



Snowdonia Pumped Storage

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# **Non-Material Amendment**

Environmental Appraisal





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## Environmental Appraisal

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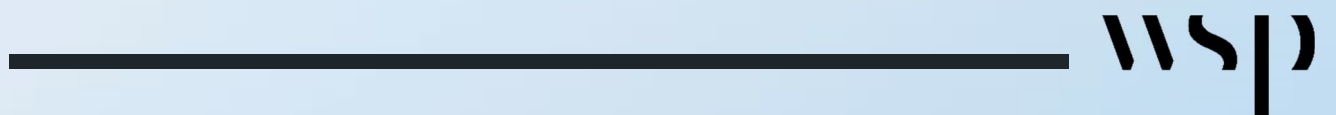


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# Environmental Appraisal



# 1 Environmental Appraisal

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Snowdonia Pumped Hydro Limited (SPH) submitted an application for a Development Consent Order (DCO) for the construction and operation of a pumped storage scheme with an output capacity of 99.9 megawatts (MW) at the Glyn Rhonwy and Chwarel Fawr quarries, near Llanberis ('the Development') in October 2015.

The Glyn Rhonwy Pumped Storage Generating Station Order 2017 (the Order) was made on 8th March 2017 and came into force on 29th March 2017, which granted consent for the Development<sup>1</sup>.

Requirement 2 under Part 2 of the Order states the following under 'Time Limits':

*"The authorised development must be commenced within 5 years from the date on which this Order comes into force."*

An application for a non-material change to the Order is being submitted for an extension of time for commencement of authorised development. This Environmental Impact Assessment (EIA) Review provides an overview of the potential for new or different likely significant environmental effects of the non-material change to the Order, compared to the certified Environmental Statement (ES) (AECOM, 2015) submitted to accompany the application for the Order.

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<sup>1</sup> Note that The Glyn Rhonwy Pumped Storage Generating Station (Correction) Order 2017 was made on 5th October 2017 and came into force on 6th October 2017, which provided correction of errors and omissions in the Order.

## 2 Requirement for a Non-Material Change

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### 2.1 Application for a Non-Material Change

Since the Order was granted in 2017, SPH has progressed its plans to commence construction in accordance with the DCO. After carrying out a competitive tender process following extensive engineering design work, it has become clear that due to the recent spike in inflation of construction materials and labour, the economics of the project has changed; The final investment decision of the project will now rely on the upcoming Large and Long Duration Energy Storage Incentive Scheme from the UK Government which is due to be implemented in 2024. Consequently, it is now unlikely that SPH will be able to commence the authorised development prior to the expiry of the Order on 29th March 2024.

Therefore, a non-material change to the Order is being sought, which seeks to extend the deadline for formal commencement of the authorised development by 24 months to 29th March 2026.

Since the previous NMA approval, SPH has commenced with the commissioning of long-term pre-commencement monitoring. This includes 12 months pre-commencement monitoring (as per Requirement 9) and 6 months baseline air quality monitoring (as per Requirement 7). This has involved both liaison and collaboratively working with the Environmental Health department of Gwynedd Council. SPH has also commissioned a Phase 1 habitat survey on the lower reservoir area and platforms.

No other changes are being sought to the Order as part of the non-material change application. Although this change may delay the date of final commissioning (as defined in the Order), the anticipated operational life of the authorised development (as assessed in the certified ES) remains the same.

### 2.2 Supporting Information

This 2023 Environmental Appraisal has been undertaken to determine whether a further extension to commencing the authorised development in the Order by 24 months would be likely to give rise to any new or different likely significant environmental effects for each environmental topic in the assessments presented in the certified ES (AECOM, 2015). This is contained within Section 3.

A review of planning policy has also been undertaken and is contained within Section 4.

A review of the certified Habitats Regulation Assessment has also been undertaken, and this is reported separately.

### 3 Environmental Appraisal

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The following environmental topics have been considered which are the same as those addressed in the certified ES:

- Landscape and Visual Assessment (ES Chapter 6);
- Ecology (ES Chapter 7);
- Geology and ground conditions (ES Chapter 8);
- Water resources (ES Chapter 9);
- Flood risk (ES Chapter 10);
- Archaeology and cultural heritage (ES Chapter 11);
- Transport (ES Chapter 12);
- Noise and vibration (ES Chapter 13);
- Air quality (ES Chapter 14);
- Socio-economics (ES Chapter 15); and
- Cumulative effects (ES Chapter 17).

The 2021 Environmental Appraisal investigated any likely material changes in the topics outlined above, therefore Table 3.1 provides an overview considering the conclusions of the certified ES and the 2021 assessment which supported the previous NMA Application.

Chapter 16 Environmental Management and Chapter 18 Mitigation Schedule were not subject to the 2021 Environmental Appraisal, but are considered to be valid in this 2023 Environmental Appraisal.



**Table 3.1 EIA Review**

Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
<b>Landscape &amp; Visual (Chapter 6)</b>	<p>Chapter 6 of the ES concludes that there will be no permanent significant effects on the LANDMAP Aspects, Landscape Character Areas (LCAs) or landscape designations within the study area due to the limited visibility of the components of the development in the wider study area and the level and nature of mitigation proposed as an inherent part of the Development, helping the development integrate with the Glyn Rhonwy area. A permanent significant adverse residual effect was identified on receptors at Viewpoint 7 due to the close proximity of the viewpoint to the dam and reservoir at Q1 but no significant residual visual effects were identified for the remaining viewpoints. These conclusions were accepted as part of the overall determination of the DCO and there have no material changes to this assessment.</p> <p>Some updated information is now available since the 2015 ES was prepared, including:</p> <ul style="list-style-type: none"> <li>Policy – various aspects of policy and guidance have been updated since the 2015 ES (i.e. Planning Policy Wales has been updated, as have some TANs). However, generally policy has remained relatively static and guiding principles from GLVIA third edition still valid and are unlikely to concern the proposed time extension.</li> <li>Data and findings – Some of the supporting information sources in the ES chapter may have been updated since the 2015 ES but the information is likely to remain appropriate to support baseline understanding for the proposed time extension e.g. receptors and judgments on impact at the time of the 2015 ES are likely to remain appropriate; i.e. landscape characterisation is still valid.</li> <li>Visual receptors – Some of the supporting information sources in the ES chapter may have been updated since the 2015 ES but owing to the minimal volumes of residential / commercial development in the area, the original Zol and visual impact judgments are likely to be accurate for the proposed time extension.</li> <li>PRoW – There might be some minor changes to PRoW in the area since the 2014 ES but the majority of the landscape and visual findings remain appropriate to characterise impacts.</li> </ul> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not change significantly over the 24-month extension period.</p> <p>Furthermore, the mitigation measures secured in a CoCP and the design principles helping the development integrate with the Glyn</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>There have been no material changes in LANDMAP aspects, Landscape Character Areas or landscape designations. In addition there have been no applicable legislative or policy changes.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid.</p>

Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
	Rhonwy area to avoid or reduce significant effects during construction, operation and decommissioning of the Development would continue to apply in the event of an extension of time to the commencement of the authorised development.		
<b>Ecology (Chapter 7)</b>	<p>The ES determined that the Development will have residual adverse construction and operation effects at some sensitive ecological receptors but that the effect was deemed to be not significant. A phase 1 habitat survey of the Q1 area has been undertaken in 2020 and this has confirmed no changes to the habitats at this location. Pre-construction surveys will be undertaken where necessary and good working practices adhered to at all times.</p> <p>A bat roost survey of the internal tunnels was undertaken over 2019/2020 and this confirmed that the bat population and locations has not changed significantly. Therefore the previous bat mitigation strategy is still valid, and a new license application for the bat exclusion will be applied in advance of any pre-construction works.</p> <p>The following aspects of the ES are considered un-changed:</p> <ul style="list-style-type: none"> <li>Statutory Designation (Changes) - Statutory designated sites appear unchanged (last local SSSI edits were between 2006 – 2009 i.e. before preparations for DCO).</li> <li>Statutory Designations (New) – A brief high-level check has indicated that there are no new statutory designations.</li> </ul> <p>A detailed update to the baseline across the entire area has not been undertaken however a habitat survey undertaken at Q1 (upper reservoir) has identified no change to the surveys undertaken in support of the as submitted DCO application. Therefore mitigation and Requirements remain valid.</p> <p>In addition, bat surveys have been undertaken in 2019/2020 and these have also found limited fundamental changes to previous surveys. Mitigation as secured in the approved DCO remains valid. Regarding other habitats related to Q6 and the area around Llyn Padarn, a detailed update to the baseline environment has not been undertaken. However, in consideration of the scale of significance identified in 2015, based on the survey results, it is not considered that baseline conditions have changed to a degree which would result in new or different likely significant effects arising from the proposed time extension.</p> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not change significantly over the 24-month extension period.</p>	<p>Pre-construction site surveys will be undertaken to confirm that no significant baseline conditions are evident from those detailed in the certified ES. Pre-construction surveys will be undertaken where necessary and good working practices adhered to at all times.</p> <p>No new or different significant effects identified and the ES and NSER remain valid for the proposed time extension.</p> <p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>No new designations or material changes in the biodiversity features as identified within the certified ES.</p> <p>A Phase 1 habitat survey at Q1 was undertaken in support of the 2021 NMA application and a subsequent survey of Q6/Q7 in 2022 (contained within Appendix A) has identified no material changes to the main working areas.</p> <p>Aspects related to the No Significant Effects Report (NSER) are reported separately.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>

Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
<p><b>Geology and Ground Conditions (Chapter 8)</b></p>	<p>Furthermore, the mitigation measures secured in an environmental strategy for the Development, via implementation of a CoCP and a Habitat Management Plan (HMP) to avoid or reduce significant effects during construction, operation and decommissioning of the Development would continue to apply in the event of an extension of time to the commencement of the authorised development.</p> <p>Chapter 8 summarises that the only nationally important geological feature in the area is part of the Afon Gwyrfaï a Llyn Cwellyn SSSI, located upstream of the Development, and therefore would not be affected by the Development. The potential for the presence of localised ground contamination cannot be discounted and if any such materials are discovered, these would be appropriately managed through appropriate remedial strategies developed with NRW and Gwynedd Council secured through a DCO Requirement. Overall, it is concluded that the Development would have no significant effects on or as a result of the ground conditions and geology.</p> <p>The general ground conditions and contamination background characterisation are likely to remain valid and appropriate for the proposed time extension. The local geology is considered stable and will remain of low sensitivity, as outlined in the ES, for the duration of the proposed time extension.</p> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not expect to change significantly over the 24-month extension period.</p> <p>Furthermore, the mitigation, compensation and enhancement measures detailed in Section 8.10 and the CoCP during construction, operation and decommissioning of the Development would continue to apply in the event of an extension of time to the commencement of the authorised development.</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>
<p><b>Water Resources (Chapter 9)</b></p>	<p>Chapter 9 of the ES concluded that groundwater did not form an important contribution to regional or local water resources and that the Development will have no impact on groundwater flow therefore wells and boreholes will not be affected. Mitigation measures will be implemented around construction areas through a CoCP to prevent the discharge of contaminated run off to surface watercourses, supported by a Water Management Plan (WTMP), Pollution Prevention Plan (PPP) and Silt Management Plan (SMP). The impacts of the Development on water resources during construction and operation would be minor to negligible adverse and thus not significant.</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>The Applicant has undertaken 12 months pre-commencement water quality sampling (as secured via Requirement 9). This has included both private water supplies (working in conjunction with Gwynedd Council Environmental Health department) and from agreed locations on existing water bodies. The pre-commencement water sampling report is contained within Appendix B and concludes that there are no material changes to the sampling undertaken to support the certified ES.</p>

Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
	<p>The proposed time extension of 24 months is unlikely to introduce new baseline conditions (new watercourses) and will not introduce new potential construction or operation effects (that would give rise to new or different likely significant effects compared to those previously identified).</p> <p>The proposed time extension would not alter the mitigation already embedded into the authorised development to minimise water requirements, interaction with water courses, reduce contamination and avoid surface water runoff. Furthermore, the mitigation detailed in the WTMP, PPP and SMP would continue to apply in the event of an extension of time to the commencement of the authorised development.</p> <p>The requirements of any Environmental Permits relating to water quality and resource would also continue to apply in the event of an extension to the time period for the commencement of the authorised development.</p>		<p>In relation to Water Framework Directive features, there have been three updates to the latest data available, these are:</p> <ul style="list-style-type: none"> <li>Llyn Padarn WFD Classification: Chemical Quality changed from good to high.</li> <li>Afon Seiont WFD Classification: Ecological status changed from good to moderate. Current chemical status changed to high from good.</li> <li>Afon Gwyrfai WFD Classification: Chemical Quality changed from good to high.</li> </ul> <p>On the basis of the above, it is considered that there are no new material changes to the water resources assessment and that the proposed mitigation (namely the Water Management Plan secured via Requirement 9) is still valid and appropriate. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>
<b>Flood Risk (Chapter 10)</b>	Chapter 10 of the ES demonstrates that there are potential risks during construction and operation from groundwater flooding, pluvial flooding and flooding from existing drainage which require consideration within the detailed design of the site, the buildings, the surface water drainage systems and the reservoirs. However, it is possible to mitigate the identified risks through the application of appropriate site management at the construction stage and appropriate design principles for the operation stage. Flooding risks will be reviewed at the detailed design stage, taking into account any further information on site conditions, drainage, or iterations of the design to ensure all flood risks have been adequately mitigated in the final design.	The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.	<p>There are no new material changes to the flood risk zones or receptors as identified in the certified ES or 2021 NMA application.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>
<b>Archaeology &amp; Cultural Heritage (Chapter 11)</b>	<p>Chapter 11 of the ES concludes that all effects on heritage assets will be restricted to the construction phase with 24 assets or groups of assets potentially impacted by the Development. The significance of effect of the Development on archaeology and cultural heritage is considered to be moderate adverse and is therefore significant. Recommended mitigation includes building recording, landscape survey, archaeological excavation and recording, and archaeological monitoring.</p> <p>Some updated information is now available since the 2015 ES was prepared, including:</p>	The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.	<p>An updated Written Scheme of Investigation has been prepared (as per Requirement 7 and 21) (contained within Appendix C). This has identified no new material changes to the archaeological or cultural heritage receptors as identified in the certified ES or 2021 NMA application.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES</p>



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	<ul style="list-style-type: none"> <li>Policy –some of the policy and guidance in Chapter 11 may have been updated since the 2015 ES (for example, Planning Policy Wales now into its 10th edition, Dec 2018) but these are unlikely to concern the proposed time extension.</li> <li>The proposed UNSECO site allocation is yet to be implemented, but this would not change the conclusions of the ES chapter.</li> </ul> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not expect to change significantly over the 24-month extension period.</p> <p>Furthermore, the mitigation measures detailed in Section 11.8 to limit impacts on archaeology and cultural heritage during construction, operation and decommissioning of the Development would continue to apply in the event of an extension of time to the commencement of the authorised development, including consultation with the Senior Planning Archaeologist for GAPS and archaeological advisor to Gwynedd Council, as needed.</p>		conclusions remain valid including all proposed mitigation secured in the DCO.
<b>Transport (Chapter 12)</b>	<p>Chapter 12 of the ES concludes that all Development traffic can be accommodated on the local road network without comprising traffic operations. Where significant effects were identified, mitigation measures were outlined to minimise, where possible, the effects of the construction and operation of the Development, so that no residual significant effects were determined.</p> <p>The ES identified peak construction traffic in Month 7 and Month 29 of the construction phase, however Requirement 2 of the DCO allows the commencement of construction to take place up until March 2022. The potential for the commencement of construction of the authorised development to take place after the peak assessments presented in the certified ES had therefore already been taken into account in the Secretary of State's decision to grant the DCO.</p> <p>It has been identified that there are new developments proposed near to the Development site since the cumulative impacts assessment for the Development was undertaken in the 2015 ES. One proposed development consists of a low carbon hub and visitor centre, which would result in a potential increase in traffic in the locality of the Development site (see Chapter 17 Cumulative Impacts below), although no application has been submitted at time of writing. However, it is assumed that new or different likely significant effects arising from new planning applications in the vicinity of the Development would need to have assessed cumulative impacts with the Development in the planning application and consent process for these developments</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>There are no new material changes to the traffic and transport receptors as identified in the certified ES or 2021 NMA application.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>

Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
	<p>subsequent to the DCO being made. Any other developments that have come forward since the DCO was granted should have taken the Development into consideration and it is not considered appropriate for a new cumulative assessment to be undertaken (on the basis that the Development already has consent granted).</p> <p>Furthermore, the proposed time extension would not alter the associated construction or operation traffic flows nor the mitigation measures to limit transport related impacts as delivered in the Construction Traffic Management Plan (CTMP) and Travel Plan (secured by DCO requirements).</p> <p>Given that the same traffic would be generated to the network and the mitigation measures identified in the CTMP and Travel Plan would remain, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects, compared to previous assessments.</p>		
<b>Noise &amp; Vibration (Chapter 13)</b>	<p>The ES determined that the Development is predicted to result in negligible operational noise effects at NSRs which is considered not significant. A preliminary assessment of potential noise from surface plant during the construction phase determined that effects up to major adverse could arise without mitigation. The ES summarised that construction traffic effects can be mitigated through management methods, road maintenance and ongoing monitoring and would be anticipated to result in short term effects (less than 5 years). This would result in effects that are no greater than minor adverse at the worst affected NSRs and therefore is considered not significant.</p> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not expect to change significantly over the 24-month extension period. As outlined above in this table, there are no new or different likely significant effects in relation to transport. Therefore, there would be no new or different likely significant transport-related noise and vibration effects arising during the construction or decommissioning phases.</p> <p>Furthermore, the mitigation, compensation and enhancement measures detailed in Section 13.9 to limit noise generation during construction, operation and decommissioning of the Development would continue to apply in the event of an extension of time to the commencement of the authorised development.</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>There are no new material changes to the noise sensitive receptors as identified in the certified ES or 2021 NMA application.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>
<b>Air Quality (Chapter 14)</b>	<p>A qualitative assessment was conducted to determine the effects during the construction phase of the Development, which determined that potential effects due to road vehicle emissions were not significant. The residual effect of dust arising from</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within</p>	<p>SPH has completed six months baseline monitoring (as per Requirement 7) (contained within Appendix D). This has identified no material changes in the baseline as reported in</p>

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	<p>construction activities were determined to be likely minor adverse and not significant.</p> <p>The proposed time extension would not introduce any new potential construction, operation or decommissioning effects and the baseline environment would not expect to change significantly over the 24-month extension period. As outlined above in this table, there are no new or different likely significant effects in relation to transport. Therefore, there would be no new or different likely significant transport-related air quality effects arising from construction, operation or decommissioning.</p> <p>Furthermore, the following mitigation measures that should be secured through the DCO would continue to apply in the event of an extension of time for the commencement of the authorised development:</p> <ul style="list-style-type: none"> <li>■ The works must be undertaken in accordance with a Dust Management Plan (DMP) and CoCP; and</li> <li>■ Air quality and dust monitoring should be installed before, and during, the construction phase to ensure that implementation of the CoCP is managing dust properly</li> </ul>	<p>which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>the certified ES. In addition there have been no Air Quality Management Zones declared in North Wales as of September 2021<sup>2</sup>.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>
<b>Socio-economics (Chapter 16)</b>	<p>Chapter 15 concludes that there will be direct and indirect positive effects to the local economy during the construction phase from increased employment activities and indirect benefits through increased use of facilities in the area. During the operational phase, 20-35 jobs will be created and the Development will have a number of net benefits on the local and regional economy. It is likely that impacted Public Rights of Way (PRoWs) and Countryside and Rights of Way (CROW) land will be diverted or closed during the construction and decommissioning phases, however, these impacts are temporary in nature and otherwise the temporary diversions and replacement areas will be fully accessible during the construction phase and then reinstated during the operational phase. A CTMP will be ensure there is minimal disruption to community and tourist traffic during the construction phase.</p> <p>The ES assessed construction effects over a construction period, however Requirement 2 of the DCO allows the commencement of construction to take place up until March 2022. The potential for the commencement of construction of the authorised development to take place after the peak assessments presented</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.</p>	<p>There are no new material changes to the socio-economic receptors as identified in the certified ES or 2021 NMA application.</p> <p>No new or different likely significant effects will occur as a result of the time extension. Therefore it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>

<sup>2</sup> <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Environment-and-planning/APR-North-Wales-2021-Final-Issued.pdf>

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	<p>in the certified ES had therefore already been taken into account in the Secretary of State's decision to grant the DCO.</p> <p>In consideration of the likely low-level impact and the minor contribution made by the authorised development to elements such as tourism or population increase, it is not considered that baseline conditions would have changed to a degree which would result in new or different likely significant effects arising from the proposed time extension. The authorised development is very unlikely to be a contributor to local population levels and thus would not contribute to population stress on local services, nor is it considered to affect local tourism features or provide substantial numbers of permanent employment.</p> <p>It has been identified that there are new developments proposed near to the Development site since the cumulative impacts assessment for the Development was undertaken in the 2015 ES. One proposed development consists of a low carbon energy hub and visitor centre, which would result in impacts on the socio-economics of the locality of the Development site (see Chapter 17 Cumulative Impacts below) although no application has been submitted at the time of writing. However, it is assumed that new or different likely significant effects arising from new planning applications in the vicinity of the Development would need to have assessed cumulative impacts with the Development in the planning application and consent process for these developments subsequent to the DCO being made. Any other developments that have come forward since the DCO was granted should have taken the Development into consideration and it is not considered appropriate for a new cumulative assessment to be undertaken (on the basis that the Development already has consent granted).</p> <p>Due to there being no change to construction, operational and decommissioning processes as a result of the proposed time extension, impacts on businesses and residents will remain the same. It is therefore considered that assessments presented in the certified ES remain valid.</p>		
<b>Cumulative Assessment</b>	<p>Chapter 17 concluded that the intra-project combined effects on shared receptors are of negligible and minor effects, and are unlikely to add to the overall significance of the effects of the Development and are therefore considered not significant.</p> <p>No significant inter-project effects resulting from the Development and the development of the electrical connection for the Development, the Wylfa Newydd Nuclear Power Station or the Caernarfon to Bontnewydd Bypass were identified.</p>	<p>The proposed time extension has no bearing on the construction, operation or decommissioning processes for the authorised development. Given this, extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid</p>	<p>There has been no change to the methods outlined in the certified ES chapter.</p> <p>Regarding the projects identified in the certified ES:</p> <ul style="list-style-type: none"> <li>■ Caernarfon to Bontnewydd Bypass was completed in early 2022 and is now operational</li> <li>■ The application for the Wylfa Newydd application was not determined by the</li> </ul>



