Cruachan 1 Units 3 & 4 Upgrade

Ecological Appraisal

Produced for Drax Pumped Storage Ltd

By Applied Ecology Ltd

January 2023

Document Information:

Version	Date	Version Details	Prepared by	Checked by	Approved by
1.0	30 November 2022	Final – issue for comment	RAH	SH	RAH
2.0	09 January 2023	Amendments following Stantec review	RAH	SH	RAH

Prepared for: Drax Pumped Storage Ltd

Title: Cruachan 1 Units 3 & 4 Upgrade – Ecological Appraisal

Project number: AELSC0624

Document version: v2.0

Document status: Final

Document date: 09 January 2023

APPLIED ECOLOGY LTD

Hillington Park Innovation Centre
1 Ainslie Road
Glasgow
G52 4RU

Tel: 0141 212 7609
Email: info@appliedecology.co.uk

Contents

Tables

Figures

This page is intentionally blank.

1 Introduction

Background

1.1 The Cruachan Power Station is a pumped storage hydro-electric facility located to the west of Dalmally on the northern shore of Loch Awe, in Argyll and Bute. It currently comprises four units within a subterranean powerhouse cavern inside Cruachan mountain, and was installed in the 1960s. The combined generating power of the turbines is c. 440 MW and in 2022 a proposal was put forward to replace two of the four units in order to improve efficiency and increase total output by an additional c. 40 MW ("the Development").

1.2 Although the Development has a defined planning boundary (see **Figure 1.1**), it will not involve any new or additional land-take (see **Figure 1.2**), and therefore the potential ecological impacts of the scheme are limited. During screening with the Energy Consents Unit (ECU), it was determined that although ecological impacts would likely be limited, assessments should be prepared covering the potential effects on freshwater features, as well as nearby statutory sites for nature conservation.

1.3 In November 2022, Applied Ecology Ltd (AEL) was subsequently commissioned to carry out the appraisal for designated sites; the freshwater ecological assessment can be found elsewhere[1].

Purpose of this report

1.4 This report provides an assessment of the potential impacts and their effects on statutory sites designated for nature conservation arising as a result of the construction and operation of the Development. It includes a description of the designated sites relevant to the assessment, an evaluation of likely impacts, and recommendations for mitigation, compensation or enhancement if/where these were considered necessary. The relevance of the findings in the context of a Habitats Regulations Assessment (HRA) has also been presented.

Report qualification

1.5 The evaluation provided here was undertaken in accordance with the best practice methodologies current at the time of commissioning. Site circumstances, scientific knowledge or methodological requirements can change during the course of a project, and these external factors may impact on the scope of subsequent work requirements.

1.6 All survey work and reporting was undertaken by experienced and qualified ecologists in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management (CIEEM) and BS 42020:2013 (Biodiversity).

[1] **Gavia Environmental Ltd (2023)** *Cruachan Turbine Replacement – Freshwater Ecology Assessment*. Unpublished contract report produced for Drax Generation Enterprise Ltd, January 2023.

1.7 All ecological surveys have an expected validity period, owing to the tendency of the natural environment to change over time. This validity period varies from feature to feature, and is also dependent on the degree of change in a site's management and overall landscape ecology. Where the potential for change is considered to be relevant to the Site, this is highlighted in the appropriate section.

1.8 This report does not purport to provide detailed, specialist legal advice. Where legislation is referenced, the reader should consult the original legal text, and/or the advice of a qualified environmental lawyer.

