, but also marshy sites with waterlogged subsoil throughout the year, where alder survives by adaptations to anaerobic conditions, including pressurised supply of oxygen to the roots from above, and growth of adventitious roots where parts of the root system are subject to prolonged waterlogging. Glenz *et al.* (2006)[66] further note that in addition to specialised aerenchyma and lenticel tissues, alder is also able to prevent cellular damage from free radicals (that form upon return to aerobic conditions) by accumulating the detoxifying enzyme superoxide dismutase, enabling it to withstand long-term flooding that can injure most other species.

7.3.17 Claessens *et al*. (2010)[64] note that alder is a pioneer species and a poor competitor, and regeneration depends on soil disturbance including by flooding. Waterlogging is required to give alder an advantage, so it is not outcompeted by species such as ash and maple. Ash and maple (as sycamore) both occur in the SAC including in the W7 and intermediate W7-W9 communities, and particularly in the extensive drier W9 community. Increased waterlogging could provide some advantage to alder and potentially slightly increase the extent of W7 at the expense of W9. However, this would not result in a change of Annex I habitat type, so would not result in reduction in the extent and distribution of the qualifying habitat.

[91] https://www.cabidigitallibrary.org/doi/10.1079/cabicompendium.4574
[92] Claessens H., Oosterbaan A., Savill, P. and Rondeux, J. (2010). A review of the characteristics of black alder (Alnus glutinosa (L.) Gaertn.) and their implications for silvicultural practices. Forestry, Vol. 83, No. 2
[93] https://climate-themetoffice.hub.arcgis.com/datasets/TheMetOffice::annual-precipitation-observations-1991-2020-12km/about

7.3.18 Glenz *et al.* (2006)[94] provide further information specifically on flood tolerance of trees, reviewing several studies. On a five-level flooding tolerance scale based on cluster analysis and expert knowledge, alder was placed in the Very High flooding tolerance class along with willows, including crack willow and grey willow, which also occur in the SAC. Other SAC species classified in this scheme comprise goat willow and bird cherry (High tolerance), ash (Intermediate tolerance) and sycamore (Very Low tolerance). The paper indicates that there is limited information on tree flood tolerance, and variation in its assessment by different authors, and also notes that many studies do not include seasonality – flooding in the growing season (spring / summer) is stated to have far more impact than winter flooding, which apparently has little effect.

7.3.19 However, the paper cites detailed studies from 1988 and 2002 of tree mortality during severe flooding in the growing season along the Rhine in Germany. In these 1988 and 2002 studies, many species experienced mortality above a fairly low flood duration, including ash whose flood tolerance was approximately 12-21% of the growing season. The most resilient of the studied species was white willow *Salix alba* (closely related to crack willow which occurs in the SAC) which tolerated approximately 95% of the growing season under flood without mortality. In regard to alder species, the 2002 study found that common alder *Alnus glutinosa* tolerated at least 62% of the growing season under flood, and since no mortality was observed the upper tolerance limit was not found but would be higher. The 1988 study found that a related alder species, green alder *Alnus viridis*, tolerated approximately 73% of the growing season under flood, and again mortality was not observed thus the upper tolerance limit was not determined and would be higher. Note that the flood durations here are *continuous*, a key difference from modelled flooding induced at the SAC by pumped storage-related effects on Loch Ness, where inundations cycle up and down over hours not days, avoiding long-term wetting or drying.

7.3.20 Other relevant points in Glenz *et al.* (2006)[66] include that alder does not tolerate submersion for “a few weeks” of the “entire stem including the lenticels”. This would not occur at the SAC, given the rapidity of fluctuation and that even the rare highest flood events would incur only 1.2-1.7 m depth at the lowest edge of the SAC. The most frequent inundations of the lowest-lying parts of the SAC below 16.0 m AOD would be in contrast be 0.2 m or less in depth. With regard to seedlings, it was noted that alder and (surprisingly) ash seedlings tolerated “partial submergence” for three months with little effect on growth, with damage occurring after four weeks of “total submersion” in spring. Again, these degrees of flooding duration would not be approached given the speed of water level fluctuation. There would not therefore be expected to be a significant impact on seedling growth and recruitment of new trees, and the limiting factor to tree regeneration in the SAC would remain grazing pressure as reported in the SAC (and SSSI) documentation.

7.3.21 A later study by Hauschild and Hein (2008)[95] appears to use the same growing season flood tolerance data cited by Glenz *et al.* (2006) above but provides further detail on the circumstances and provides modelling of flood tolerance. The data came from a tree mortality survey carried out shortly after extreme flooding along the Rhine in summer 1999 following simultaneous snowmelt in the Alps. The survey provided data on 2955 trees and tree groups in alluvial forest, from areas where flooding remained high for 45 to 110 days, as well as from retention basins of 4–5-day flood duration, providing a range of flood durations (*continuous* durations, rather than combined shorter durations) and with information on flood height as well as tree size and mortality. This was used to model mortality under flooding of up to 120 days duration and 3.5 m depth for four tree species, which unfortunately did not include alder but did include ash. The study acknowledges uncertainty in predicting flood tolerance. However, although the confidence intervals are often wide, for ash under 0.25 m flood depth (for which a flood duration of 30 days and a diameter at breast height (DBH) of 15 cm were applied) the prediction and confidence curves become closely-spaced and suggest approximately 95% or better probability of survival. For ash trees larger than 15 cm DBH the survival rate is higher, and this appears applicable generally to other tree species.

7.3.22 It will be noted that even the short durations of flood in Hauschild and Hein (2008)[67] are far more extreme than the modelled inundation at the SAC, where each inundation and subsequent receding occur over hours not days, and the most frequent inundation events of the lowest-lying edge of the SAC below 16.0 m AOD would incur only minor flood depths of up to 0.2 m (and as noted the highest flood levels, around 17.0-17.5 m, which already occur naturally and would remain rare, incur flood depths of approximately 1.2-1.7 m in the lowest parts of the SAC beside Loch Ness). Hence it is reasonable to expect that ash in the SAC would fair better than in the Hauschild and Hein (2008) study. Another important factor is the permeability of the soil; the soil in the SAC is alluvium, being visibly sandy near Loch Ness. Alluvium drains well upon the water level falling again. It is characteristic of alluvial alderwood that it occupies areas that are regularly inundated but are also well-drained. Given that alder is highly wetland-adapted and much better able to cope with flooding than ash (as summarised in the previous

[94] Glenz, C., Schlaepfer, R., Iorgulescu, I. and Kienast, F. (2006). Flooding tolerance of Central European tree and shrub species. Forest Ecology and Management 235, 1-13

[95] Hauschild, von R.and Hein, S. (2008). Zur Hochwassertoleranz von Laubbäumen nach einem extremen Überflutungsereignis – Eine Fallstudie aus der südlichen Oberrheinaue. German Journal of Forest Research 180

paragraphs), it is reasonable to conclude that probability of survival of alder would likely be 100% or very near it, considering that the most frequent flood depths (below 16.0 m AOD) would be less than 0.25 m and of duration measured in hours rather than 30 days.

7.3.23 The modelled water level exceedances caused by the Proposed Development (the proposed mitigation for which includes the seasonally-variable Dochfour Weir) indicate that the highest exceedance, at baseline mean loch level of 15.82 m AOD, is 63.8% (see **Table 7-2 Percentage exceedance of key contours by Loch Ness water level, at baseline and with the Proposed Development**) in summer and autumn. Exceedances at this lowest-level height of the periphery of the SAC are considerably lower in spring (March, April and May) at 54.7%. Coupled with consideration of the tolerance of alder to (continuous long-term) flooding in the growing season as explained in the previous paragraphs, it is therefore unlikely that there would be significant impact on alder at this very lowest periphery of the SAC. By 15.9 m AOD, just 8 cm higher, the exceedances are well within the flood tolerances of alder, at most 50.1% in summer. Coupling this with the rapidity of water level fluctuation (over hours, not days), and that fact that the alluvial substrate drains well when not inundated, there is unlikely to be an appreciable adverse change in the extent or distribution of qualifying Annex I H91E0 alluvial alderwood beyond a *de minimis* degree.

7.3.24 Consequently, there would be no compromise of the conservation objectives, either of the relevant conservation objectives of maintaining extent and distribution of the qualifying Annex I H91E0 alluvial alderwood, or of other conservation objectives that would not be affected by the Proposed Development (comprising maintenance of structure and function, which relates especially maintenance of wet conditions and natural flooding / disturbance events associated particularly with the two large rivers; and maintenance of typical species, which would be achieved by maintaining the qualifying habitat). Therefore, it is concluded that there would be no adverse effect on site integrity during operation of the Proposed Development (including an improved seasonal variable Dochfour Weir).

7.4 Ness Woods SAC

Overview

7.4.1 Ness Woods SAC comprises three component areas, to the east and southeast of Loch Ness. One of the areas is located along the River Tarff and is not situated immediately adjacent to Loch Ness (it is approximately 2.2 km along the watercourse from the nearest boundary of this part of the SAC to Loch Ness). Similarly, the part of the SAC at Inverfarigaig (which is nearest the Proposed Development) also does not extend to the shore of Loch Ness, being approximately 325 m upstream of Loch Ness, at closest. The third part of the SAC, however, extends for approximately 10.6 km along the eastern shore of Loch Ness.

7.4.2 The qualifying woodland habitats of Ness Woods SAC are mixed woodland on base-rich soils associated with rocky slopes, and western acidic oak woodland. The latest assessed condition of both features at this site is Unfavourable No change.

7.4.3 Mixed woodland on base-rich soils associated with rocky slopes habitat typically occurs in association with base-rich rocks in steep-sided immature river valleys and is found on nutrient-rich soils that often accumulate in the shady micro-climates towards the bases of slopes and ravines. Such forests are not extensive but fragmentary stands that then grade into other woodland types on level valley floors or slopes above. The woodland is considered to be in an unfavourable condition in Ness Woods SAC due to grazing pressures, poorly developed understorey and canopy cover, and limited woodland regeneration.

7.4.4 Western acidic oak woodland comprises a range of woodland types dominated by mixtures of oaks *Quercus* spp. and birch *Betula* spp. It is characteristic of base-poor soils in areas of at least moderately high rainfall. A key feature of importance within this habitat type is the well-developed Atlantic bryophyte communities it can support. This habitat type is considered to be in an unfavourable condition in Ness Woods SAC due to grazing pressures, poorly developed understorey and canopy cover, and limited woodland regeneration.