Topic	2021 Environmental Appraisal	2021 Conclusion	2023 EIA Review
	<p>Some updated information is now available since the 2015 ES was prepared, including:</p> <ul style="list-style-type: none"> <li>■ <u>Methods</u> – IEMA and PINS Advice used to inform the cumulative impacts assessment has been updated since the 2015 ES. PINS advice note 17 on the process for Cumulative Effects Assessment has been released (V2 - August 2019).</li> <li>■ <u>Other Plans or Projects</u> – there are likely to be new plans and projects consented in the surrounding area, however, owing to the heavily-protected nature of the area, there is likely to be minimal additional substantial development aside from the Caernarfon to Bontnewydd bypass and the electrical connection infrastructure (both of which are already considered).</li> <li>■ <u>Wylfa</u> – although official plans for this nuclear new build (NNB) have halted, the DCO is due for determination has now been delayed until December 31st 2020.</li> </ul> <p>It has been identified that there are new developments proposed near to the Development site since the cumulative impacts assessment for the Development was undertaken in the 2015 ES. One proposed development which could have the potential for new or differently likely significant cumulative effects, above those considered in the certified ES, consists of a low carbon energy hub and visitor centre, although no planning application has been submitted at the time of writing. Given that the DCO was made in 2015, any subsequent planning permission for any new sensitive residential receptors should have taken account of the potential effects of the construction, operation and decommissioning of the authorised development.</p> <p>Any other developments that have come forward since the DCO was granted should have taken the Development into consideration and it is not considered appropriate for a new cumulative assessment to be undertaken (on the basis that the Development already has consent granted).</p>		<p>Secretary of State and therefore the project, in its submitted form, will not go ahead.</p> <ul style="list-style-type: none"> <li>■ There has been no application submitted for the energy centre proposed on the lower Glyn Rhonwy platforms.</li> </ul> <p>Following a review of reasonably foreseeable projects of the required criteria, the following have been identified:</p> <ul style="list-style-type: none"> <li>■ Housing development (C21/0861/23/LL) of 39 dwellings and associated infrastructure. Application is currently in progress and has not been determined. It is located approximately 3.8km northwest</li> </ul> <p>On the basis of the status of those projects identified in both the certified ES and the 2021 Environmental Appraisal, in combination with recent review, it is considered that there is no material change in relation to cumulative projects.</p> <p>Therefore, as no new or different likely significant effects will occur as a result of the time extension, it is considered that the certified ES conclusions remain valid including all proposed mitigation secured in the DCO.</p>

## 4 Planning Policy Review

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### 4.1 2021 Appraisal

The 2021 Environmental Appraisal identified and concluded the following in relation to planning policy:

*A detailed review of the planning policies in Chapter 5 of the ES has not been undertaken as part of this exercise, but some of the updated policies worth noting include:*

- *Climate Change Act – the CCA 2008 is still applicable but there have been some changes. Prominent changes include the 2019 Amendment to the Act committing the UK reducing its net emissions to zero by 2050. In December 2020, the Prime minister announced further plans to cut emissions by 68% by 2030 based on 1990 levels. National Grid’s Future Energy Scenarios 2020 Document identifies energy storage as an integral part of achieving Net Zero emissions by 2050, and that “Larger, longer duration storage will be needed to support decarbonisation in the net zero scenarios” modelled.*
- *Storage and Flexibility – there have been further various references to storage as a technology to support grid flexibility since the 2015 ES (for instance, ‘Upgrading our energy system: smart systems and flexibility plan’ (July 2017).*
- *National Guidance and Planning Policy – overarching NPSs for Energy remain valid but various other strategies and local plans have been updated e.g. Planning Policy Wales, which is now onto its 10th edition (December 2018). Its supporting Technical Advice Notes (TANs) may have also been subject change.*
- *Spatial Planning – The National Development Framework (NDF) covering the whole of Wales will set out the Welsh Government’s policies on development and land use in a spatial context, and replaces the Wales Spatial Plan. The NDF’s publication has been delayed due to the COVID-19 pandemic.*

*It is considered that the relevant planning authorities will have taken account of the authorised development in preparing the draft plans, particularly in designating any new land allocations or granting consent for new residential developments. Extending the time period within which the construction of the authorised development could commence by 24 months will not result in new or different likely significant effects when compared to previous assessments. It is therefore considered that assessments presented in the certified ES remain valid.*

## 4.2 2023 Appraisal

The 2023 Environmental Appraisal has identified the following applicable national and local planning policy and concluded the following:

### 4.2.1 National Policy

#### 4.2.1.1 National Energy Policy Statements

Updated draft versions of the National Energy Policy Statements have been produced since the 2021 Environmental Appraisal<sup>3</sup>. These policy statements have not yet been designated, however should be monitored in case the application submission occurs after the designation of these updated policy statements. The changes reinforce the positive weighting of national policy towards renewable energy projects.

#### 4.2.1.2 Renewable and Low Carbon Energy Guidance

The Renewable and Low Carbon Energy Guidance<sup>4</sup> has been updated since 2021, however the updates predominantly focus on improved specific guidance regarding battery storage and the support the guidance provides for renewable and hydroelectric projects has not changed.

#### 4.2.1.3 Future Wales (Adopted February 2021)

No changes since 2021.

#### 4.2.1.4 Planning Policy Wales: Edition 11 (Adopted February 2021)

No changes since 2021.

#### 4.2.1.5 The Wellbeing of Future Generations Act (Adopted June 2015)

No changes since 2021.

#### 4.2.1.6 Updated Technical Advice Note 15 (TAN15)

TAN15<sup>5</sup> was proposed to be adopted on 1<sup>st</sup> June 2023. Currently, the TAN has not been adopted with no amended date for adoption provided. Compared with the adopted 2004 legislation, there is greater emphasis on preventing development in areas at higher risk of flooding, more stringent design and resilience and mitigation requirements for development within flood zones. Notwithstanding the changes, it is considered that the existing measures secured through the DCO remain valid and appropriate.

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<sup>3</sup> Available at: [Planning for new energy infrastructure: revisions to National Policy Statements - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/planning-for-new-energy-infrastructure-revisions-to-national-policy-statements).

<sup>4</sup> [Renewable and low carbon energy - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/renewable-and-low-carbon-energy)

<sup>5</sup> [Technical advice note \(TAN\) 15: development, flooding and coastal erosion | GOV.WALES](https://gov.wales/technical-advice-note-tan-15-development-flooding-and-coastal-erosion)

#### 4.2.1.7 Other Relevant Technical Advice Notes:

The following TANs have been reviewed and there have been no changes since 2021 and therefore the previous 2021 Environmental Appraisal remains valid:

- TAN 5: Nature Conservation and Planning (Adopted in September 2009)
- TAN 6: Planning for Sustainable Rural Communities (Adopted in July 2010)
- TAN 10: Tree Preservation Orders (Adopted in October 1997)
- TAN 11: Noise (Adopted in October 1997)
- TAN 12: Design (Adopted in March 2016)
- TAN 15: Flooding (Adopted in July 2004)
- TAN 18: Transport (Adopted in March 2017)
- TAN 20: Planning and the Welsh Language (Adopted in October 2017)
- TAN 24: The Historic Environment (Adopted in May 2017)

### 4.2.2 Local Planning Policy

#### 4.2.2.1 The Slate Landscape of Northwest Wales World Heritage Site Supplementary Planning Guidance<sup>6</sup> (Adopted in December 2021)

The policy acknowledges the supportive nature of the LDP towards renewable energy projects however adds a requirement for projects occurring within the World Heritage Site to be 'developed in harmony with the Outstanding Universal Value' of the World Heritage Site. Essentially, proposals need to make use of natural resources without impacting on Outstanding Universal Value.