Cruachan 1 Units 3 & 4 Replacement

Site Location

Site boundary

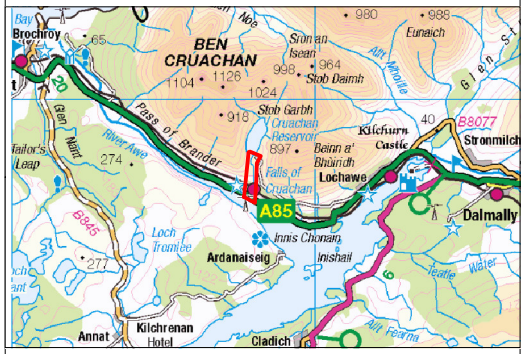


Figure 1.1

Main Map Scale @ A4: 1:25,000

N

Surveyed by: -	
Survey date: -	
Drawn by: RAH	
Checked by: DS	
Status: Final	

Applied Ecology Ltd

Cruachan 1 Units 3 & 4 Replacement

Site Work Areas

Site boundary

Site details:

Above ground access

Subterranean work area

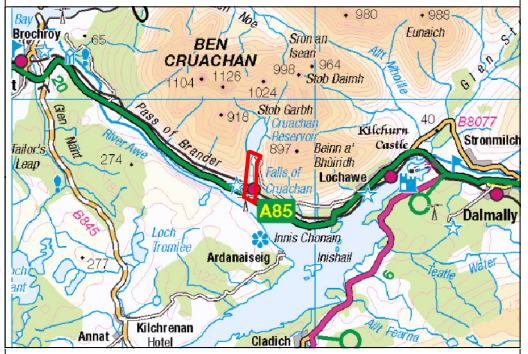


Figure 1.2

Main Map Scale @ A4: 1:10,000

N

Surveyed by: -	
Survey date: -	
Drawn by: RAH	
Checked by: DS	
Status: Final	

Applied Ecology Ltd

2 Methodology

Designated sites data

2.1 Details of nearby statutory sites designated for nature conservation were obtained from the NatureScot Natural Spaces website[2] and plotted in a Geographical Information System (GIS).

Ecological Appraisal

2.2 The Ecological Appraisal for statutory designated sites was undertaken following CIEEM good practice guidelines for Ecological Impact Assessment (EcIA)[3].

2.3 In summary, EcIA requires six steps:

- identifying and characterising Important Ecological Features (IEFs);
- identifying and characterising impacts and their effects;
- identifying measures to avoid and mitigate effects;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects; and
- identifying opportunities for ecological enhancement and monitoring.

Identifying Important Ecological Features (IEFs)

2.4 The sensitivity, value or importance of ecological features can be related to a wide range of ecosystem services that they can provide to the environment, people or wider society. These benefits can include the conservation of genetic diversity, people's enjoyment or understanding of biodiversity, or the health benefits of biodiversity. A summary of an approach to valuing ecological features in Scotland can be found in **Table 2.1**. The table shows how ecological importance can be ascertained using a combination of statutory measures (legally protected sites and species) and non-statutory but widely accepted measures, such as the presence of notable habitats and species listed in biodiversity lists of local Biodiversity Action Plans (LBAPs). Use can also be made of the Ratcliffe assessment criteria for the selection of sites with nature conservation value (Ratcliffe, 1977) and certain protected species have their own frameworks for the assessment of the importance of on-site populations. All these criteria can vary at different geographical scales.[4]

[2] https://sitelink.nature.scot/home. Accessed November 2022.

[3] https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/ Accessed November 2022.

[4] **Ratcliffe, D.A. (1977)** *A Nature Conservation Review: Volume 1: The Selection of Biological Sites of National Importance to Nature Conservation in Britain*. Cambridge University Press, Cambridge.

Table 2.1: An approach to assessing Important Ecological Features in Scotland.