Changes to Surface Water Hydrology During the Operational Phase

7.4.5 The qualifying woodland interests (dry woodland types equating to NVC types W9 and W17) of those parts of the SAC that sit beside Loch Ness are situated on significantly sloping ground rising up from the loch, in contrast to the shallow-sloping profile of Urquhart Bay Wood SAC on the opposite side of Loch Ness. Given that no adverse

effects on site integrity are predicted for Urquhart Bay Wood SAC in the preceding section, the effects of Loch Ness water level would be still less on Ness Woods SAC, since it concerns dry woodland on steeper slopes than Urquhart Bay Wood SAC. As such, there is not likely to be any compromise of the conservation objectives of maintaining extent and distribution of the qualifying habitat, nor of any other conservation objectives, and consequently there is concluded to be **no adverse effect** on site integrity.

7.5 River Moriston SAC

Overview

7.5.1 The River Moriston is internationally designated as an SAC with the aquatic features Atlantic salmon and FWPM – the latter depending on salmon and brown / sea trout for the completion of their lifecycle. Atlantic salmon and sea trout migrate annually through Loch Ness and the River Ness, adult fish migrating upstream to their spawning grounds (including the River Moriston), and juvenile fish (salmon smolts) migrating downstream to the sea.

7.5.2 There are existing constraints to fish passage at Dochfour Weir and the Caledonian Canal at the northeastern (downstream) end of Loch Ness and Loch Dochfour. The existing fish pass and smolt pass on the weir, and smolt culvert linking the Caledonian Canal to the River Ness, are inadequate in facilitating the downstream passage of smolts, and the upstream passage of adult salmon and sea trout. In the baseline scenario, fish passage is inhibited at times of low water levels in Loch Ness, and this will be exacerbated by the operation of the Proposed Development, and cumulative existing, consented, and proposed PSH schemes.

7.5.3 Sustainable areas of Rivers SBL priority habitat that form an essential component of the network of aquatic habitats, including other priority habitats, in the Proposed Development Site, also provide suitable habitat, including spawning habitat, for the SBL species Atlantic salmon and brown trout. Therefore, these habitats form part of the functionally linked network of habitats supporting the populations of Atlantic salmon, FWPM, and brown / sea trout in the wider landscape.

7.5.4 The latest condition assessment for the qualifying species of the SAC is Unfavourable No Change (Atlantic salmon assessed in 2011; FWPM assessed in 2018). Negative pressures are listed as ‘Statutory undertaker,’ ‘water management’ (levels in Loch Ness and fish passage at Dochfour Weir, currently impacted by existing pumped storage operations), and ‘wildlife crime’ (salmon poaching). The SAC is located greater than 5 km to the southwest (upstream) of the Proposed Development.

7.5.5 For the assessment of the River Moriston, any likely significant effects to Atlantic salmon (and sea trout) are also considered to result in a likely significant effect to FWPM due to the intrinsic links of their lifecycles. The assessment therefore considers both salmon and FWPM in parallel.

Loss of Functionally-linked Habitat during the Construction Phase

7.5.6 There will be temporary disturbance to the shoreline and margins of Loch Ness, with the temporary cofferdam extending out into the loch. The effects on habitats within Loch Ness will be localised to the relatively small area of the cofferdam (0.01% of the total loch area). These effects will consist of disruption and removal of substrate, including dredging after removal of the cofferdam, and de-watering of this area. Additionally, the migratory routes of salmon and other migratory species through Loch Ness are not well known, but it is likely that these species will be present in the vicinity of the cofferdam during their migration: late spring and early summer for salmon smolt migration; late autumn or early winter for adult migration.

7.5.7 General mitigation will be implemented to mitigate potential impacts to migrating salmon and sea trout (and other fish species) in Loch Ness during construction of the LCW. This will include measures to be set out in the CEMP, the implementation of an ECoW during construction, and the remaining mitigation measures described above.

7.5.8 Therefore, it is concluded that there would be no adverse effect on site integrity during construction of the Proposed Development.

Disturbance and Displacement of Qualifying Species During the Construction Phase

7.5.9 This impact pathway is as described and mitigated for the loss of functionally-linked habitat during the Construction Phase described above. Therefore, it is concluded that there would be no adverse effect on site integrity during construction of the Proposed Development.

Injury or Mortality of Qualifying Species During the Construction Phase

7.5.10 This impact pathway is as described and mitigated for the loss of functionally-linked habitat during the Construction Phase described above. Therefore, it is concluded that there would be no adverse effect on site integrity during construction of the Proposed Development.

Prevention of Migratory Movements of Qualifying Species During the Construction Phase

7.5.11 The construction of the cofferdam has the potential to impact upon migratory fish species (Atlantic salmon and sea trout) and therefore have an adverse impact upon their migratory success. This could be due to such effects as noise and vibration distracting fish from their migratory route, impacts to water quality leading to the injury, mortality, or impairment of migrating fish, or distraction from the migratory route resulting in an increased risk of predation, for example by otter, pike, or other predatory fish species.

7.5.12 Mitigation including the avoidance of the salmon smolt (downstream) migration seasons (April to June inclusive), and the additional mitigation described above will be sufficient to deter adult salmon from the LCW during their upstream / downstream migration and therefore avoid adverse effects. This includes measures to minimise the effects of piling, and the installation of a silt curtain / bubble screen (or other non-physical deterrent) to deter fish from the works area, positioned a minimum 30 m distance from the location of piling.

7.5.13 Therefore, it is concluded that there would be no adverse effect on site integrity during construction of the Proposed Development.

Waterborne Pollution During the Construction Phase

7.5.14 Works within Loch Ness could be considered to be ‘non-standard’ construction and therefore specific pollution prevention measures will be required during the course of those. However, even in the absence of these, pollution caused by works in Loch Ness would very likely extend over a small area, relative to that within the home range of migratory Atlantic salmon and sea trout. Loch Ness is approximately 1.4 km wide at the location of the LCW, and therefore migratory species would be able to navigate away from the localised area of disturbance.

7.5.15 Mitigation including pollution prevention measures will be adopted, following SEPA Pollution Prevention Guidelines (PPG) and Guidance on Pollution Prevention (GPP), as described above. This will ensure that there are no adverse effects on migrating fish during construction, and therefore it is concluded that there would be no adverse effect on site integrity during construction of the Proposed Development.

Disturbance and Displacement of Qualifying Species During the Operational Phase

7.5.16 This impact pathway is as described and mitigated for the prevention of migratory movements of qualifying species during the Operational Phase described below. Therefore, it is concluded that there would be no adverse effect on site integrity during operation of the Proposed Development.

Injury or Mortality of Qualifying Species During the Operational Phase

7.5.17 This impact pathway is as described and mitigated for the prevention of migratory movements of qualifying species during the Operational Phase described below. Therefore, it is concluded that there would be **no adverse effect on site integrity** during operation of the Proposed Development.

Prevention of Migratory Movements of Qualifying Species During the Operational Phase

7.5.18 Under the current configuration, Dochfour Weir and the existing fish pass are not conducive to successful migration of Atlantic salmon upstream or salmon smolts downstream. Therefore, fluctuating water levels in Loch Ness have the potential to further impact upon fish passage on Dochfour Weir using the associated fish pass, and therefore impact on the migratory success of fish species in the loch and River Ness, including Atlantic salmon and sea trout.

7.5.19 Downstream migration of smolts could also be impeded by a reduction in water levels at Dochfour Weir and flows in the River Ness downstream. Salmon smolts migrate to the sea in late spring or June having spent two to three years in rivers. Downstream migration is largely passive, with smolts drifting downstream with the current. To aid this migration, a smolt pass and bypass culvert have been installed in Dochfour Weir and between the Caledonian canal and the River Ness respectively. As with the fish pass, there are concerns about the efficiency and the general design of these smolt passes as it is known that a proportion of smolts (potentially 15 – 20% according to previous smolt tracking studies) are carried into the canal and fail to successfully complete their migration to the sea. Given the potential reduction in flows to the River Ness under all flow scenarios, apart from under Q10 (a high flow scenario), there is a risk that smolt passage will be reduced with a greater proportion seeking the higher flows through the lift gates or being diverted down the Caledonian Canal. Both routes could result in injury, loss of fitness and potential mortality to salmon smolts.

7.5.20 While it is considered that the intake of the Proposed Development will not pose a significant impact to the downstream migration of smolts as it has been designed to best practise (i.e. 12.5 mm aperture screen and intake and outflow velocities of ≤0.3 m/s), it is not clear how the smolt migration is affected by either level fluctuations in the loch and potential changes in flows within the loch as a result of water either being abstracted from, or returned to, Loch Ness. In particular, the spatial extent of the hydraulic change caused by the outflow has not been modelled. As smolt migration is largely passive, with smolts drifting downstream with the current, there is a risk that flow input or abstraction from the energy generation cycle may disorientate their movements, or lead to entrainment or impingement on the screen, leading to delays in their migration and potentially becoming lost to the system unable to reach the sea.

7.5.21 The approach to mitigation will be finalised at the detailed design stage, informed by the outcome of the on-going smolt tracking study in spring / summer 2025, which will provide hitherto unavailable information on the detailed movement of salmon smolts through Loch Ness during their downstream migration.

7.5.22 A suite of mitigation measures is proposed including a non-physical deterrent at the LCW and / or at the entrance to the Caledonian Canal to deter fish from the intake or prevent them being diverted down the canal and maintain them on their migratory route, a fish pass or fish passes designed according to current best practice guidance on Dochfour Weir, and the installation of a seasonally variable weir (as described in earlier sections) on Dochfour Weir to maintain flows in the River Ness downstream at their current levels. Finally, curtailment of the operation of the scheme during the smolt migration season (April to June inclusively) will be considered as a last resort, in the event that the suite of mitigation above is not feasible.

7.5.23 Therefore, it is concluded that there would be no adverse effect on site integrity during operation of the Proposed Development, and through appropriately designed mitigation it is proposed that fish passage in the Ness catchment could be improved as a result.

7.5.24 Modelling of changes in water levels and flow has considered all existing, consented, and proposed pumped storage schemes in Loch Ness, and has informed the outline design of the proposed mitigation, including the seasonal adjustable weir. Therefore, the assessment described above and in other sections includes the assessment of cumulative effects of other schemes.