Key excerpts from the SPG are included below:

*Property management plan objective 8:*

*Ensure renewable energy ambitions are developed in harmony with the Outstanding Universal Value of the World Heritage Site. The principles outlined under this objective state that proposals that make use of natural resources without impacting on Outstanding Universal Value will be supported subject to the requirements of the Eryri Local Development Plan 2016-2031: Development Policy 3 and where relevant, Strategic Policy B (February 2019), and the Anglesey and Gwynedd Joint Local Development Plan.*

*Appendix 3:*

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<sup>6</sup> [The Slate Landscape of Northwest Wales World Heritage Site \(llyw.cymru\)](https://llyw.cymru)

*Renewable energy is classed as a major development: Planning considerations for major apps:*

- *Design and Access Statement required.*
- *Statutory Pre-application consultation required.*
- *The overall implications on the WHS, its essential setting, significant views, and surrounding areas.*
- *Ensure compliance with national and local planning policies.*
- *Wider landscape/setting implications arising from larger proposals.*
- *EIA may be necessary.*
- *Consider any appropriate mitigation measures.*

The north-eastern corner of the site extends into Llyn Padarn lake within component part 2 Dinorwig Slate Quarry Mountain Landscape of the World Heritage Site. However, the 'significant views' and key elements for this landscape area are across the lake from the proposed development towards the east. Therefore it is considered that the existing conclusions and measures secured through the DCO remain valid.

### **4.2.3 Summary**

No material changes to any other existing local legislation or new legislation have arisen since 2021.

## 5 Conclusion

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The 2023 Environmental Appraisal concluded the following:

- No changes were identified from this appraisal that would give rise to any new or different likely significant effects compared to findings presented in the certified ES, or that would not have ordinarily been addressed in subsequent planning consents in the surrounding locality.
- The extension of time would not alter any previously agreed mitigation measures, and the same commitments in the DCO to limit effects on receptors would continue to apply in the event of an extension to the time period for the commencement of the authorised development.
- The 2023 environmental appraisal has not identified any new or different likely significant effects compared to previous assessment findings and it is therefore considered that the proposed extension of time would constitute a change which is not material for the purposes of the Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) Regulations 2011.
- The 2023 Planning Appraisal identified there have been no changes in relation to Planning policy. Therefore, the proposed extension of time would not constitute a material change and the conclusions of the original planning statement are still valid.



## Appendix A – 2022 Phase 1 Habitat Survey

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# 1. Introduction

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## 1.1 Background

An updated Phase 1 habitat survey was commissioned by the Applicant to determine the ecological status of the area around Q6 platforms and Q7 quarry. The previous Environmental Statement (ES) (dated 2015) excluded an ecological survey due to access constraints but observational notes were made which highlighted the potential for suitable habitat for foraging of multiple species, in addition to the presence of established trees. Therefore, no assessment was included within the 2015 Environmental Statement.

## 1.2 Purpose of this Phase 1

This note presents the results of a habitat verification study for Q7 (the Site). The work has comprised a desk study and field survey.

The desk study methods and results are presented in Section 2, with the field survey methods and results in Section 3. Section 3 also presents a comparison of the results with the previous survey (Aecom, 20137). Conclusions and recommendations for further work are presented in Section 4.

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<sup>7</sup> Glyn Rhonwy Pumped Storage Development Consent Order. Appendix 7.1 AECOM (2013a) Glyn Rhonwy Pump Storage – Phase 1 Habitat Survey



## 2. Desk Study

### 2.1 Method

A desk study has been undertaken to update previous datasets reported in AECOM (2013).

The categories of ecological features (terrestrial and freshwater) for which data have been sought are detailed in Box 1 and Box 2. These are the sites, habitats and species that are of sufficient nature conservation value that impacts on them could result in significant effects. Relevant legislation is referred to in Appendix A.

Box 1	Designated Biodiversity Sites, and Priority Habitats and Species
	<p><u>Statutory Biodiversity Sites</u></p> <ul style="list-style-type: none"> <li>European sites: Important biodiversity sites designated under international law or treaties. European sites are any Special Area of Conservation (SAC) from the point at which the European Commission and the UK Government agree the site as a 'Site of Community Importance' (SCI); any classified Special Protection Area (SPA); any candidate SAC (cSAC); and (exceptionally) any other site or area that the Commission believes should be considered as an SAC but which has not been identified by the Government. The term 'European site' is term is also commonly used when referring to potential SPAs (pSPAs), to which the provisions of Article 4(4) of Directive 2009/147/EC (the 'new wild birds directive') apply; and to possible SACs (pSACs) and listed Ramsar sites, to which the provisions of the Habitats Regulations are applied a matter of Government policy (NPPF para 118; TAN 5 para. 5.1.3; SPP para. 136) when considering development proposals that may affect them.</li> <li>Sites of Special Scientific Interest (SSSIs): Nationally important sites notified under the Wildlife and Countryside Act 1981 (as amended) that provide the best examples of the UK's flora, fauna, or geological or physiographical features (note, this assessment focuses on those sites notified for their biodiversity interest).</li> <li>National Nature Reserves (NNRs): Nationally important sites notified under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended); in practice most NNRs are SSSIs also.</li> <li><b>Local Nature Reserves (LNRs):</b> Locally important sites that are designated under the <i>National Parks and Access to the Countryside Act 1949</i> with the objective of encouraging their use for the study, research or enjoyment of nature.</li> </ul>
	<p><u>Non-Statutory Biodiversity Sites</u></p> <p>Non-statutory biodiversity sites in Snowdonia National Park (located within Gwynedd) are known as Local Wildlife Sites (LWS).</p>
	<p><u>Other important habitats or species</u></p> <p>Habitats or species of "principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales" are those listed by Welsh Government pursuant to Section 7 of the Environment (Wales) Act 2016, which replaces the <i>Natural Environment and Rural Communities Act 2006</i> (as amended) in Wales. These include most of those UK BAP priority habitats and species that occur in Wales. They are now referred to as 'S.7' habitats or species.</p> <p>Other conservation-notable habitats and species would include:</p>

Box 1	Designated Biodiversity Sites, and Priority Habitats and Species
	<ul style="list-style-type: none"> <li>Species listed as being of conservation concern in the relevant UK Red Data Book (RDB) or the Birds of Conservation Concern 5 Red List (Stanbury et al, 2021)<sup>8</sup> and also considering the most recent Birds of Conservation Concern in Wales 3 (Johnstone and Bladwell <i>et al</i> 2016)<sup>9</sup></li> <li>Ancient woodland inventory sites (AWIS; areas that have been under continuous woodland cover since at least 1600);</li> <li>Nationally Rare and Nationally Scarce species in the UK.</li> <li>Habitats and species listed within the Snowdonia National Park Local Biodiversity Action Plan (SNP LBAP)</li> <li>Species listed as NRW species in the protected and priority category for COFNOD; although these species (Red Deer, Roe Deer, Weasel and Stoat) are not afforded legal protection as in Box 2 below, NRW are concerned about their status;</li> <li>Other species or assemblages such as large populations of animals considered uncommon or threatened in a wider context; and</li> <li>Important hedgerows as defined using the habitat criteria in <i>The Hedgerows Regulations 1997</i>.</li> </ul>

Box 2	Legally Protected and Controlled Species
	<p><u>Legal Protection</u></p> <p>Many species of animal and plant receive some degree of legal protection. For the purposes of this report, legal protection refers to:</p> <ul style="list-style-type: none"> <li>Species included on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), excluding species that are only protected in relation to their sale (see section 9[5] and 13[2]);</li> <li>Species included on Schedules 2 and 5 of the Conservation of Habitats and Species Regulations 2017 (England and Wales); and</li> <li>Badgers, which are protected under the Protection of Badgers Act 1992.</li> </ul> <p><u>Legal Control</u></p> <p>Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended) lists species of animal that it is an offence to release or allow to escape into the wild (for example grey squirrel) and species of plant that it is an offence to plant or otherwise cause to grow in the wild (for example, Rhododendron).</p>

The study areas relating to each type of ecological feature listed above have been defined on a precautionary basis to encompass the predicted '*Zone of Influence*' of the decommissioning scheme. These areas have been defined based on the professional judgement of experienced ecologists, and informed by good practice guidance (e.g. CIEEM, 2018<sup>10</sup> and Collins, 2016<sup>11</sup>).