Level of sensitivity or value	Examples (not exhaustive)
International (including European)	An internationally designated site or candidate site (SPA[5], proposed SPA (pSPA)[6], Special Area of Conservation (SAC)[7], candidate SAC (cSAC)[8], pSAC[9], Ramsar site[10], Biogenetic Reserve[11]) or an area which NatureScot has determined meets the published selection criteria for such designations, irrespective of whether or not it has yet been notified. A viable area of a habitat type listed in Annex 1 of the Habitats Directive, or smaller areas of such habitat which are essential to maintain the viability of that ecological resource. A regularly occurring population representing >1 % of the European resource of a species listed in Schedules 2 or 4 of the Habitat Regulations (As amended post-Brexit).
National	A nationally designated site (Site of Special Scientific Interest (SSSI)[12], National Nature Reserve (NNR)[13], Marine Nature Reserve) or a discrete area which NatureScot has determined meets the published selection criteria for national designation irrespective of whether or not it has yet been notified. A viable area of a priority habitat identified in the Scottish Biodiversity List, or smaller areas of such habitat which are essential to maintain the viability of that ecological resource. A regularly occurring population representing >1 % of the national population of a nationally important species, i.e., a priority species listed in the Scottish Biodiversity List and/or Schedules 1, 5 (S9 (1, 4a, 4b)) or 8 of the Wildlife and Countryside Act, or Schedules 2 or 4 of the Habitat Regulations (as amended post-Brexit). A regularly occurring and viable population of a UK Red Data Book species.
Council	Viable areas of key habitat identified in Council LBAP or Scottish Biodiversity List, or smaller areas of such habitats that are essential to maintain the viability of that ecological resource. Any regularly occurring, locally significant population of a species listed as being nationally scarce (occurring in 16-100 10 km squares in the UK) or in a relevant Council LBAP or Natural Heritage Zone profile on account of its rarity or localisation. Non-statutory designated wildlife sites including semi-natural ancient woodland greater than 0.25 ha. Networks of species-rich hedgerows.
Local	Locally important habitats or species such as: semi-natural ancient woodland smaller than 0.25 ha; features that are scarce within the local area or which appreciably enrich the local habitat resource e.g. networks of hedgerow/ditches not considered to be species-rich; small populations of notable species (e.g., SBL or LBAP species) regularly resident on or using the site.
Site	Commonplace and widespread habitats or species which contribute to the functioning or value of the wider ecological landscape, such as: scrub, poor semi-improved grassland, coniferous plantation woodland, intensive arable farmland etc.; common and widespread faunal species, or occasional individuals of more notable species such as SBL or LBAP species, either resident on or using the site.

[5] Special Protection Area classified under the EU Birds Directive for importance to birds.
[6] Potential Special Protection Area.
[7] Special Area of Conservation Area classified under the EU Habitats Directive for important habitat or non-bird species.
[8] Candidate Special Area of Conservation.
[9] Potential Special Area of Conservation.
[10] Wetland of international importance designated under the Ramsar Convention.
[11] Sites deemed representative examples of particular habitats in Europe.
[12] Site of Special Scientific Interest.
[13] National Nature Reserve.

Identifying impacts and their effects

2.5 Characterising impacts refers to the changes expected in the extent and integrity of an IEF. It takes into consideration the fact that different impacts on different IEFs can result in permanent or temporary effects of differing magnitudes, and this is also dependent on their timing and/or frequency of occurrence, and whether or not they can be reversed.

2.6 Impacts have been defined here as being high, medium, low or neutral, as summarised in **Table 2.2**. Impacts may be adverse (detrimental) or positive (beneficial).

Table 2.2: Criteria for describing impacts and effects on Important Ecological Features

Impact type	Description
High	High impacts may include those that result in large-scale, permanent (or at least the lifetime of the Proposed Development) changes in an IEF, and likely to change its ecological integrity. These impacts are likely to result in overall changes in the conservation status of a species population or habitat type at the location(s) or geographical scale under consideration.
Medium	Medium impacts may include moderate-scale, permanent (with respect to the lifetime of the Proposed Development) changes in an IEF, or larger-scale temporary changes, but the integrity of the feature is not affected. This may mean that there are temporary changes in the conservation status of a species-population or habitat type at the location(s) or geographical scale under consideration, but these are unlikely to be irreversible or long-term.
Low	Low impacts may include those that are small in magnitude, have medium-scale temporary changes, and where integrity is not affected. These impacts are unlikely to result in overall changes in the conservation status of a species population or habitat type at the location(s) under consideration, but it does not exclude the possibility that mitigation or compensation will be required.
Neutral	There is no perceptible change in the ecological feature.

