

AI_4_01 Urquhart Bay Wood SAC and Ness Woods SAC

Statement to Inform Habitats Regulations Appraisal: Consolidated Update

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Executive Summary

- i. NatureScot's advice of 11 November 2025 did not agree with the in-combination conclusion at Section 7.4 of the Applicant's *Statement to Inform HRA Update — Urquhart Bay Wood SAC and Ness Woods SAC* (AECOM, August 2025) ("the August 2025 HRA Statement") on the evidence presented at that time in relation to the Urquhart Bay Wood SAC. Further information was requested in relation to the Urquhart Bay Wood SAC on the extent and duration of inundation of the qualifying alluvial woodland and on the character of the affected vegetation. The Applicant therefore undertook a more detailed, event-based assessment of the operational Loch Ness water-level regime, followed by further assessment of the specific mechanisms through which that regime could potentially affect the qualifying habitat.
- ii. The resulting 2026 submissions considered whether the changed water-level regime could cause adverse effects on integrity of European sites (specifically the Urquhart Bay Wood SAC) through five principal routes: direct effects of the frequency and duration of inundation; geotechnical instability associated with cyclic stage change and drawdown; erosional retreat of the vegetated loch margin arising from altered wave interaction; prolonged growing-season waterlogging where lower-permeability substrate could impede drainage; and consequent effects on alder condition, woodland persistence and susceptibility to *Phytophthora alni*. As the assessment progressed, the North-Eastern Lobe of the Urquhart Bay Wood SAC ("the NEL") was considered separately, because its lower elevation, wetter existing character and relative separation from recent Enrick-Coiltie fluvial reworking made localised slower drainage and pooling more plausible there than across the wider SAC margin. The detailed evidence and assessment are set out at Section 4, with the consultation sequence recorded separately at Section 2.4.
- iii. The concerns identified above do not affect or change the assessment for Ness Woods SAC as set out in the August 2025 HRA Statement.
- iv. An event-based hydrological analysis was carried out to respond to the concerns raised. This shows that the proposed in-combination regime is characterised by repeated, predominantly short-duration inundation events rather than prolonged continuous inundation. Median inundation durations at the key lower elevation bands are shorter than at baseline, with repeated recession and subsequent rises in loch level throughout the growing season. This event-based characterisation provides the common hydrological basis for the assessment of the individual effect pathways.
- v. The assessment also considered whether the cyclic rate and character of loch-level change could introduce a distinct geotechnical instability mechanism at the vegetated margin, including rapid-drawdown-type loading. The assessed stage-change rates, frequent reversals, shallow deltaic gradient and low bank heights do not provide the conditions required for such instability. The existing vegetation root-soil matrix provides additional resistance to shallow shear.
- vi. For potential wave-driven erosional retreat, the assessment considers the distribution of dissipated wave energy across the shoreline elevation range. The proposed regime redistributes wave energy across a broader vertical range and reduces the existing peak concentration. At the higher elevations where exposure increases relative to baseline, the resulting wave-energy levels remain below the site-specific empirical reference provided by the existing stable vegetated margin. This is supported by the historical shoreline evidence, which shows no material net retreat of the vegetated SAC frontage.
- vii. For potential growing-season waterlogging across the wider SAC margin, excluding the NEL, field-based geomorphological assessment identified a heterogeneous alluvial-deltaic substrate with extensive hydraulic connectivity through active and relict coarse-bedded channels. Fine-grained deposits occur locally, but the evidence does not indicate laterally extensive or continuous lower-permeability material capable of materially impeding drainage across the general SAC frontage. The NEL was identified as having a potentially different characteristic and was therefore treated separately and is considered as the area of SAC in which slower local drainage could reasonably be assumed.
- viii. The assessment of the NEL adopts that precautionary assumption. It assumes that localised lower-permeability substrate may be present and that water may remain pooled between inundation events. On that basis, the assessment of the NEL does not rely on complete drainage or inter-event drying. Instead, the event analysis demonstrates frequent subsequent rises in Loch Ness which regularly replenish retained water with oxygenated Loch Ness water within the affected elevation range. The resulting regime is materially different from the conditions described in the literature considered, where prolonged warm, stagnant or chronically

anaerobic growing-season conditions have been associated with alder decline in other locations. The subsequent site-specific ecological assessment predicts retention of the qualifying wet woodland, with compositional adjustment within the existing wet woodland and swamp mosaic rather than loss of qualifying habitat.