The Study Area for Glyn Rhonwy include the ecological features within the Site, and the following:

<sup>8</sup> Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747

<sup>9</sup> Johnstone, I. & Bladwell, S. (2016). Birds of Conservation Concern in Wales 3: the population status of birds in Wales. *Birds in Wales*, Volume 12, No.1, September 2016).

<sup>10</sup> CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*

<sup>11</sup> Collins, J (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London

- Internationally, nationally and locally designated sites, up to 2 km from Q7;
- Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs) designated for bats within a 10 km radius of the site;
- Records of protected species within 2 km of the site and records of bat species within 5 km of the site.

## 2.2 Results

Five statutory designated biodiversity Sites of international or national importance are located within 2km of the site (this was extended to 10km where SAC and SSSI are designated for bats). Twenty nine non-statutory designated biodiversity Sites are located within 2km of the Site, including one (Glyn Rhonwy Quarries 1 woodland mosaic) within the Site boundary. These sites are detailed in Table 2.1 and Table 2.2 respectively below.

Table 2.1 Sites with international statutory designation for biodiversity sites within 2km

Site	Designation	Grid reference	Distance from site (m)	Summary of interest features
Llyn Padarn	SSSI	SH573613	461	<p>Designated for a number of ecological features:</p> <ul style="list-style-type: none"> <li>- Hosts a population of arctic charr <i>Salvelionus alpinus</i> L. the welsh population is a genetically distinct race existing in three lakes in North Wales. This population is genetically distinct from the other populations in Llyn Cwellyn and Llyn Bodlyn</li> <li>- Hosts a population of the nationally scarce floating water-plantain <i>Luronium natans</i></li> <li>- Includes a number of habitats including: open water, semi-natural broadleaved woodland and bracken. The woodland supports populations of pipistrelle bats <i>Pipistrellus pipistrellus</i>, open water provides foraging habitat for Daubenton's bat <i>Myotis daubentonii</i></li> <li>- Otters and small numbers of wildfowl are seen using the lake and the outflow</li> <li>- Supports other aquatic plants of interest, including spring quillwort <i>Isoetes echinospora</i></li> </ul>
Llwyn y coed	SSSI	SH558618	911	The sites main feature is a native upland oak woodland supporting a collection of unusual bryophytes and also has small areas of wet heath, acid grassland, bracken and rock exposures important for supporting wildlife.
Snowdonia	NP		1005	Site is designated as an SAC due to the presence of Annex I habitats and Annex II species. Annex I habitats

Site	Designation	Grid reference	Distance from site (m)	Summary of interest features
	SSSI SAC			that are a primary reason for selection of this site are Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the Isoëto-Nanojuncetea, Siliceous alpine and boreal grasslands, Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, Siliceous scree of the montane to snow levels ( <i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i> ), Calcareous rocky slopes with chasmophytic vegetation and Siliceous rocky slopes with chasmophytic vegetation. Annex II species that are a primary reason for selection of this site s and floating water-plantain. The site is designated as a SSSI due to its special interest for its upland habitats. The site supports vascular and lower plant species of special interest as well as fungi, and large assemblages of bryophytes and lichens of special interest. The site is also of special interest for chough and for an assemblage of upland moorland and grassland birds. Other animal species of interest include salmon, the rainbow leaf beetle <i>Chrysolina cerealis</i> and an upland invertebrate assemblage. Snowdonia / Eryri National Park comprises 823 square miles of beautiful and unspoilt countryside. It includes Snowdon which, at 1085 metres is the highest mountain in England and Wales.
Coed dinorwig	SSSI, LNR	SH584608	1072	The sites main feature is a semi-natural broadleaved woodland. This is an ancient woodland site, and forms a prominent feature on the steep slopes above the south-eastern end of Llyn Padam
Glynllifon	SAC & SSSI (for bats)	SH469543	7928	This site is selected as an SAC due to the presence of Lesser horseshoe bat, an Annex II species. This site in north Wales is both a maternity and hibernation site for a large population of lesser horseshoe bat, comprising about 6% of the UK population

Table 2.2 Sites with national statutory designation for biodiversity conservation sites within 2km

Site	Designation	Grid reference	Distance from the site (in m)	Summary of interest features
Glyn Rhonwy Quarries 1 woodland mosaic	LWS	SH567609	Within the order limits	Quarry/ spoil; broadleaved woodland standing water

Site	Designation	Grid reference	Distance from the site (in m)	Summary of interest features
Coedydd Glyn Rhonwy	LWS	SH571605	95	Broadleaved woodland; Lesser horseshoe bat, Daubenton's bat, song thrush, bullfinch, redpoll
Llwyn Coed Heath	LWS	SH557616	163	Dry dwarf scrub heath; wet dwarf shrub heath; bracken; acid grassland
Glyn Rhonwy Quarries 1	LWS	SH562606	214	Quarry/ spoil
Glyn Rhonwy Quarries 2	LWS	SH562603	250	Acid grassland/ quarry mosaic
Pen Gilfach	LWS	SH567612	336	Broadleaved woodland; standing water
Galt y Celyn	LWS	SH555612	449	Dry heath/ acid grassland mosaic; bracken; acid grassland
Ty'n-y-mynydd	LWS	SH569600	565	Acid grassland; dry dwarf shrub heath; broadleaved woodland; grasshopper warbler; slow worm; redstart
Glyn Rhonwy Quarries 3	LWS	SH563600	593	Quarry/ spoil
Cei Llydan	LWS	SH573616	842	Broadleaved woodland; scrub; acid grassland; bracken
Bwlch-y-groed Quarry	LWS	SH552601	905	Quarry/ spoil
Llainwen Isaf	LWS	SH575601	932	Upland oakwood; wet woodland
Cefn Du	LWS	SH544607	944	Acid grassland; dry dwarf shrub heath; dry heath/acid grassland mosaic; acid/neutral flush
Barrack Mawr	LWS	SH557601	1035	Semi-improved neutral grassland
Coed Dinorwig	LNR	SH5899035	1072	The sites main feature is a semi-natural broadleaved woodland. This is an ancient woodland site, and forms a prominent feature on the steep slopes above the south-eastern end of Llyn Padarn

Site	Designation	Grid reference	Distance from the site (in m)	Summary of interest features
Clwt y Bont massif	LWS	SH571623	1132	Wet dwarf shrub heath; acid grassland
Bryn Mawr	LWS	SH555593	1183	Acid grassland; dry heath/ acid grassland mosaic; acid/ neutral flush
Hafod Lydan	LWS	SH576596	1215	Acid grassland; broadleaved woodland
Clwt y Bont (east)	LWS	SH579619	1381	Acid grassland
Dol Elidir	LWS	SH579597	1450	Lowland meadow
Clwt y Bont (west)	LWS	SH564627	1458	Dry dwarf shrub heath; acid heathland
Blue Peris	LWS	SH586609	1538	Acid grassland; broadleaved woodland; dry dwarf shrub heath
Pen-y-llyn	LWS	SH554624	1695	Broadleaved woodland; marshy grassland
Wellington Wood	LWS	SH589602	1752	Broadleaved woodland; scrub; acid grassland; bracken
Afon Rhythallt	LWS	SH551630	1773	Running water
Coed Victoria	LWS	SH585597	1788	Broadleaved woodland
Clwt y Bont	LWS	SH575626	1827	Acid grassland
Ty-newydd	LWS	SH587613	1940	Acid grassland
Parc y Gleision	LWS	SH544619	1968	Bracken; dry dwarf shrub heath; acid grassland

### 5.1.1 Priority habitats and ancient woodland

No Priority habitats were identified on site however the desk study identified four parcels of ancient woodland within 2km of the Site. The closest parcel is located 204m from the site.