2.7 Different impacts and their outcomes also have different probabilities of occurring. It is rarely possible to quantify probability accurately in the natural world in the absence of large, long-running data sets, and therefore for the purposes of this assessment, probabilities are assessed qualitatively and relatively, using the terms defined in **Table 2.3** below.

Table 2.3: Criteria for categorising the probability of effects occurring

Probability	Description
Certain	It is reasonable to conclude that these effects will occur as a result of the proposals.
Likely	It is reasonable to conclude that these effects are more likely to occur than not occur.
Unlikely	It is reasonable to conclude that these effects are less likely to occur than to occur.

Significance of effects

2.8 The 2018 CIEEM guidelines use only two categories to classify effects, namely those which are significant, and those which are not. In accordance with those guidelines, a "significant effect" in this assessment is one which supports (positive) or undermines (adverse) biodiversity conservation objectives for a stated IEF, or for biodiversity generally if this is

more relevant to the circumstances being assessed, in particular where the integrity of an IEF will be affected. These significant effects are considered by an ecological professional to be sufficiently important to warrant explicit assessment and reporting so that a decision-maker is adequately informed of the environmental consequences of a proposed project.

2.9 The significance of an effect on an IEF is given with reference to a specific spatial scale, which may or may not be related to the geographical scale used to define the IEF. The mitigation hierarchy (avoid, mitigate, compensate, enhance) may need to be applied, consistent with the scale at which the significant effect has been identified, in order to ameliorate any identified significant effects.

3 Results

Designated sites relevant to the appraisal

3.1 A map showing the location of statutory and non-statutory sites in the vicinity of the Site is provided in **Figure 3.1**.

3.2 Two internationally designated sites fall within the Site boundary. These are the **Glen Etive and Glen Fyne Special Protection Area (SPA)** and part of the **Loch Etive Woods Special Area of Conservation (SAC)**. The SPA was designated because it regularly supports a population of European importance of golden eagle. In 2003, it contained 19 active golden eagle territories, representing more than 4.2 % of the GB population of that species. The SAC has been designated for three main woodland habitat types, namely alder woodland on floodplains, western acidic oak woodland and mixed woodland on base-rich soils associated with rocky slopes, as well as for the presence of otter. The qualifying feature within the Site is predominantly the acidic oak woodland.

3.3 With respect to nationally designated sites, the **Coille Leitire Site of Special Scientific Interest (SSSI)** is concurrent with the Loch Etive Woods SAC (see above), designated for upland oak woodland. Pearl-bordered fritillary (a butterfly) is also mentioned in the citation, although this is not considered to be one of the SSSI notified features.

Ecological appraisal

Identifying IEFs

3.4 Based on the criteria given in Table 2.1, the SAC and SPA would both be considered IEFs of **international** value. The SSSI would be an IEF of **national** value.

Assessment of effects

Construction phase effects

3.5 There will be no direct land-take associated with the Development, and all works will be subterranean. There will therefore be no direct construction phase impacts on designated sites.

3.6 During the construction phase, there will be additional traffic movements along the existing access road to the Cruachan access tunnel, for the transportation of turbine components, plant and personnel. These will not affect habitat qualifying features of the SAC or species qualifying features of the SPA, nor the notified features of the SSSI.

3.7 However, in 2021, a highly active otter shelter was noted on the shore of Loch Awe, just over 30 m from the existing entrance into the access tunnel for the turbine hall. The shelter in question was an above ground hover, used both in daytime and at night by a family of up to four otters at any one time. No otter have been recorded venturing up into the operational areas of the existing power station, but there is a theoretical risk of otter collisions with vehicles and construction plant during the construction phase. As otter is a qualifying feature of the SAC, this impact has been included in **Table 3.1**. However, as it

would be unlikely to occur, be temporary due to being limited to the construction phase, and would be low in magnitude, in the context of this appraisal it is considered to be a significant adverse effect only at the **Site** level.