Changes to Predator / prey Interactions During the Operational Phase

7.5.25 This impact pathway is as described and mitigated for the prevention of migratory movements of qualifying species during the Operational Phase described above. Therefore, it is concluded that there would be no adverse effect on site integrity during operation of the Proposed Development.

Changes to Surface Water or Groundwater Hydrology During the Operational Phase

7.5.26 Changes to surface water hydrology are predicted and modelled as changes in water levels and the frequency of level fluctuations in Loch Ness as a result of the operation of the Proposed Development. This will result, for example, in changes in water levels at Dochfour Weir, and may impede the ability for upstream or downstream migrating fish to navigate the weir, which as described above is already impeded in the baseline scenario.

7.5.27 This impact pathway is as described and mitigated for the prevention of migratory movements of qualifying species during the Operational Phase described above. Therefore, it is concluded that there would be **no adverse effect on site integrity** during operation of the Proposed Development.

7.6 Loch Knockie and nearby Lochs SPA

Overview

7.6.1 Loch Knockie and nearby Lochs SPA comprises two separate areas, encompassing a number of lochs to the east and south-east of Loch Ness. The sole qualifying feature of the site is breeding Slavonian grebe, with the SPA population quoted in the citation as being up to six pairs, between 1992 and 1995. However, the latest assessed condition of the feature is Unfavourable No change, although according to the Site Management Statement for Knockie Lochs SSSI (which underlies the northern component of the SPA), the reason for the reduction in the breeding population is unknown, as habitats and conditions within the site have remained unchanged.

7.6.2 Loch Knockie and nearby Lochs SPA is approximately 4.4 km from the Proposed Development Site.

Other Indirect Impacts During the Construction Phase

7.6.3 The assessment for North Inverness Lochs SPA is applicable to Loch Knockie and nearby Lochs SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Knockie and nearby Lochs SPA population through reduced recruitment in subsequent years.

7.6.4 However, with the implementation of work exclusion zones around any waterbodies used by Slavonian grebes for breeding, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.6.5 There will consequently be no change to the population or distribution of Slavonian grebe within the European site, or significant disturbance of the species. With specific reference to these Conservation Objectives, it is therefore concluded that there will be no adverse effect on the integrity of Loch Knockie and nearby Lochs SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.6.6 The assessment for North Inverness Lochs SPA is applicable to Loch Knockie and nearby Lochs SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Knockie and nearby Lochs SPA population through reduced recruitment in subsequent years.

7.6.7 However, with the implementation of additional mitigation, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.6.8 As for the Construction Phase, therefore, it is concluded that there will be no adverse effect on the integrity of Loch Knockie and nearby Lochs SPA from indirect impacts on birds breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.7 Loch Ruthven SPA

Overview

7.7.1 Loch Ruthven SPA comprises a single large loch to the east of Loch Ness. The sole qualifying feature of the site is breeding Slavonian grebe, with the SPA population quoted in the citation as being up to 14 pairs, between 1988 and 1992. However, the latest assessed condition of the feature is Unfavourable Declining, based on an assessment undertaken in 2023.

7.7.2 Loch Ruthven SPA is approximately 9.9 km from the Proposed Development Site.

Other Indirect Impacts During the Construction Phase

7.7.3 The assessment for North Inverness Lochs SPA is applicable to Loch Ruthven SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Ruthven SPA population through reduced recruitment in subsequent years.

7.7.4 However, with the implementation of work exclusion zones around any waterbodies used by Slavonian grebes for breeding, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.7.5 There will consequently be no change to the population or distribution of Slavonian grebe within the European site, or significant disturbance of the species. With specific reference to these Conservation Objectives, it is therefore concluded that there will be no adverse effect on the integrity of Loch Ruthven SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.7.6 The assessment for North Inverness Lochs SPA is applicable to Loch Ruthven. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Ruthven SPA population through reduced recruitment in subsequent years.

7.7.7 However, with the implementation of additional mitigation, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.7.8 As for the Construction Phase, therefore, it is concluded that there will be no adverse effect on the integrity of Loch Ruthven SPA from indirect impacts on birds breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.8 Loch Ashie SPA

Overview

7.8.1 Loch Ashie is a large waterbody to the east of Loch Ness. It is designated for supporting a non-breeding population of Slavonian grebe, which gather in the autumn to moult, before departing to wintering grounds elsewhere. The SPA population is quoted in the citation document as comprising up to 60 individuals. However, the qualifying feature is in Unfavourable Declining condition and, according to the Site Management Statement for the underlying Loch Ashie SSSI, the mean number of gathering Slavonian grebes between 1999-2002 (when the site was last monitored) was 39 birds.

Other Indirect Impacts During the Construction Phase

7.8.2 Loch Ashie is designated for non-breeding Slavonian grebe. It is approximately 14.8 km from the Proposed Development Site, and there is no possibility of direct disturbance of the qualifying birds, as they become flightless when moulting and would be restricted to Loch Ashie.

7.8.3 However, any impacts from the Proposed Development which caused a reduction in the population of Slavonian grebe which use Loch Ashie, would have indirect effects on this site. The only impact which has been identified through this Statement to Inform Habitats Regulations Appraisal as having the potential to act upon Slavonian grebe breeding outside of a European site boundary is disturbance / displacement from works activities.

7.8.4 However, as described in relation to North Inverness Lochs SPA, works exclusion zones will be implemented to avoid disturbance / displacement of Slavonian grebe which may breed in proximity to the Proposed Development. There will consequently be no impacts from disturbance / development, which could indirectly affect the Slavonian grebe population of Loch Ashie SPA. With no other possible impacts from the Proposed Development on this species, it is therefore concluded that there will be no adverse effect on the integrity of Loch Ashie SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.8.5 The assessment for North Inverness Lochs SPA is applicable to Loch Ashie SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Ashie SPA population through reduced recruitment in subsequent years.

7.8.6 However, with the implementation of additional mitigation, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.8.7 It is therefore concluded that there will be no adverse effect on the integrity of Loch Ashie SPA from indirect impacts on birds breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.9 Moray Firth SPA

Overview

7.9.1 The Moray Firth SPA is a large, marine site. It is approximately 18.2 km from the Proposed Development Site at the nearest point.

7.9.2 This site was screened into Appropriate Assessment due to the potential for the Proposed Development, in isolation, to have indirect impacts on the qualifying population of non-breeding Slavonian grebe. In addition, it was also screened in due to the potential for the Proposed Development to act in-combination with other plans or projects to adversely affect the qualifying population of non-breeding red-throated diver.

7.9.3 Both the Slavonian grebe and red-throated diver qualifying features were last assessed as being in Favourable Maintained condition. According to the SPA citation, the non-breeding population of Slavonian grebe had a mean annual peak of 43 individuals between 2001/02-2005/06. The non-breeding population of red-throated diver for the SPA is quoted as having a mean annual peak of 324 individuals between 2001/02-2006/07.

Other Indirect Impacts During the Construction Phase

7.9.4 It is unknown whether birds which breed in proximity to the Proposed Development over-winter in the Moray Firth SPA. Although it is likely that the majority of overwintering birds originate from breeding populations outside Scotland[96], on a precautionary basis this is assumed to be the case. Any impacts from the Proposed Development which reduce the number of birds using the SPA would have indirect effects on Moray Firth SPA. The only Construction Phase impact which has been identified through this Statement to Inform Habitats Regulations Appraisal as having the potential to act upon Slavonian grebe is disturbance / displacement of birds breeding outside of the boundary of European sites as a result of works.

7.9.5 Two Slavonian grebe breeding lochans were found to be within 350 m of proposed works areas, this being the distance at which disturbance / displacement is expected to be possible for all works with the exception of blasting. Blasting activities could extend this ZoI to other more distant waterbodies.

7.9.6 However, as described in relation to North Inverness Lochs SPA, works exclusion zones will be implemented to avoid disturbance / displacement of Slavonian grebe which may breed in proximity to the Proposed Development. There will consequently be no impacts from disturbance/displacement, which could indirectly affect the non-breeding Slavonian grebe population of Moray Firth SPA.

7.9.7 A single pair of red-throated diver bred within approximately 2 km of the Proposed Development Site in 2024. NatureScot guidance[47] advises that a buffer zone of up to 750 m may be required to avoid disturbance of breeding

[96] Benn, S., Harvey, M and Ewing, S (2023). A history of breeding Slavonian grebes in Britain. British Birds, 116, 308-318.

red-throated diver. The nest lochan was located well within this distance of proposed infrastructure (see **Confidential Appendix 8.1: Sensitive Assessment** (**Volume 6: Confidential Appendices**) for further detail). However, as for Slavonian grebe, and as described in Section 6, a works exclusion zone of 750 m radius will be implemented around this lochan between 01 April and 15 September, inclusive, each year during the Construction Phase of the Proposed Development. The works exclusion zone will remain in place until at least 30 June and would only then be lifted if the ECoW / ornithologist was confident that no breeding by red-throated diver was taking place. The works exclusion zone would apply to all works activities by default with works only permitted within the exclusion zone if agreed in advance with the ECoW / ornithologist. Blasting activities would be subject to a bespoke exclusion zone following the establishment of blasting specific ZoI.

7.9.8 A programme of pre- and during-construction bird surveys will also be carried out, including targeted surveys of waterbodies for breeding red-throated diver. If any other waterbody with suitability for red-throated diver breeding is found to be occupied by this species, then a 750 m works exclusion zone will be implemented around it immediately.

7.9.9 There are no other impacts beyond the potential for disturbance / displacement which could act on Slavonian grebe or red-throated diver. For example, there will be no direct loss of habitat, no pollution (either waterborne or airborne) or the habitat supporting the species, and no changes to the water levels in any breeding lochan.

7.9.10 With no other possible impacts from the Proposed Development on these species, it is therefore concluded that there will be no adverse effect on the integrity of Moray Firth SPA from indirect impacts on Slavonian grebe and / or red-throated diver breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.9.11 As for the Construction Phase, disturbance / displacement of breeding Slavonian grebe or red-throated diver during the Operational Phase could give rise to reductions in the qualifying populations of these species in Moray Firth SPA, either from the Proposed Development alone, or in-combination with other plans or projects.