## 5.1.2 Protected and otherwise notable species

### 5.1.2.1 Badger

Table 2.3 provides a summary of badger records that are dated within the last 10 years.

Table 2.3 Summary of badger records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Badger	3	2019	1286	PBA	

Table Note:

PBA = Protection of Badger Act 1992

### 5.1.2.2 Bats

At least seven species of bats have been recorded within 2km of the site. The bat records are summarised in Table 2.4.

Table 2.4 Summary of bat records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Brown Long-eared bat	4	2017	1202	WCA/HR	BAP / S7
Common pipistrelle	5	2019	400	WCA/ HR	LBAP / S7
Daubenton's bat	2	2019	400	WCA/ HR	LBAP / S7
Lesser horseshoe bat	14	2021	583	WCA/ HR	LBAP / S7
Natterer's bat	3	2019	400	WCA/ HR	LBAP / S7
Noctule bat	1	2018	1951	WCA/ HR	LBAP / S7
Soprano pipistrelle	5	2021	1082	WCA	LBAP / S7

Table Note:

WCA – Wildlife and Countryside Act 1981 (as amended)

HR – Habitats Regulations

S7 – Section 7 of the Environment Wales Act 2016

### 5.1.2.3 Birds

A summary of notable bird species recorded within the last 10 years and within 2km of the Site is provided in Table 2.5.

Table 2.5 Summary of bird records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Barn owl	2	2020	1994	WCA	LBAP / RL / S7
Black-headed gull	1	2013	696		LBAP / RL / S7
Brambling	1	2018	992	WCA	LBAP
Bullfinch	2	2015	1140		BAP / LBAP / S7
Chough	2	2014	992	WCA	LBAP / S7
Crossbill	2	2018	2210	WCA	LBAP
Cuckoo	12	2019	1304		BAP / LBAP / RL / S7
Dunnoek	3	2016	1983		BAP / LBAP / S7
Fieldfare	3	2018	696		LBAP / RL
Firecrest	1	2020	992		LBAP
Grasshopper warbler	6	2020	696		BAP / LBAP / RL / S7
Greenland white-fronted goose	1	2020	1530		BAP / LBAP / RL / S7
Herring gull	7	2017	1860		BAP / LBAP / RL / S7
House sparrow	2	2018	696		BAP / LBAP / RL / S7
Kestrel	4	2019	1867		LBAP / S7
Kingfisher	3	2019	1785	WCA	LBAP
Lesser redpoll	1	2018	696		BAP / LBAP / S7
Lesser spotted woodpecker	1	2015	2070		BAP / LBAP / RL / S7
Linnet	3	2014	696		BAP / LBAP / RL / S7
Nightjar	10	2020	696		BAP / LBAP / S7
Osprey	1	2017	1669	WCA	LBAP
Peregrine	6	2022	1928	WCA	LBAP
Pied flycatcher	2	2013	992		LBAP / S7
Red grouse	1	2020	1500		BAP / LBAP / S7



Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Red kite	1	2020	992	WCA	LBAP
Redwing	3	2018	1389	WCA	LBAP
Reed bunting	1	2014	992		BAP / LBAP / S7
Ring ouzel	2	2021	1140		BAP / LBAP / RL / S7
Ringed plover	1	2014	992		LBAP / RL / S7
Skylark	3	2019	1840		BAP / LBAP / RL / S7
Song thrush	3	2018	2210		BAP / LBAP
Starling	1	2016	992		BAP / LBAP / RL / S7
Tree pipit	3	2021	1304		BAP / LBAP / RL / S7
Whooper swan	1	2016	992	WCA	BAP
Wood warbler	2	2014	1600		BAP / LBAP / RL / S7
Wren	1	2016	2210		BAP
Yellowhammer	19	2021	1860		BAP / LBAP / RL / S7

Table Note:

WCA – Wildlife and Countryside Act 1981 (as amended)

BAP – Biodiversity Action Plan Priority Species

LBAP – Local BAP

S7 – Section 7 of the Environment Wales Act 2016

RL – Red listed on Birds of Conservation Concern

#### 5.1.2.4 Other mammals

The desk study identified records of otter, a European Protected Species, as well as other notable species. Details provided in Table 2.6.

Table 2.6 Summary of other mammal records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Hedgehog	14	2021	1780		LBAP / S7
Otter	9	2022	1371	WCA / HR	LBAP / S7

Table Note:

WCA – Wildlife and Countryside Act 1981 (as amended)  
 HR – Habitats Regulations  
 LBAP – Local BAP  
 S7 – Section 7 of the Environment Wales Act 2016

### 5.1.2.5 Amphibians

The desk study returned records of three native amphibians are summarised in Table 2.7. There are four water bodies located within 500m of the site boundary. Three are located to the north of site and one to the east.

Table 2.7 Summary of amphibian records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Common frog	2	2019	980		LBAP
Common toad	1	2020	1217		LBAP / S7
Palmate newt	1	2016	1098		LBAP

Table Note:  
 LBAP – Local BAP  
 S7 – Section 7 of the Environment Wales Act 2016

### 5.1.2.6 Reptiles

The desk study returned records of x reptiles are summarised in Table 2.8.

Table 2.8 Summary of reptile records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Common lizard	5	2022	1897		LBAP / S7
Slow-worm	3	2020	990	WCA	LBAP / S7

Table Note:  
 WCA – Wildlife and Countryside Act 1981 (as amended)  
 LBAP – Local BAP  
 S7 – Section 7 of the Environment Wales Act 2016

### 5.1.2.7 Other species

A number of notable plant and invertebrate species records were provided from within 2km of the site, detailed in Table 2.9 and Table 2.10

Table 2.9 Summary of notable invertebrate records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Centre-barred sallow	1	2017	1426		LBAP / S7
Dingy skipper	2	2020	1827		LBAP / S7
Garden tiger	1	2018	1432		LBAP / S7
Grayling	24	2021	316		LBAP / S7
Grey dagger	2	2012	828		LBAP / S7
Small heath	4	2021	1924		LBAP / S7
Small pearl-bordered fritillary	7	2020	2025		LBAP / S7
Small phoenix	1	2016	1222		LBAP / S7
Wall	1	2020	1342		LBAP / S7

Table Note:

WCA – Wildlife and Countryside Act 1981 (as amended)

LBAP – Local BAP

S7 – Section 7 of the Environment Wales Act 2016

Table 2.10 Summary of notable plant records within 2km of the site

Species	No. of records	Most recent record	Distance and direction from the Site	Legal protection	Other conservation criteria
Bluebell	3	2019	1285	WCA8	LBAP

Common mouse-ear	2	2013	1846		BAP
Floating water-plantain	86	2014	511	WCA8	LBAP, RDB / S7
Maidenhair spleenwort	4	2014	1700		S7

Table Note:

WCA – Wildlife and Countryside Act 1981 (as amended) (WCA8 = Schedule 8)

HR – Habitats Regulations

LBAP – Local BAP

S7 – Section 7 of the Environment Wales Act 2016

### 5.1.3 Previous reports

An initial Phase 1 Habitat Survey of the Site, and surrounds for the wider Glyn Rhonwy scheme, (Cambrian Ecological Partnership, 2011), was updated by AECOM in 2013. The surveys recorded a number of important habitats across the site including Section 42 Habitats of Priority Importance (now referred to as Section 7 Habitats). The most abundant habitat recorded for the wider Glyn Rhonwy scheme was open mosaic habitats. Recolonisation of man-made/degraded habitats was of particular note with a number of rare plants forming communities on bare habitats including slate tips. Rope access allowed all quarries to be surveyed during the Phase 1/ NVC survey. An assemblage of bryophytes were recorded, none of which were rare or protected.