Table 3.1: Construction phase impacts and effects on designated site IEFs prior to mitigation.

IEF	Importance level	Impacts	Effects	Impact scale and certainty	Effect significance prior to mitigation
Glen Etive and Glen Fyne SPA	International	No anticipated impacts.	n/a	n/a	No significant effect.
Loch Etive Woods SAC	International	Collision between otter and construction plant/ vehicles.	Injury or death	Low adverse impact, temporary, unlikely.	**Adverse significant effect at the Site level.**
Coille Leitire SSSI	National	No anticipated impacts.	n/a	n/a	No significant effect.

Operational phase effects

3.8 All operational activities associated with the Development will take place underground. Maintenance vehicles will access the new turbines in the same manner and frequency as was the case prior to their replacement, and therefore there will be no changes to the number of traffic movements associated with the operational phase. No operational phase impacts are therefore predicted for any of the statutory designated sites under consideration here.

Mitigation measures

3.9 Significant adverse effects on designated sites have only been predicted for otter in the context of the Loch Etive Woods SAC, during the construction phase. It will be possible to reduce these construction phase impacts and their resulting effects through the use of avoidance, mitigation, compensation and enhancement measures. These will include standard best practice measures as well as those required specifically in order to reduce potential impacts on otter, such as:

- no closer than 8 weeks prior to the commencement of the works, an update otter survey will be undertaken for all relevant habitat within 200 m of above-ground work areas, i.e. the access road leading to the tunnel entrance. The findings of that survey will determine whether or not the licensing situation associated with the construction phase of the Development will need to be reviewed;
- temporary fencing will be used in above-ground sections to ensure that plant and operatives do not encroach into ecologically sensitive areas;
- a site speed limit of 10 mph for all construction traffic using the above-ground access road will be in place to protect otter and other protected mammal species present within the Site;

- if construction work is carried out during the hours of darkness, machinery and floodlights will be directed away from watercourses and woodland edges;
- general good practice measures for working in and near to watercourses and waterbodies will be adhered to, and a Pollution Prevention Plan will be included in the CEMP;
- fuels and other chemicals will be stored securely within the site construction compound;
- if relevant, appropriate wash-out facilities will be available for vehicles and machinery.

3.10 These measures will be incorporated in the Construction Method Statements (CMSs) or Environmental Management Plan (EMP), as relevant, for the works.

Residual effects

3.11 Following the application of the mitigation and best practice measures, it is anticipated that there will be **no significant effects** on designated sites as a result of the Development.

Shadow Habitats Regulations Assessment (HRA)

3.12 Given the proximity of the Development to the above named SPA and SAC (collectively referred to here as Natura 2000 sites), it falls under the provisions of Article 6(3) of the EU Habitats Directive, and hence Regulation 48 of the Habitat Regulations 1994 (as amended). Under Regulation 48, an "appropriate assessment" needs to be undertaken in cases where any plan or project which:

(a) either alone or in combination with other plans or projects would be likely to have a significant impact on a European site designated for nature conservation, and

(b) is not directly connected with the management of the site for nature conservation.

3.13 The term Habitats Regulations Assessment (HRA) is usually adopted to describe this appropriate assessment process.

3.14 In terms of the requirements listed above for HRA, it is clear that the Development is not directly connected with the management of either the SPA or the SAC for nature conservation (criterion b). Therefore, it must be demonstrated that the Development, either alone or in combination with other plans or projects, does not have a significant impact on either of these designated sites. Guidance provided by SERAD (2000)[14] and SNH (2012, updated in 2015[15]) is clear that the HRA process is also relevant to projects or plans outwith a Natura 2000 site boundary; it is the potential impacts on a site's qualifying interests which are relevant, and not necessarily the project or plan's location in respect to the Natura 2000 site boundary.