7.9.12 As for the Construction Phase, two waterbodies found to support breeding Slavonian grebe and one for red-throated diver in 2024 lie within 350 m and 750 m of the Proposed Development respectively. Operational activities would be restricted to the occasional passage of vehicles along Access Tracks with personnel on foot required to access Dams and the UCW. Mitigation is proposed that would reduce the likelihood of disturbance and displacement of Slavonian grebe and red-throated diver and ornithological monitoring will continue during the Operational Phase.

7.9.13 It is therefore concluded that there will be no adverse effect on the integrity of Moray Firth SPA from indirect impacts on Slavonian grebe and/or red-throated diver breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.10 Moray Firth SAC

Overview

7.10.1 The Moray Firth SAC has bottlenose dolphin as a qualifying species, and also supports harbour seal, both of which are known to prey on Atlantic salmon smolts during their downstream migration. The assembly of bottlenose dolphin at Chanonry Point in the Moray Firth is an internationally renowned phenomenon, whereby the dolphins feed on fish a short distance from the shore and attract crowds of onlookers. Dolphins are known to feed on Atlantic salmon smolts, which enter the Moray Firth from 18 river catchments, and also other prey species.

7.10.2 The SAC is currently assessed as of Favourable Maintained condition, being assessed for bottlenose dolphin as recently as 2022, with ‘no negative pressures’ listed. The SAC is located approximately 32 km to the northeast as the crow flies from the LCW but is connected by functionally-linked habitat in Loch Ness and the River Ness.

Changes to Predator / Prey Interactions During the Operational Phase

7.10.3 Impacts to Atlantic salmon within Loch Ness may reduce the availability of smolts within the Moray Firth to serve as prey items for marine mammals such as bottlenose dolphin and harbour seal. Atlantic salmon is a key prey

item for both species and a peak in abundance of bottlenose dolphin within the Moray Firth in summer months is thought to align with the migration of salmon smolt out to sea.

Atlantic salmon migrate to the Moray Firth from a number of local catchments. In the wider Moray Firth, 18 total salmon rivers have been identified where Atlantic salmon occur and migrate out to sea.[70] Within the firth, salmon abundance has been declining since the mid-1980s.[70] This has not been correlated with any local declines in bottlenose dolphin or harbour seal abundance, populations of which are considered stable. Furthermore, both species are known to have a reasonably varied diet, with bottlenose dolphin also observed feeding on mackerel, flatfish, cod, saithe, whiting, haddock, and cephalopods[61] and harbour seal preying upon flatfish, gadoids, and sand eel.[97] In the Moray Firth specifically, the harbour seal diet is seemingly dominated by sand eel.[82]

Recent surveys from the Moray Firth Tracking Project by the Atlantic Salmon Trust has reported that about half of juvenile salmon do not survive their downstream migration out to sea, with an assessment of salmon migration associated with Loch Ness specifically reporting that only approximately 20% of salmon smolts survived out to sea in 2020 and 2021.[98] The mitigation described above will facilitate the successful migration of Atlantic salmon smolts downstream, resulting in a greater proportion of smolts successfully completing their migration to the Moray Firth. This will result in a larger number of smolts contributing to the prey resource for bottlenose dolphin and harbour seal in the Moray Firth, in addition to that from other river catchments and of different species. Therefore, it is considered that therefore there will be no adverse effect on qualifying species of the SAC, and it is concluded that there would be no adverse effect on site integrity during operation of the Proposed Development.

7.11 Loch Flemington SPA

Overview

7.11.1 Loch Flemington is a small waterbody located southeast of Inverness Airport, approximately 38 km from the Proposed Development Site. According to the citation document, between 1991 and 1995, an average of six pairs of Slavonian grebe bred within Loch Flemington SPA.

Other Indirect Impacts During the Construction Phase

7.11.2 The assessment for North Inverness Lochs SPA is applicable to Loch Flemington SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Flemington SPA population through reduced recruitment in subsequent years.

7.11.3 However, with the implementation of works exclusion zones around any waterbodies used by Slavonian grebes for breeding, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.11.4 There will consequently be no change to the population or distribution of Slavonian grebe within the European site, or significant disturbance of the species. With specific reference to these Conservation Objectives, it is therefore concluded that there will be no adverse effect on the integrity of Loch Flemington SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.11.5 The assessment for North Inverness Lochs SPA is applicable to Loch Flemington SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Flemington SPA population through reduced recruitment in subsequent years.

7.11.6 However, with the implementation of additional mitigation, disturbance / displacement impacts, and any such indirect effects, will be avoided.

[97] Sea Mammal Research Unit (2015) CSD 3.2 Report: Harbour seal diet composition and diversity. Report to Scottish Government, Marine Mammal Scientific Support Research Programme.
[98] Ness District Salmon Fishery Board, personal communication.

7.11.7 As for the Construction Phase, therefore, it is concluded that there will be no adverse effect on the integrity of Loch Flemington SPA from indirect impacts on birds breeding outside of the European site boundary during the Operational Phase of the Proposed Development.

7.12 Loch Vaa SPA

Overview

7.12.1 Loch Vaa is a small lochan located north of Aviemore, approximately 40 km from the Proposed Development Site. According to the SPA citation, Loch Vaa regularly supports a population of up to seven pairs of Slavonian grebe. However, in certain years, Slavonian grebe do not breed at Loch Vaa, and this can occur irrespective of the management or condition of the site.

Other Indirect Impacts During the Construction Phase

7.12.2 The assessment for North Inverness Lochs SPA is applicable to Loch Vaa SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Vaa SPA population through reduced recruitment in subsequent years.

7.12.3 However, with the implementation of work exclusion zones around any waterbodies used by Slavonian grebes for breeding, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.12.4 There will consequently be no change to the population or distribution of Slavonian grebe within the European site, or significant disturbance of the species. With specific reference to these Conservation Objectives, it is therefore concluded that there will be no adverse effect on the integrity of Loch Vaa SPA from indirect impacts on birds breeding outside of the European site boundary during the construction of the Proposed Development.

Other Indirect Impacts During the Operational Phase

7.12.5 The assessment for North Inverness Lochs SPA is applicable to Loch Vaa SPA. Specifically, while there is no possibility of disturbance / displacement of Slavonian grebes occurring within the SPA boundary, the disturbance / displacement of birds breeding outside of the European site could indirectly affect the Loch Vaa SPA population through reduced recruitment in subsequent years.

7.12.6 However, with the implementation of additional mitigation, disturbance / displacement impacts, and any such indirect effects, will be avoided.

7.12.7 As for the Construction Phase, therefore, it is concluded that there will be no adverse effect on the integrity of Loch Vaa SPA from indirect impacts on birds breeding outside of the European site boundary during the Operation Phase of the Proposed Development.

7.13 In-combination Assessment

7.13.1 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location[40].

SPAs with qualifying Slavonian grebe and red-throated diver

7.13.2 With regard to potential impacts on breeding Slavonian grebe and red throated diver and associated SPAs, disturbance and displacement will be avoided by the implementation of additional mitigation detailed in Section 4. As such there would be no residual effects on these species which could act in-combination with those of other plans and projects. Therefore, in-combination effects are not considered further for the potential impact of disturbance and displacement of breeding Slavonian grebe and red-throated diver.

Urquhart Bay Wood SAC

7.13.3 As already noted, improvements to Dochfour Weir for reasons of aquatic ecology are considered as mitigation for the identified impacts of the Proposed Development and are therefore accounted for in the hydrological modelling discussed for the Proposed Development alone in the appropriate assessment above. However, Loch Ness water

levels would be cumulatively impacted by the combined operations of the Proposed Development, the consented Loch na Cathrach pumped storage hydro (PSH) scheme, and the proposed Loch Kemp PSH scheme.

7.13.4 The effect of the Proposed Development on Loch Ness water levels has been subject to hydrological modelling, for a ten-year period. **Table 7-3 Percentage exceedance of key contours by Loch Ness water level under different scenarios** below indicates percentage exceedance of key contours (in metres Above Ordnance Datum (AOD)) in spring, summer and autumn (the growing season is key as explained in the appropriate assessment for Urquhart Bay Wood SAC above). 15.82 m AOD is the baseline mean level of Loch Ness and has been taken as the edge of the loch and the SAC. Exceedances are given for the existing baseline, for the Proposed Development with and without improvement of the Dochfour Weir to a seasonal variable weir, and for the most realistic future scenario of all consented and proposed PSHs with and without a seasonal variable weir. For comparison, exceedances are also given for the Proposed Development together with the consented Loch na Cathrach PSH but without the proposed Loch Kemp PSH. In each of the modelled scenarios where there are more pumped storage schemes than just the Proposed Development, they were modelled as operating in the same manner simultaneously, which is a worst-case that increases the degree of effect but (unless subject to controls) reflects the influence of the same electricity market on all the schemes' pumping operations.

Table 7-3 Percentage exceedance of key contours by Loch Ness water level under different scenarios

m AOD	Period	Baseline	GE		GE + LnC		GE + LnC + LK	
		weir not changed	weir not changed	seasonal variable weir	weir not changed	seasonal variable weir	weir not changed	seasonal variable weir
15.82	Spring	40.5	37.4	54.7	37.1	55.0	35.0	53.7
	Summer	16.8	18.3	63.8	18.9	68.8	19.2	78.1
	Autumn	59.3	48.6	63.8	46.5	63.1	41.7	60.7
	Annual	49.1	43.6	63.2	42.6	63.8	39.0	63.2
15.90	Spring	20.6	23.7	39.4	24.2	41.8	24.1	44.0
	Summer	4.6	9.5	50.1	10.1	55.9	11.2	69.8
	Autumn	36.3	34.8	49.1	34.4	51.0	32.3	52.2
	Annual	30.4	31.1	48.8	31.1	51.2	29.5	54.2
16.00	Spring	6.3	11.1	23.7	12.1	26.9	14.5	33.9
	Summer	0.6	3.2	33.9	3.6	41.1	4.8	60.1
	Autumn	13.6	20.0	32.4	20.9	35.6	21.9	42.2
	Annual	13.5	18.1	32.1	18.7	35.3	19.9	43.8

GE = Glen Earrach, the Proposed Development; LnC = Loch na Cathrach PSH (consented); LK = Loch Kemp PSH (proposed)

Shading in this table is to aid legibility.