- ix. The same evidence does not identify a mechanism by which the proposed regime would materially increase susceptibility to *P. alni*: the prolonged warm-water exposure, stagnant or anoxic root-zone conditions and associated host stress required for that pathway are not established.
- x. Taken together, the updated assessment identifies no mechanism by which the operational water-level regime would compromise the extent and distribution, structure and function, supporting processes or typical species of the qualifying alluvial woodland of the Urquhart Bay Wood SAC (Section 5 of this update).
- xi. The assessment for Ness Woods SAC is unchanged from the August 2025 HRA Statement (Section 6 of this update).
- xii. The Applicant therefore concludes that the Proposed Development, alone and in combination with other plans and projects, will not adversely affect the integrity of either SAC (Section 8 of this update).

1. Purpose and status

1.1 This document consolidates the Applicant's Habitats Regulations Appraisal ("HRA") evidence for Urquhart Bay Wood Special Area of Conservation ("UBW SAC") and Ness Woods SAC into a single current statement, following the post-application consultation with NatureScot between November 2025 and August 2026. The focus of this post-application consultation was with respect to the evidence provided in relation to the UBW SAC.

1.2 It is prepared in response to NatureScot's requests for a consolidated Shadow Habitats Regulations Appraisal, made at the meeting of 21 May 2026, repeated in NatureScot's written advice of 10 July 2026, and confirmed in discussion at the meeting of 12 August 2026. The terms "Shadow HRA", "Statement to Inform HRA" and "Report to Inform HRA" are used interchangeably in practice; an HRA statement may take any format provided it addresses the conservation objectives of the relevant European sites and the implications of the plan or project for those objectives. This document adopts the "Statement to Inform HRA" terminology used in the Applicant's principal underlying HRA document.

1.3 The document summarises the Appropriate Assessment for the operational Loch Ness water-level pathway for the UBW SAC: the sub-pathways considered, the final evidence on each, the relationship of that evidence to the conservation objectives, and the basis on which adverse effect on site integrity is excluded. It cross-refers to, and does not reproduce, the underlying formal submissions listed in the Document Register at Section 9.

1.4 This update introduces no new primary survey, modelling, literature or specialist evidence; it consolidates and summarises the existing assessment evidence. Substantive assessments are supported by the cited formal submissions already before the Energy Consents Unit and consultees. The relevant correspondence and meeting records are set out at Section 2.4.

1.5 The determination of site integrity under the Habitats Regulations remains a matter for the competent authority, the Scottish Ministers, informed by the totality of the HRA evidence.

2. Relationship to the August 2025 Statement to Inform HRA and development of the updated assessment

2.1 The *Statement to Inform HRA Update - Urquhart Bay Wood SAC and Ness Woods SAC* (AECOM, August 2025), herein referred to as the "August 2025 HRA Statement", remains the principal underlying HRA document. It continues to provide the legislative and procedural framework; the establishment of the zone of influence; the baseline descriptions

of both SACs; the screening assessment and the exclusion of all construction-phase and non-water-level pathways; the embedded and general mitigation; and the assessment for Ness Woods SAC.¹

2.2 This consolidated statement, herein referred to as “this update”, provides the updated assessment of the operational Loch Ness water-level pathway for the UBW SAC. The treatment of that pathway in the August 2025 HRA Statement (Sections 7.2 and 7.4 of that document) was based on percentage-exceedance analysis of key contours. Following NatureScot's advice of 11 November 2025, that analysis was materially supplemented and refined by an event-based analysis first submitted in February 2026 and by the subsequent 2026 submissions described in Sections 2.4 and 4 of this update. The March 2026 Summary Note and Technical Annex then applied that event-based evidence through a mechanism-led assessment of the potential routes to habitat loss, with the remaining questions subsequently refined through the May and June 2026 submissions. This update supersedes the assessment and conclusions in Sections 7.2 and 7.4 of the August 2025 HRA Statement insofar as they relate to the operational Loch Ness water-level pathway for the UBW SAC. The remainder of the August 2025 HRA Statement continues to apply as described at paragraph 2.1 of this update.

2.3 NatureScot's advice of 11 November 2025 disagreed with the in-combination conclusion at Section 7.4 of the August 2025 HRA Statement insofar as it related to the UBW SAC, on the basis of the evidence presented at that time. The updated assessment of the operational water-level pathway has been undertaken on the full in-combination scenario defined in Section 3.3 of this update, with the resulting in-combination conclusion set out at Section 7 of this update.

2.4 The following table summarises the post-application consultation relevant to the development of the updated operational water-level assessment. It is provided as an audit trail; the substantive assessment is at Sections 4 to 8.