[14] SERAD (2000). Habitats and Birds Directives, Nature Conservation; Implementation in Scotland of EC Directives on the Conservation of Natural Habitats and of Wild Flora and Fauna and the Conservation of Wild Birds ('the Habitats and Birds Directives'). Revised Guidance Updating Scottish Office Circular No 6/1995.

[15] SNH (2015) Habitats Regulations Appraisal of Plans – Guidance for Plan-Making Bodies in Scotland. V3.0 Prepared for SNH by David Tyldesley and Associates.

Glen Etive and Glen Fyne SPA

Conservation objectives

3.15 The conservation objectives of the Glen Etive and Glen Fyne SPA are listed as:

1. To avoid deterioration of the habitats of the qualifying species (golden eagle) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
2. To ensure for the qualifying species that the following are maintained in the long term:
    a. Population of the species as a viable component of the site;
    b. Distribution of the species within site;
    c. Distribution and extent of habitats supporting the species;
    d. Structure, function and supporting processes of habitats supporting the species;
    e. No significant disturbance of the species.

Potential impacts on the SPA's conservation objectives

3.16 No impacts are expected on qualifying SPA species as a result of the Development as all relevant works will be subterranean. No likely significant effects are therefore predicted and no appropriate assessment is needed.

Loch Etive Woods SAC

Conservation objectives

3.17 The conservation objectives of the Loch Etive Woods SAC habitats are listed as:

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

    (2a) Maintain the extent and distribution of the habitat within the site;

    (2b) Maintain the structure, function and supporting processes of the habitat;

    (2c) Maintain the distribution and viability of typical species of the habitat.

3.18 The qualifying features for the SAC are listed as:

- mixed woodland on base-rich soils associated with rocky slopes (also known as *Tilio-Acerion* forests of slopes, screes and ravines);
- western acidic oak woods (also known as old sessile oak woods with *Ilex* and *Blechnum* in the British Isles);
- alder woodland on floodplains (also known as alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*).

3.19 The conservation objectives of the Loch Etive Woods SAC faunal species (otter) are listed as:

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

   (2a) Maintain the population of the species (otter) as a viable component of the site;

   (2b) Maintain the distribution of the species throughout the site;

   (2c) Maintain the habitats supporting the species within the site and availability of food.

Potential impacts on the SAC's conservation objectives – woodland types

3.20 No impacts are expected on qualifying SAC habitats as a result of the Development as all relevant works will be subterranean. No likely significant effects are therefore predicted and no appropriate assessment is needed.

Potential impacts on the SAC's conservation objectives – otter

3.21 Technically, the Loch Awe shoreline does not comprise part of the SAC although the otters using these habitats may be considered to be part of the SAC population. Potential impacts on otter arising from road traffic collisions have been identified, although these were considered to be unlikely, limited to the construction phase, and low in magnitude. Therefore, due to the precautionary approach to be taken in HRA, it is not possible to conclusively state that the Development will not result in likely significant effects in an HRA context, although potential impacts on this species were not considered to be significant in EcIA terms.

3.22 The identification of likely significant effects means that an appropriate assessment must be carried out, to determine whether or not the likely significant effects will affect the qualifying features, based on the ability to meet the relevant conservation objectives.

3.23 With respect to Conservation Objective (1) for otter, surveys in 2021 identified that there was freshwater connectivity between Loch Awe and Cruachan Reservoir, and otter resident along Loch Awe may occasionally use habitat within the Site. It is not certain as to whether the otter family recorded on Loch Awe includes the individuals which are commuting in this way, but it is likely to be so given the lack of any other suitable habitat for otter up at Cruachan Reservoir. Therefore, the mitigation measures described above at paragraph 3.9 will need to be implemented in full in order to ensure that this particular qualifying feature of Loch Etive Woods SAC remains in favourable condition so as to meet the requirements for Conservation Objective (1).