7.13.5 For the combined operation of all consented and proposed PSHs, including Foyers which is part of the modelled baseline (and including the improved seasonal variable Dochfour Weir as part of the mitigation for the Proposed Development), the highest exceedance, at baseline mean loch level of 15.82 m AOD, is 78.1% (see **Table 7-3 Percentage exceedance of key contours by Loch Ness water level under different scenarios** above). This is however restricted to three months of summer (June, July and August). Exceedances at this lowest-level edge of the SAC are considerably lower in spring (53.7%) and autumn (60.7%), well within the tolerance of alder to flooding in the growing season discussed in the appropriate assessment for Urquhart Bay Wood SAC above. As such, it is unlikely that there would be significant impact on alder at this very lowest periphery of the SAC. By 15.9 m AOD, just 8 cm higher, the exceedances are significantly less and very likely within the growing season flood tolerance in summer (69.8%), and well within it in spring (44%) and autumn (52.2%). Given also further amelioration of effect afforded by the speed of water level fluctuation (over hours, not days), and that the alluvial substrate drains well when not inundated, there is unlikely to be an appreciable adverse change in the extent or distribution of qualifying Annex I H91E0 alluvial alderwood beyond a *de minimis* degree.

7.13.6 Consequently, there would be no compromise of the conservation objectives, either of the relevant conservation objectives of maintaining extent and distribution of the qualifying Annex I H91E0 alluvial alderwood, or of other conservation objectives that would not be affected by the Proposed Development (comprising maintenance of structure and function, which relates especially to maintenance of wet conditions and natural flooding / disturbance events associated particularly with the two large rivers; and maintenance of typical species, which

would be achieved by maintaining the qualifying habitat). Therefore, it is concluded that there would be **no cumulative adverse effect on site integrity of Urquhart Bay Wood SAC during operation.**

Ness Woods SAC

7.13.7 The qualifying woodland interests (dry woodland types equating to NVC types W9 and W17) of those parts of the SAC that sit beside Loch Ness are situated on significantly sloping ground rising up from the loch, in contrast to the shallow-sloping profile of Urquhart Bay Wood SAC on the opposite side of Loch Ness. Given that no cumulative adverse effects on site integrity are predicted for Urquhart Bay Wood SAC in the preceding section, the effects of Loch Ness water level would be still less on Ness Woods SAC, since it concerns dry woodland on steeper slopes than Urquhart Bay Wood SAC. As such, there is not likely to be any compromise of the conservation objectives of maintaining extent and distribution of the qualifying habitat, nor of any other conservation objectives, and consequently there is concluded to be **no cumulative adverse effect on site integrity**.

River Moriston SAC and Moray Firth SAC

7.13.8 With the implementation of the specific fisheries mitigation set out in paragraphs 6.21-6.30, most importantly including a seasonal variable weir at the north end of Loch Ness (which would be designed to accommodate the cumulative water level changes of all existing, consented, and proposed pumped storage hydro schemes on Loch Ness, and maintain current flows in the River Ness), there will not be no adverse effect on the integrity of River Moriston SAC or Moray Firth SAC due to any cumulative fisheries-related impacts.

8. Conclusion

8.1.1 Thirteen European sites were determined to be within the potential zone of influence of the Proposed Development:

- North Inverness Lochs SPA;
- Urquhart Bay Wood SAC;
- Ness Woods SAC;
- River Moriston SAC;
- Loch Knockie and nearby Lochs SPA
- Loch Ruthven SAC;
- Loch Ruthven SPA;
- Loch Ashie SPA;
- Inner Moray Firth SPA;
- Moray Firth SPA;
- Moray Firth SAC;
- Loch Flemington SPA; and
- Loch Vaa SPA.

8.1.2 Likely significant effects on the qualifying features of Loch Ruthven SAC and Inner Moray Firth SPA from the Proposed Development, alone and in-combination with other plans and projects, were excluded during the HRA Screening stage. For the remaining eleven sites, the possibility of likely significant effects on certain of their qualifying features could not be excluded without further investigation (including from in-combination effects).

8.1.3 However, adverse effects on site integrity for all of the sites has been ruled out during Appropriate Assessment, taking account of mitigation including:

- Restrictions during construction to address otherwise possible adverse effects on qualifying bird species; and
- The seasonally adjustable weir and fish pass(es) on Dochfour Weir, together with other mitigation such as non-physical deterrents to avoid adverse effects on Atlantic salmon as qualifying features of the River Moriston SAC.
- The option to curtail the operation of the Proposed Development during the smolt migration season (April to June inclusively) to enable salmon smolts to complete their downstream migration.
- A Fisheries Management Plan (FMP) will be instigated in partnership with NDSFB, SEPA, Nature Scot, other stakeholders, and other operators/developers of PSH schemes in Loch Ness, in order to finalise the mitigation measures to be implemented and agree measures to ensure their success in the long term. The aim of the FMP will be to improve the migratory success of Atlantic salmon and other migratory species in the Ness catchment.

8.1.4 Significant cumulative effects have been excluded for SPAs with qualifying Slavonian grebe and red-throated diver by implementation of appropriate mitigation, and also for Urquhart Bay Wood SAC and Ness Woods SAC by consideration of modelled Loch Ness water level exceedances combined with alder flood tolerance.

8.1.5 Cumulative effects for the River Moriston SAC and Moray Firth SAC have been excluded through implementation of the specific mitigation outlined above in paragraphs 6.21-6.30. This mitigation will be confirmed at the detailed design stage, evaluated by the outcomes of the on-going smolt tracking study in spring / summer 2025, with the intention of providing benefits for fish passage in the Ness catchment.

8.1.6 This Statement to Inform Habitats Regulations Appraisal therefore concludes that, the Pre-Construction and Enabling, Construction and the 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.

9. Figures

Revision: 0 Drawn: WC Checked: AR Approved: ND Date: 2025-03-28

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Glen Affric to Strathconon SPA

Glen Affric to Strathconon SPA

Moray Firth SPA

Inner Moray Firth SPA

Inner Moray Firth SPA

Loch Flemington SPA

Moray Firth SAC

Loch Ashie SPA

North Inverness Lochs SPA

Urquhart Bay Wood SAC

Loch Ruthven SPA

North Inverness Lochs SPA

Loch Ruthven SAC

Ness Woods SAC

Ness Woods SAC

River Moriston SAC

Loch Knockie and nearby Lochs SPA

Loch Vaa SPA

Loch Knockie and nearby Lochs SPA

Ness Woods SAC

N

1:250,000 @ A3

5 2.5 0 5 10 15 km

AECOM

PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

AECOM Limited
177 Bothwell Street
Glasgow
G2 7ER
www.aecom.com

LEGEND

- Red Line Boundary
- 10 km Study Area
- Special Areas of Conservation
- Special Protection Areas

NOTES

Special Protected Areas (SPA's) are relevant to birds only and are therefore addressed in the ornithology chapter and associated figures.

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

FIGURE TITLE

European Sites Within the Zone of Influence of the Proposed Development

FIGURE NUMBER

Figure.7.2.1

Revision: 4 Drawn: MH Checked: AR Approved: TM Date: 2025-03-27

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2 - North Inverness Lochs SPA and Dubh Lochs SSSI)
1 - Dubh Lochs Carn SSSI (south)
6 - Loch nan Eun (West)
5 - Loch nan Eun (East)
3 - Loch Dubh (Sron Dubh)
4 - Sron Dubh un-named Lochan
7 - Glas-bheinn Bheag Un-named Lochan
10 - Allt Glas Mòr Swamp
11 - Allt Glas Mòr Lochan
8 - Glas-bheinn Bheag Un-named Swamp
12 - Glas-bheinn Mhòr Northern Swamp
13 - Glas-bheinn Mhòr Lochan
9 - Glas-bheinn Bheag Diver Lochan
14 - Glas-bheinn Mhòr Southern Swamp
15 - Loch nam Breac Dearga Lochan
16 - Loch nam Breac Dearga
17 - Meall Fuar-mhonaidh Lochan
18 - Loch a'Bhealaich
19 - Creag Dhearg Loch
20 - Loch an t-Sionnaich
21 - Allt Carn na Fiacail Lochan
22 - Carn Loch t-Sionnaich Lochan (East)
23 - Carn Loch t-Sionnaich Swamp
24 - Carn Loch t-Sionnaich Lochan (West)
25 - Loch na Faoileige
26 - Carn na Fiacail Lochan (North)
27 - Carn na Fiacail Swamp (North)
28 - Carn na Fiacail Lochan (South)
29 - Carn na Fiacail Swamp (South)
30 - Carn na Caorach Lochan
31 - Carn na Caorach Loch
32 - Carn na Caorach Swamp

1:30,000 @ A3

0.5 0.25 0 0.5 1 1.5 km

AECOM

PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

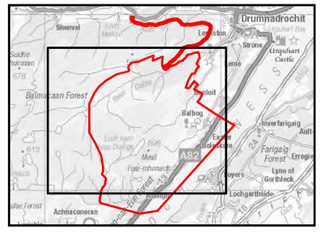
AECOM Limited
1 Tanfield, Inverleith Row
Edinburgh
EH3 5DA
www.aecom.com

LEGEND

- Red Line Boundary
- Access Tracks
- Lower Control Works
- Compounds
- Embankments & Spillway
- Headpond
- Secondary Bund
- Diver and Grebe Survey Area

Waterbody Suitability

- Both Species
- Only Slavonian Grebe
- Only Red-Throated Diver
- Other Surveyed Waterbody