Potential for a range of protected and notable species was outlined for the wider Glyn Rhonwy site in AECOM (2013) including:

- Fish
- Amphibians (although not great crested newts which were absent)
- Reptiles
- Birds
- Bats – several species potentially using trees, buildings and other structures across the wider site
- Water vole
- Badger
- Otter
- Red squirrel.

Field survey results for these taxa are detailed in a series of reports submitted and approved as part of the DCO.

## 3. Field Survey

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### 3.1 Method

A habitat verification surveys was undertaken on 1 July 2022. This comprised a walkover survey of accessible and visible areas.

During the survey, notes were made regarding the extent and nature of the habitats, including details of plant species present to enable direct comparison with the 2015 dataset (as described in AECOM 2015) and verify whether there have been any significant changes since that survey was completed.

The results of the survey have also been compared with recent aerial photographs (taken from Google Earth) to consider the extent and any changes of the habitats present.

#### 5.1.4 Constraints

Full access was not possible as there is no direct access to the quarry void or immediately surrounding habitats. The top of the quarry void is surrounded by a wire mesh security fence with no formal access points. Therefore the habitats within the quarry void can only be viewed from the edge of the site where the fence can be approached.

Figure 3.1 provides an example of a typical view from the top of the quarry void. Whilst this restricted access meant that close examination of habitat features was not possible, it was still possible to gather enough information to identify the habitats present and ensure robust assessment of them against the original survey from 2015.

Figure 3.1 Photograph showing a typical view of Quarry 7 from the edge of the site



## 3.2 Results

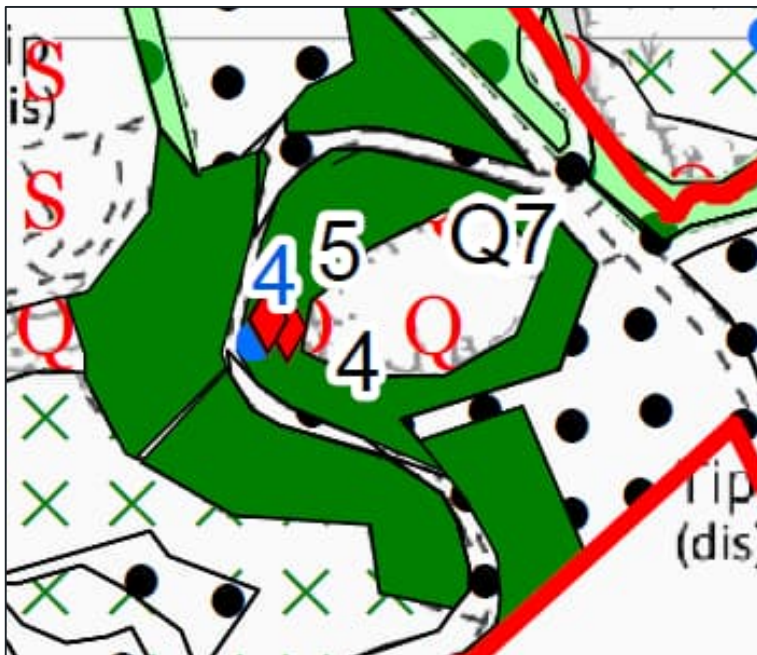
The 2015 Phase 1 Habitat survey identified the following habitat types within Q7 and surrounding area;

- Broad-leaved, semi-natural woodland;
- Quarry;
- Bare Ground;
- Scattered Scrub;
- Mixed woodland, semi natural.

During the 2015 survey woodland habitats were identified, encircling the quarry void with areas of scattered scrub and bare ground to the south and east. Figure 3.2 provides an extraction of the Phase 1 habitat map which was produced for the wider area.

The 2015 habitat survey identified woodland habitats dominated by oak sp. downy birch and rowan, scattered scrub with sparse vegetation including downy birch, gorse, heather and buddleia sp. and the exposed quarry habitats and man-made areas of bare ground/hard standing.

Figure 3.2 Extract of 2015 Phase 1 habitat map showing Q7 and surrounding habitats



The habitat verification survey identified broadly similar habitats, Table 3.1 provides a description of the species, structure and distribution of the habitats identified.



Table 3.1 Summary of the habitats recorded within the immediate vicinity of Q7, Glyn Rhonwy

Phase 1 Habitat Type	Species Composition	Notes
Quarry	Exposed rock with sparse vegetation including buddleia sp. and silver/downy birch	Within the centre of the site
Broad leaved woodland semi-natural	Mature oak sp. and silver/downy birch with scattered buddleia sp, rowan and beech.	Woodland habitats area present within the quarry void and surrounding area. Mature oaks and silver/downy birch dominate with a poorly developed understory that features bramble and fern sp. where present.
Scattered scrub	Silver/downy birch and buddleia sp. scrub with occasional gorse and heather and rowan	Located to the south and east of the quarry void, the scattered scrub has developed on spoil and slate resulting in areas of sparse vegetation amongst immature silver birch and buddleia sp.
Bare ground	A man-made area of bare ground	This area is becoming vegetation with scattered and very immature buddleia sp and silver birch becoming established. I

Photographs 3.1 – 3.4 show examples of the habitats observed.

Photograph 3.1  
void.

Photograph showing mature woodland habitats established with the quarry





Photograph 3.2 Woodland habitats outside of the quarry void in surrounding area





Photograph 3.3

Mature birch/buddleia scrub habitat located to the south of the quarry void



Photograph 3.4 Bare ground/hardstanding habitats with establishing buddleia and birch sp. to the southeast of the quarry void



### 3.3 Comparison of 2022 survey with 2015 survey

Table 3.2 provides a comparison of the main habitats identified in the 2015 survey and considered any changes in nature or extent of these habitats.



Table 3.2 A comparison of habitats present on site during the 2015 and 2022 visits

2015 Habitats	Habitat still present in 2022 verification	Notes
Broad leaved woodland-semi natural	Yes	Broad leaved woodland-semi natural encircle the quarry void with a similar distribution and species composition when compared to 2015. Woodland extent could not be fully accessed, however aerial photography suggest and increase in extent, in particular within the quarry void where vegetation has become more established and mature.
Quarry	Yes	The quarry void is retained with some exposed cliff faces still observable from the void edge (through the security fence). The extent of the quarry habitat could not be fully identified from the accessible parts of the site, however, as described above, woodland and other habitats appear to have increased in area, encroaching and becoming more established within the quarry void.
Bare ground	Yes	Areas of hard standing and slate tips are still present, however scrub species (birch sp and buddleia sp) are beginning to colonise these areas and may see establishment of scattered scrub habitats in the near future.
Scattered scrub	Yes – but becoming more dense	The nature of substrate in the surrounding area (slate tips and hardstanding) prevent the establishment of a dense ground flora with scrub dominated by buddleia sp. and birch sp. which result in a typically sparse structure. However, the vegetation is becoming increasingly mature and dense in places and is likely to continue to succeed developing into woodland habitats in the near future.

## 4. Conclusions and recommendations

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The habitat verification survey has shown that the broad habitat types, composition and distribution remain broadly similar when comparing current conditions to those recorded in 2015. However, seven years of limited management have resulted in habitats becoming more established and encroaching into the quarry void and areas of bare ground.

Woodland habitats within the quarry void feature a number of mature trees (including oak and birch sp.) which have not been assessed for their potential to support protected species such as roosting bats.

Whilst the nature of the habitats has not significantly changed, a suite of update ecological surveys will be required. The necessary surveys for Q7 remain the same as those required for other areas of the proposed development which are detailed in the Deadline 6 - Schedule of Mitigation (AECOM, 2016) and documents referenced therein.



## Appendix B – Pre-Commencement Water Sampling Report

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## Appendix C – Written Scheme of Investigation

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## Appendix D – Air Quality Baseline Report

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