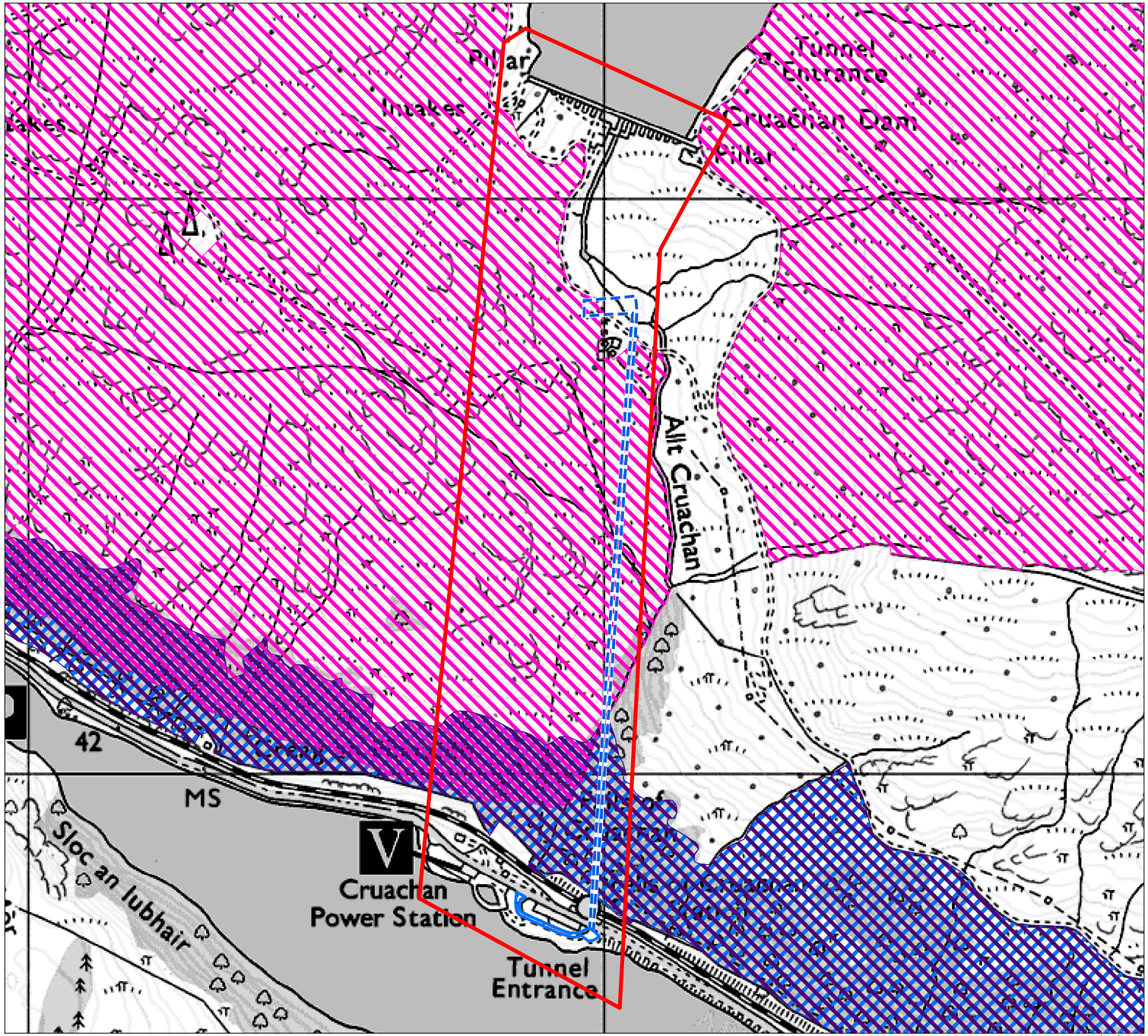
3.24 Conservation Objective (2a), the need to maintain the otter population as a viable component of the site, will also require all mitigation measures identified earlier to be implemented in full. This should ensure that there are no long-term impacts on the local otter population.