NOTES

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

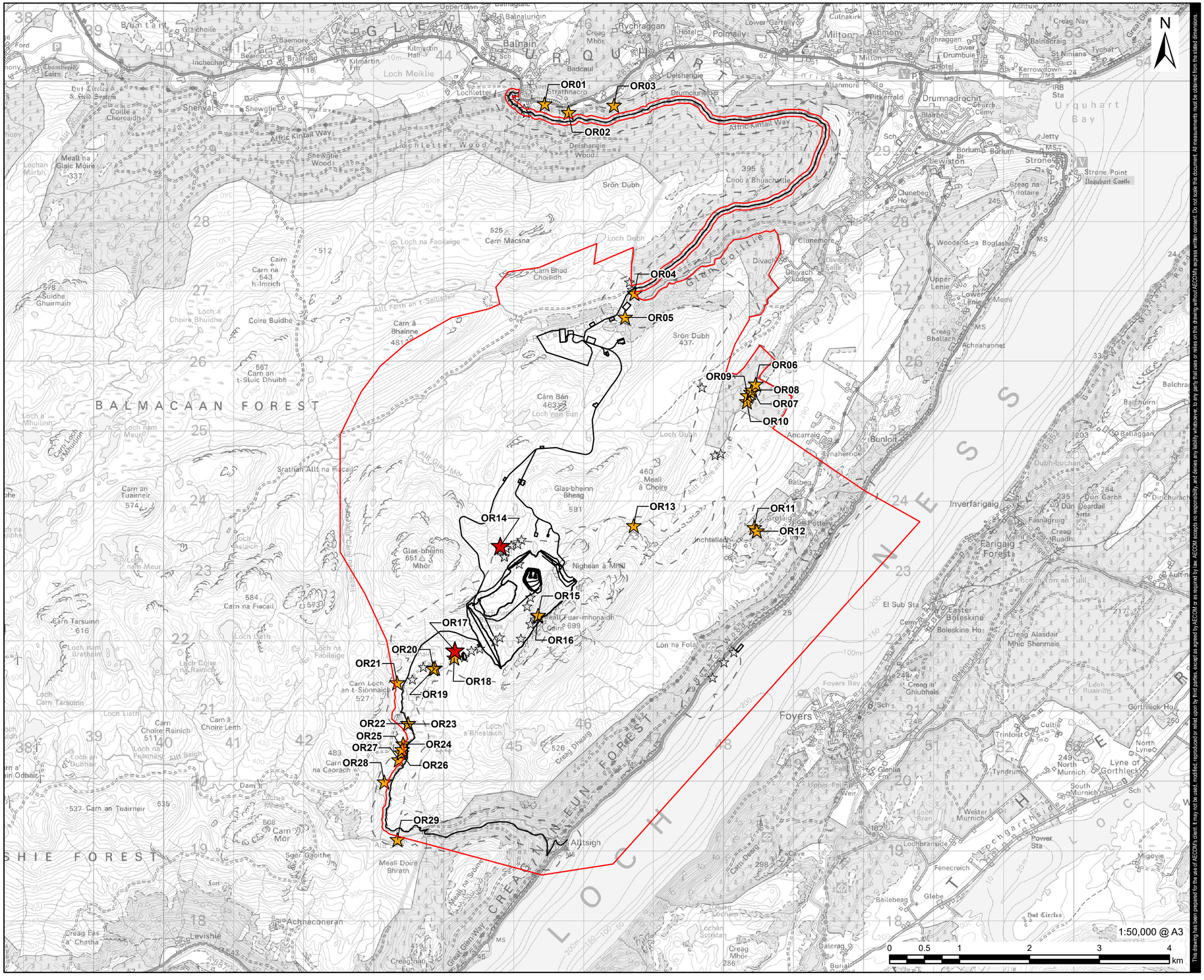
FIGURE TITLE

Breeding Diver and Grebe Surveyed Waterbodies

FIGURE NUMBER

Appendix 7.2.1

Revision: 0 Drawn: WC Checked: AR Approved: ND Date: 2025-03-27



AECOM

PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

AECOM Limited
177 Bothwell Street
Glasgow
G2 7ER
www.aecom.com

LEGEND

- Red Line Boundary
- 200 m survey area
- Above Ground Infrastructure

Otter Evidence

- Holt
- Layup
- Spraint

NOTES

Indicated zones of habitat loss and indirect modification are those used in calculations of habitat loss/modification in Chapter 7: Terrestrial ecology and associated appendices

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

FIGURE TITLE

Otter Survey Results and Incidental Records

FIGURE NUMBER

Appendix 7.2.3

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Annex A Information on European Sites Within the Zone of Influence of the Development

9.1 North Inverness Lochs SPA

North Inverness Lochs SPA encompasses five lochans which each have extensive sedge beds and are surrounded by mire, moorland and semi-natural broadleaved woodland dominated by birch.

The sole qualifying feature of the SPA is breeding Slavonian grebe, with the site supporting a population of seven pairs between 1991 to 1995. The latest assessed condition of the Slavonian grebe qualifying feature is Favourable Maintained, with recreation / disturbance being identified as a negative pressure.

The Conservation Objectives for North Inverness Lochs SPA are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

9.2 Ness Woods SAC

Ness Woods SAC is a multi-part site comprising three distinct areas, all on the east side of Loch Ness. The ravine woodland at Glen Tarff represents one of the best and most extensive examples of this habitat type in Scotland, with further examples occurring along the north-facing shores of Loch Ness. The canopy is a mixture of alder *Alnus glutinosa*, ash *Fraxinus excelsior* and wych elm *Ulmus glabra*, with a locally abundant hazel *Corylus avellana* shrub layer. The ground flora is rich in ferns, mosses and herbaceous plants, and the woods support a diverse epiphytic flora of lichens, liverworts and mosses.

The qualifying features [and latest assessed condition] of Ness Woods SAC are:

- Mixed woodland on base-rich soils associated with rocky slopes [Unfavourable No change];
- Western acidic oak woodland [Unfavourable No change];
- Otter [Unfavourable Declining].

Mixed woodland on base-rich soils associated with rocky slopes is a priority habitat of the Habitats Directive. Priority habitats of the Habitats Directive are those which are in risk of disappearance and for which there is a particular responsibility to conserve. When carrying out HRA, where a priority habitat could be affected, IROPI are limited to those reasons outlined in regulation 49 of the Habitats Regulations. These must relate to human health, public safety, beneficial consequences of primary importance to the environment, or any other imperative reason of overriding public interest subject to the opinion of the Scottish Ministers.

The woodland habitats for which this site is designated are in unfavourable condition due to grazing pressures, poorly developed under-storey and canopy cover, and limited woodland regeneration. The presence of INNS plants such as rhododendron *Rhododendron ponticum* is also identified as a negative pressure.

Although otter is assessed as being in Unfavourable Declining condition, the Conservation Advice Package for Ness Woods SAC states that there is a low level of confidence in the survey results which formed the basis for the assessment.

The Conservation Objectives for the qualifying woodland habitats of Ness Woods SAC are:

1. To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of Ness Woods SAC is restored by meeting Objectives 2a, 2b and 2c for each qualifying feature. These are set out in **Table A1: Conservation Objectives 2a, 2b and 2c for the Qualifying Habitats of Ness Woods SAC**

Table A1: Conservation Objectives 2a, 2b and 2c for the Qualifying Habitats of Ness Woods SAC

Qualifying Habitat	Conservation Objective 2a	Conservation Objective 2b	Conservation Objective 2c
Mixed woodland on base-rich soils associated with rocky slopes	Restore the extent and distribution of the habitat within the site	Restore the structure, function and supporting processes of the habitat	Restore the distribution and viability of typical species of the habitat
Western acidic oak woodland	Maintain the extent and distribution of the habitat within the site	Restore the structure, function and supporting processes of the habitat	Maintain the distribution and viability of typical species of the habitat

The Conservation Objectives for otter are:

1. To ensure that the qualifying features are in favourable condition and make an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of Ness Woods SAC is restored by meeting Objectives 2a, 2b and 2c for the qualifying feature:
    a. Maintain the population of the species as a viable component of the site.
    b. Maintain the distribution of the species throughout the site.
    c. Maintain the habitats supporting the species within the site and availability of food.

Information on Conservation Objectives 2a, 2b and 2c for the qualifying features can be found in the Conservation Advice Package for Ness Woods SAC[99].

9.3 Urquhart Bay Wood SAC

Urquhart Bay Wood is located at the edge of the village of Drumnadrochit, on the west side of Loch Ness, at the confluence of the River Enrick and River Coiltie. According to the SSSI citation for this site, alder dominates the wetter ground, with transitions on gradually rising land to stands of ash, gean (wild cherry) *Prunus avium*, rowan *Sorbus aucuparia*, wych elm, white willow *Salix alba* and bird cherry *Prunus padus*. The ground flora is typical of northern wet woodland and there are characteristic transitions to swamp and open freshwater.

Frequent inundation by floods, changes in channel, and accumulations of woody debris are key to the functioning of the site.

The sole qualifying feature of Urquhart Bay Wood SAC is Alder woodland on floodplains. The latest assessed condition of the qualifying feature is Unfavourable No change, with identified negative pressures being invasive species, over-grazing and water management.

The Conservation Objectives of Urquhart Bay Wood SAC are:

1. To ensure that the qualifying feature is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of the site is restored by meeting Objectives 2a, 2b and 2c for the qualifying feature:
    a. Maintain the extent and distribution of the habitat within the site.
    b. Restore the structure, function and supporting processes of the habitat.
    c. Restore the distribution and viability of the typical species of the habitat.

[99] Available from: https://sitelink.nature.scot/site/8337.

Information on Conservation Objectives 2a, 2b and 2c for the qualifying habitat can be found in the Conservation Advice Package for Urquhart Bay Wood SAC[100].

9.4 River Moriston SAC

River Moriston flows from Loch Cluanie, in the west, to Loch Ness, at its eastern end. The qualifying features [and latest assessed condition] of River Moriston SAC are:

- FWPM [Unfavourable No change];
- Atlantic salmon [Unfavourable No change].

According to the Conservation Advice Package, FWPM is in unfavourable condition in River Moriston SAC due to poor recruitment and the small size and aged status of the population, especially in the upper reaches of the river. A range of negative pressures can influence salmon conservation status, but NatureScot states in the Conservation Advice Package that, within River Moriston SAC, the feature is in unfavourable condition due to their being low numbers of juveniles.

The overarching Conservation Objectives for both qualifying features of River Moriston SAC are:

1. To ensure that the qualifying features of the site are in favourable condition and make an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of the River Moriston SAC is restored by meeting Objectives 2a, 2b, 2c for each qualifying feature (and 2d for FWPM). These are set out in **Table A2: Conservation Objectives 2a, 2b, 2c and 2d for the Qualifying Species of River Moriston SAC**

Table A2: Conservation Objectives 2a, 2b, 2c and 2d for the Qualifying Species of River Moriston SAC

Qualifying Species	Conservation Objective 2a	Conservation Objective 2b	Conservation Objective 2c	Objective 2d
FWPM	Restore the population of FWPM as a viable component of the site	Restore the distribution of FWPM throughout the site	Restore the habitats supporting the FWPM within the site and availability of food	Restore the distribution and viability of FWPM host species and their supporting habitats
Atlantic salmon	Restore the population of Atlantic salmon, including range of genetic types, as a viable component of the site	Restore the distribution of Atlantic salmon throughout the site	Restore the habitats supporting Atlantic salmon within the site and availability of food	N/A

Information on Conservation Objectives 2a, 2b, 2c and 2d for the qualifying features can be found in the Conservation Advice Package for River Moriston SAC[101].

9.5 Loch Knockie and nearby Lochs SPA

- Loch Knockie and nearby Lochs SPA comprises a group of lochs near the south-eastern end of Loch Ness. The undisturbed aquatic plant communities within the waterbodies include extensive sedge beds, and the lochs are surrounded by mire, heath, mixed woodland and agricultural land.
- The sole qualifying feature of Loch Knockie and nearby Lochs SPA is breeding Slavonian grebe. According to the citation document, the SPA supported a population of up to six pairs between 1992 and 1995. The latest assessed condition of the qualifying feature is Unfavourable No change. It is unclear why the population within the site has declined, as the habitats have remained largely unchanged.
- The Conservation Objectives for Loch Knockie and nearby Lochs SPA are:
- To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.
- To ensure for the qualifying species that the following are maintained in the long term:

[100] Available from: https://sitelink.nature.scot/site/8406.
[101] Available from: https://sitelink.nature.scot/site/8361.

- Population of the species as a viable component of the site;
- Distribution of the species within the site;
- Distribution and extent of habitats supporting the species;
- Structure, function and supporting processes of habitats supporting the species;
- No significant disturbance of the species.

9.6 Loch Ruthven SAC

Loch Ruthven is a medium-large freshwater body of moderate nutrient status, largely unaffected by modification to catchment area, shoreline and water level fluctuations. Much of the shoreline is rocky and is surrounded by semi-natural birchwood, but there are pockets of bottle sedge *Carex rostrata* swamp along much of the edge, at the western end showing a transition from open water, through swamp and fen vegetation to sedge-rich wet acidic grassland.

The qualifying features [and latest assessed condition] of Loch Ruthven SAC are:

- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels ([Favourable Maintained];
- Otter [Favourable Maintained].
- Although both features are assessed as being in favourable conservation status, identified negative pressures acting on the loch habitat include agricultural operations and game / fisheries management. In relation to the former, agricultural run-off has been found to be increasing phosphorous levels in the loch, and poaching by grazing stock is also an issue.
- The Conservation Objectives for the loch habitat at Loch Ruthven SAC are:

1. To ensure that the qualifying feature of the site is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.

1. To ensure that the integrity of Loch Ruthven SAC is maintained by meeting objectives 2a, 2b and 2c for the clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels habitat:

   a. Maintain the extent and distribution of the qualifying habitat within the site.

   b. Maintain the structure, function and supporting processes of the qualifying habitat.

   c. Maintain the distribution and viability of typical species of the qualifying habitat.

- The Conservation Objectives for otter at Loch Ruthven SAC are:

1. To ensure that the qualifying feature of the site is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.

2. To ensure that the integrity of Loch Ruthven SAC is maintained by meeting objectives 2a, 2b and 2c for otter:

   a. Maintain the population of otter as a viable component of the site.

   b. Maintain the distribution of otter throughout the site.

   c. Maintain the habitats supporting otter within the site and availability of food.

- Information on Conservation Objectives 2a, 2b and 2c for the qualifying features can be found in the Conservation Advice Package for Loch Ruthven SAC[102].

9.7 Loch Ruthven SPA

The sole qualifying feature of Loch Ruthven SPA is breeding Slavonian grebe, which has a latest assessed condition of Unfavourable Declining. The reasons for this status include recreational pressure and associated disturbance. According to the SPA citation document, Loch Ruthven supported a population of fourteen pairs of Slavonian grebe between 1988 and 1992.

[102] Available from: https://sitelink.nature.scot/site/8306.

The Conservation Objectives of Loch Ruthven SPA are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

9.8 Loch Ashie SPA

- Loch Ashie is a large mesotrophic loch on the east side of Loch Ness. It is designated as an SPA as it supports an internationally important population of non-breeding Slavonian grebe, with up to 60 individuals gathering on the loch to moult during the autumn.
- The latest assessed condition of the qualifying feature is Unfavourable Declining.

The Conservation Objectives for Loch Ashie SPA are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

9.9 Inner Moray Firth SPA

Inner Moray Firth SPA is a multi-part site, covering large extents of the shore and intertidal area along the north and south sides of the Moray Firth. The qualifying features of the site [and latest assessed condition] are:

- Bar-tailed godwit *Limosa lapponica* (non-breeding) [Favourable Maintained];
- Common tern *Sterna hirundo* (breeding) [Unfavourable No change];
- Cormorant *Phalacrocorax carbo* (non-breeding) [Unfavourable No change];
- Curlew *Numenius arquata* (non-breeding) [Favourable Maintained];
- Goldeneye *Bucephala clangula* (non-breeding) [Favourable Maintained];
- Goosander *Mergus merganser* (non-breeding) [Unfavourable No change];
- Greylag goose (non-breeding) [Favourable Maintained];
- Osprey (breeding) [Favourable Maintained];
- Oystercatcher *Haematopus ostralegus* (non-breeding) [Favourable Maintained];
- Red-breasted merganser *Mergus serrator* (non-breeding) [Unfavourable No change];
- Redshank *Tringa totanus* (non-breeding) [Favourable Maintained];
- Scaup *Aythya marila* (non-breeding) [Favourable Maintained];
- Teal *Anas crecca* (non-breeding) [Favourable Maintained];
- Waterfowl assemblage (non-breeding) [Favourable Maintained];

- Wigeon *Anas penelope* (non-breeding) [Favourable Maintained].

The Conservation Objectives of Inner Moray Firth SPA are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

9.10 Moray Firth SPA

The Moray Firth SPA is a funnel-shaped body of sea on the north-east mainland coast of Scotland. Most of the firth is shallow water (less than 20 m) over a sandy substrate, apart from a 50 m deep channel running east-west through muddy substrate. Tidal flows are relatively weak, with a maximum tidal range of 3 m, and the firth is relatively sheltered, at least in comparison to the exposure of the Atlantic west coasts. The Moray Firth is an important spawning ground and nursery area for a number of fish species, which together with abundant bivalve molluscs, are important prey species for marine waterbirds.

The qualifying features of the site [and latest assessed condition] are:

- Common scoter *Melanitta nigra* (non-breeding) [Favourable Maintained];
- Eider *Somateria mollissima* (non-breeding) [Favourable Declining];
- Goldeneye (non-breeding) [Unfavourable Declining];
- Great northern diver (non-breeding) [Favourable Maintained];
- Long-tailed duck *Clangula hyemalis* (non-breeding) [Favourable Declining];
- Red-breasted merganser (non-breeding) [Favourable Maintained];
- Red-throated diver (non-breeding) [Favourable Maintained];
- Scaup (non-breeding) [Unfavourable Declining];
- Shag (breeding) [Favourable Maintained];
- Shag (non-breeding) [Favourable Maintained];
- Slavonian grebe (non-breeding) [Favourable Maintained];
- Velvet scoter *Melanitta fusca* (non-breeding) [Unfavourable Declining].

The Conservation Objectives of Moray Firth SPA are:

1. To ensure that the qualifying features of the site are in favourable condition and makes an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of Moray Firth SPA is maintained by meeting objectives 2a, 2b and 2c for each qualifying feature:
   a. The populations of qualifying features are viable components of the site.
   b. The distribution of the qualifying features is maintained throughout the site by avoiding significant disturbance of the species.
   c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at the Moray Firth SPA.

- Information on Conservation Objectives 2a, 2b and 2c for the qualifying features can be found in the Conservation and Management Advice document for Moray Firth SPA[103].

9.11 Moray Firth SAC

Moray Firth SAC has two qualifying features, as follows [the latest assessed condition of each is also given]:

- Bottlenose dolphin [Favourable Maintained];
- Subtidal sandbanks [Favourable Maintained].

The Conservation Objectives of Moray Firth SAC in relation to the qualifying bottlenose dolphin are:

1. To ensure that the qualifying features of the site are in favourable conservation condition and make an appropriate contribution to achieving favourable conservation status.
2. To ensure that the integrity of Moray Firth SAC is maintained or restored in the context of environmental changes by meeting Objectives 2a, 2b and 2c for each qualifying feature:

   Bottlenose dolphin

   a. The population of bottlenose dolphin is a viable component of the site.
   b. The distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance.
   c. The supporting habitats and processes relevant to bottlenose dolphin and the availability of prey for bottlenose dolphin are maintained.

   Subtidal sandbanks

   a. Extent and distribution of the habitat within the site.
   b. Structure and function of the habitat and the supporting environment on which it relies.
   c. Distribution and viability of typical species of the habitat.

Information on Conservation Objectives 2a, 2b, 2c and 2d for the qualifying features can be found in the Conservation and Management Advice document for Moray Firth SAC[104].

9.12 Loch Flemington SPA

Loch Flemington SPA is located just south of the A96 road, near Inverness Airport. It is a small, shallow, eutrophic loch. The sole qualifying feature of the site is breeding Slavonian grebe, which is in Unfavourable No change condition. Negative pressures acting on the qualifying feature include the presence of invasive plant species and impacts of septic tank discharges and diffuse pollution from agricultural run-off. According to the citation document, between 1991 and 1995, an average of six pairs of Slavonian grebe bred within Loch Flemington SPA.

The Conservation Objectives for the site are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

[103] Available from: https://sitelink.nature.scot/site/10490.
[104] Available from: https://sitelink.nature.scot/site/8327.

9.13 Loch Vaa SPA

Loch Vaa is a small, irregularly shaped, nutrient-poor loch surrounded by birch woodland and mixed age Scots pine *Pinus sylvestris* plantation. The loch has no outflow or inflow and is fed by springs and ground water. The indented shoreline forms a series of small bays and Slavonian grebe, the sole qualifying feature of the site, nest in sedge beds, reed beds and flooded willows at the water's edge.

The latest assessed condition of the qualifying feature is Unfavourable No change. In certain years, Slavonian grebe do not breed at Loch Vaa, and this can occur irrespective of the management or condition of the site. However, in recent years, the water level at Loch Vaa has been significantly below average in spring and early summer, resulting in a wide expanse of shingle beach between the water surface and the bank vegetation. The low water levels are probably one factor contributing to the poor breeding performance of Slavonian grebe at the site in recent years.

According to the SPA citation, Loch Vaa regularly supports a population of up to seven pairs of Slavonian grebe.