3.25 With respect to Conservation Objective (2b), which requires maintenance of the distribution of otter throughout the site, given the availability of substantial lengths of habitat within the territory of these otters which will not be affected by the Development,

it is considered unlikely that the distribution of otter within the whole SAC will be significantly affected by the proposals.

3.26 Conservation Objective (2c) requires maintenance of the habitats supporting otter within the site and availability of food. As described above, it is debateable as to whether the Loch Awe otters are part of the SAC population. Notwithstanding this, if the proposed mitigation is implemented in full, it is not expected that there will be any long-term effects on the overall supporting habitats for otter at this site, nor on the availability of sufficient foraging for the species. Conservation Objectives (2c) will therefore be met.

3.27 Given that none of these conservation objectives for otter will be undermined, it can be concluded that there will be no adverse effect on the integrity of the SAC.



Cruachan 1 Units 3 & 4 Replacement

Statutory Sites Designated for Nature Conservation

Site boundary

Site details:

Above ground access

Subterranean work area

Designated sites:

SPA

SAC

SSSI

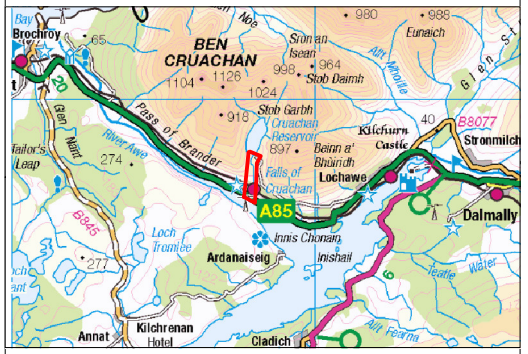


Figure 3.1

Main Map Scale @ A4: 1:10,000

N

Surveyed by: -	
Survey date: -	
Drawn by: RAH	
Checked by: DS	
Status: Final	

Applied Ecology Ltd

4 Conclusions

4.1 A proposal has been put forward for the replacement of two of the subterranean turbines at the Cruachan Power Station, in Argyll and Bute. All construction phase work associated with this Development will occur below ground, but the above-ground planning application boundary overlaps with the boundary of statutory designated sites for nature conservation, including two Natura 2000 sites. This necessitated the preparation of an Ecological Appraisal to consider the potential impacts and effects of the Development on these sites.

4.2 A short Ecological Impact Assessment exercise has been presented here for the Development, focusing on just the relevant statutory designated sites. Prior to mitigation, the EcIA identified adverse effects on otter, the qualifying species of the Loch Etive Woods SAC, which would be significant at the Site level. However, following the application of standard best practice mitigation measures, these would be reduced to not being significant.

4.3 Due to the precautionary nature of the HRA process, likely significant effects in HRA terms could not be definitively ruled out for faunal qualifying species of the Loch Etive Woods SAC. However, following the application of best practice mitigation measures, no adverse effects on the integrity of the SAC are can be concluded.

4.4 Recommendations have been provided here for best practice ecological mitigation measures which should be included in the CMS or EMP for the Development. The findings of this assessment will remain valid for a period of c. 12 months, after which time a review would be needed.

Appendix A

List of Abbreviations Used in this Report

Abbreviation	Full terminology
AEL	Applied Ecology Ltd
CIEEM	Chartered Institute of Ecology and Environmental Management
CMS	Construction Method Statement
EcIA	Ecological Impact Assessment
ECU	Energy Consents Unit
EMP	Environmental Management Plan
HRA	Habitat Regulations Assessment
IEF	Important Ecological Feature
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

This page is intentionally blank.