The Conservation Objectives of the SPA are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained.
- 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 the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species;
  - No significant disturbance of the species.

Annex B Suitability of Waterbodies Within Approximately 2 km of the Proposed Development for Breeding Divers and Slavonian Grebe

Table B1: Waterbody Descriptions summarises the suitability of the 32 waterbodies surveyed for the presence of breeding red-throated diver and/or Slavonian grebe. Waterbodies 1 (Dubh Lochs SSSI (south)) and 2 (Dubh Lochs SSSI (north)) are part of the North Inverness Lochs SPA.

Table B1: Waterbody Descriptions

Waterbody ID	Waterbody Name	Approximate Size of Waterbody (ha)	Relationship to the Proposed Development Above Ground Construction Areas	Description	Suitability for Breeding Red-throated Divers and Slavonian Grebe
1	Dubh Lochs SSSI (South)	1.35	Approximately 800 m north	Medium-sized lochan with a reasonably extensive area of quaking mire/sedges at southern end. Very suitable in that area for nesting by red-throated diver/Slavonian grebe. All other sides of the waterbody are very steep and rocky/peaty/heathery and unsuitable for nesting by these species.	Red-throated diver – Suitable Slavonian grebe – Suitable
2	Dubh Lochs SSSI (North)	2.14	Approximately 800 m north	Large lochan with extensive area of swamp/quaking mire/sedges at south-east and south-western ends. Excellent suitability for red-throated diver and Slavonian grebe, as well as waders.	Red-throated diver – Suitable Slavonian grebe – Suitable
3	Loch Dubh (Sron Dubh)	3.37	Approximately 700 m east	Medium-sized lochan. South and east sides are reasonably gently sloping but there is very little vegetative cover for red-throated diver nesting. Considered to have low suitability for red-throated divers and no suitability for Slavonian grebe.	Red-throated diver – Low Suitability Slavonian grebe – Unsuitable
4	Sron Dubh un-named Lochan	0.26	Approximately 50 m west	A very small lochan with a couple of small ‘islands’ of vegetation at southern end. However, small size makes it unsuitable for divers and Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
5	Loch nan Eun (East)	1.78	Approximately 250 m north	Medium-sized lochan with an island on the west side, although it is quite close to the shore and has little vegetation. The sides of the waterbody are generally rather steep and heathery, with sub-optimal vegetation. Considered to have low suitability for red-throated diver and very low suitability for Slavonian grebe.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability

Waterbody ID	Waterbody Name	Approximate Size of Waterbody (ha)	Relationship to the Proposed Development Above Ground Construction Areas	Description	Suitability for Breeding Red-throated Divers and Slavonian Grebe
6	Loch nan Eun (West)	2.43	Approximately 400 m north	An excellent waterbody with extensive areas of quaking mire/sedge in addition to a small island of what looks to be unstable quaking-type vegetation at the south-west side and multiple other islands in the middle.	Red-throated diver – Suitable Slavonian grebe – Suitable
7	Glas-bheinn Bheag Un-named Lochan (North)	0.43	Approximately 100 m west	Very small and apparently shallow with much bogbean *Menyanthes trifoliata* and sedge throughout. Given size and apparent shallow depth, this waterbody is considered to be unsuitable for divers and Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
8	Glas-bheinn Bheag Un-named Swamp	0.35	Approximately 150 m north	Very similar to Waterbody 7, above, but even smaller. Considered to be unsuitable for divers and Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
9	Glas-bheinn Bheag Un-named Lochan (South)	0.66	Approximately 25 m north	An elevated and exposed waterbody with a large island in the centre.	Red-throated diver – Suitable Slavonian grebe – Unsuitable
10	Allt Glas Mòr Swamp	0.16	Approximately 50 m north	A narrow and shallow pool with lots of emergent vegetation and no suitability for divers or Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
11	Allt Glas Mòr Lochan	1.5	Approximately 150 m north	A large waterbody with an area of emergent bogbean and sedge at the southern end.	Red-throated diver – Suitable Slavonian grebe – Suitable
12	Glas-bheinn Mhòr Northern Swamp	0.05	Approximately 25 m west	An area of swamp with almost no open water. No suitability for divers or Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
13	Glas-bheinn Mhòr Lochan	1.78	Approximately 50 m west	Medium- to large-sized waterbody but with no features or optimal vegetation for nesting by divers or Slavonian grebe. Very low suitability for these species.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability
14	Glas-bheinn Mhòr Southern Swamp	0.14	Overlaps	An area of swamp with almost no open water. No suitability for divers or Slavonian grebe.	Divers – Unsuitable Slavonian Grebe – Unsuitable
15	Loch nam Breac Dearga Lochan	0.27	Overlaps	A small waterbody with very low suitability for red-throated diver and Slavonian grebe. A small length of the bank may have very limited suitability for red-throated diver, and emergent vegetation is extremely sparse, such that it provides very low potential for Slavonian grebe.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability
16	Loch nam Breac Dearga	24.04	Overlaps	Very large loch which is too large to be suitable for red-throated diver nesting. There is no emergent vegetation suitable for Slavonian grebe. There is a single small island, comprising almost bare rock with very little vegetation, near the south-western end. This is unsuitable for nesting by divers.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
17	Meall Fuar-mhonaidh Lochan	0.64	Approximately 350 m south	Medium-sized waterbody but rather featureless. Steep-sided and/or with unsuitable vegetation around edges for red-throated diver nesting.	Red-throated diver – Low Suitability

Waterbody ID	Waterbody Name	Approximate Size of Waterbody (ha)	Relationship to the Proposed Development Above Ground Construction Areas	Description	Suitability for Breeding Red-throated Divers and Slavonian Grebe
				Considered to have very low suitability for red-throated diver and Slavonian grebe.	Slavonian grebe – Low Suitability
18	Loch a'Bhealaich	2.55	Approximately 800 m south	Large, exceptionally good waterbody with a big well-vegetated island in the centre and patches of emergent bogbean and sedge throughout. Suitable for Slavonian grebe and red-throated diver.	Red-throated diver – Suitable Slavonian grebe – Suitable
19	Creag Dhearg Loch	4.05	Approximately 900 m south	Large waterbody but with less emergent vegetation than Loch a'Bhealaich (Waterbody 18). However, there is an area of emergent vegetation in the very southern part of the waterbody which appears to be very suitable for Slavonian grebe and potentially red-throated diver.	Red-throated diver – Low Suitability Slavonian grebe – Suitable
20	Loch an t-Sionnaich	2.54	Approximately 125 m west	Medium/large waterbody with some small patches of emergent sedge on the northern side which have some suitability for Slavonian grebe. The edges are rather featureless, but many are shallow and not steep. There is considered to be limited suitability for red-throated diver and Slavonian grebe, but no birds present.	Red-throated diver – Suitable Slavonian grebe – Suitable
21	Allt Carn na Fiacail Lochan	0.29	Approximately 725 m west	Small and shallow lochan with emergent vegetation along the west side and bogbean through the middle. Given the small size and apparent shallowness, this waterbody is considered to be unsuitable for divers and Slavonian grebe.	Divers – Unsuitable Slavonian Grebe – Unsuitable
22	Carn Loch t-Sionnaich Lochan (East)	1.02	Approximately 950 m west	Medium-sized waterbody but lacks features for nesting by divers or Slavonian grebe. There is a very small patch of grassy/sedge vegetation in south-west corner that has very limited suitability for red-throated diver nesting. This waterbody is considered to have very low suitability for divers and Slavonian grebe.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability
23	Carn Loch t-Sionnaich Swamp	0.05	Approximately 1.1 km west	A swamp with no suitability for divers or Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
24	Carn Loch t-Sionnaich Lochan (West)	0.85	Approximately 1.1 km west	This waterbody has largely transitioned to swamp, with only small areas of open water around some of the edges. It is not suitable for divers and has low suitability for Slavonian grebe due to lack of open water. However, it is excellent for waders.	Red-throated diver – Unsuitable Slavonian grebe – Low Suitability
25	Loch na Faoileige	1.98	Approximately 1.2 km west	Large waterbody with very little emergent vegetation. There is an island near the northern side, but it is very rocky and steep at the base and appears to be unsuitable for divers. It is considered that Loch na Faoileige has very low suitability for Slavonian grebe and low suitability for divers.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability
26	Carn na Fiacail Lochan (North)	0.33	Approximately 1.6 km west	Small and shallow with abundant emergent sedge. Due to size and shallowness, this waterbody is unsuitable for divers and Slavonian grebe. However, it is excellent for waders.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable

Waterbody ID	Waterbody Name	Approximate Size of Waterbody (ha)	Relationship to the Proposed Development Above Ground Construction Areas	Description	Suitability for Breeding Red-throated Divers and Slavonian Grebe
27	Carn na Fiacail Swamp (North)	0.16	Approximately 1.4 km west	There was almost no open water at the time of survey and was largely mud and swamp. It has no suitability for divers or Slavonian grebe but provides good habitat for waders.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
28	Carn na Fiacail Lochan (South)	0.11	Approximately 1.6 km west	Very small, shallow waterbody with abundant cottongrass *Eriophorum* sp.. There is no suitability for divers or Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
29	Carn na Fiacail Swamp (South)	0.43	Approximately 1.5 km west	Small in size, but predominantly open water, rather than swamp. However, it still appears to be shallow, and it is considered to have very low suitability for divers and Slavonian grebe.	Red-throated diver – Low Suitability Slavonian grebe – Low Suitability
30	Carn na Caorach Lochan	0.54	Approximately 1.9 km west	Medium-sized but appears to be very shallow, with a lot of sparse emergent vegetation. This does not seem to be dense enough for Slavonian grebe nesting. A small island exists at the north end with a willow *Salix* sp. bush on, but this would be very accessible to predators. Due to the shallowness of this waterbody, it is considered to be unsuitable for divers and Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable
31	Carn na Caorach Loch	1.03	Approximately 1.7 km west	Medium-sized waterbody with a patch of emergent sedge in the middle. Very suitable for Slavonian grebe, but low potential for red-throated diver.	Red-throated diver – Low Suitability Slavonian grebe – Suitable
32	Carn na Caorach Swamp	0.19	Approximately 1.5 km west	An area of swamp that is beginning to transition to scrub. Totally unsuitable for divers and Slavonian grebe.	Red-throated diver – Unsuitable Slavonian grebe – Unsuitable

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