Date	Party	Event and substance
1 Aug 2025	NatureScot	Request for a standalone document on the woodland SACs; the August 2025 HRA Statement was produced in response.
11 Nov 2025	NatureScot	Partial response (ref. CDM173569): objection pending further information on UBW SAC - inundation extent, per-event duration above the median summer loch level, and fine-scale colour-coded NVC mapping; Ness Woods SAC conclusions agreed; disagreement recorded with the in-combination conclusion at Section 7.4 of the August 2025 HRA Statement in relation to UBW SAC.
11 Feb 2026	Applicant	Additional Information submission: Ecological Summary and Supporting Technical Analyses (AI_3_18) with drying- and inundation-event analysis packs A1–A10 (AI_3_2 to AI_3_11), responding directly to the November 2025 information requirement.
25 Feb 2026	NatureScot	Assessment of the February material: maps and data welcomed; evidenced assessment required of drawdown-zone risk from changed magnitude and character of water-level variation; acceptability framework for vegetation change stated.
10 Mar 2026	Applicant	Response: Summary Note (AI_3_26) and Technical Annex (AI_3_27) - five mechanistic sub-questions (shoreline energy, ecological compatibility, stage-change geotechnics, root reinforcement, substrate drainage) and assessment of alder condition and disease susceptibility.

¹ For clarity, the reference in paragraph 3.2.1 of the August 2025 HRA Statement to the qualifying feature of UBW SAC as “mixed woodland on base-rich soils associated with rocky slopes” is an isolated drafting error; the sole qualifying feature is alder woodland on floodplains, as correctly identified elsewhere in that document and at paragraph 3.1.2 of this update.

Date	Party	Event and substance
2 Apr 2026	NatureScot	Advice on substrate porosity: analysis to be based on field evidence or transparent reasonable worst-case assumptions regarding fine-grained lenses.
13 Apr 2026	NatureScot	Further advice: wave-based erosional retreat of the vegetated margin not ruled out; agreement recorded on the median-level, cycling and rapid-drawdown points; historical loch-edge change and fluvial sediment supply raised.
6 May 2026	Applicant	Response (AI_3_32): wave-energy-by-elevation analysis (Appendix A); field-based geomorphological assessment of substrate and drainage; historical shoreline record 1870–2026; bounding worst-case ecological note (Appendix B); nearshore bathymetric survey (Appendix C); external geomorphological peer review.
21 May 2026	Both	Meeting. The Applicant subsequently recorded its understanding, in its covering letter of 22 June 2026, that the wider SAC substrate and erosion matters had been resolved by the 6 May response, with the NEL remaining as the residual point; a consolidated Shadow HRA was requested by NatureScot.
22 Jun 2026	Applicant	NEL response (AI_3_43): precautionary assessment of the NEL, with further field investigation and the specialist habitat assessment by Botanæco (Appendix A).
10 Jul 2026	NatureScot	Advice that, on the information presented, an adverse effect on site integrity still could not be ruled out; two points raised - whether the indicated hydraulic conductivity through the NEL could be proven, and the treatment of the stagnant/anoxic conditions discussed in Hendry and Edwards (2012); the request for a consolidated Shadow HRA reiterated.
25 Jul 2026	Applicant	Technical Clarification (clarification document; not Additional Information): explained how the February to June submissions address the two points - in particular that the conclusion does not depend on proving hydraulic conductivity, and how the existing evidence addresses the stagnant/anoxic pathway.
10 Aug 2026	NatureScot	Following review by NatureScot's external hydrological adviser and woodland adviser, the remaining uncertainty was narrowed to whether areas of the NEL where water may pool over an impermeable substrate would be frequently refreshed with oxygenated water from Loch Ness.
12 Aug 2026	Both	Meeting at which the growing-season drying-event evidence at 16.1 mAOD was discussed against that remaining question. NatureScot confirmed based on the evidence and explanation provided that the Applicant had demonstrated beyond reasonable scientific doubt that the proposal would not adversely affect the integrity of UBW SAC.

3. Assessment framework

3.1 Conservation objectives

3.1.1 The Conservation Objectives for Urquhart Bay Wood SAC are set out in the August 2025 HRA Statement. These are summarised below for convenience.

3.1.2 The sole qualifying feature of UBW SAC is alder woodland on floodplains (Annex I habitat H91E0, alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*). The Conservation Objectives for the SAC are:

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

3.1.3 The Conservation Advice Package for the SAC records that the qualifying habitat is dynamic in nature and that its structure and function are best maintained within a larger unit that includes the open communities, mainly fen and swamp, of earlier successional stages.

3.1.4 The Conservation Objectives for Ness Woods SAC are set out in the August 2025 HRA Statement (Annex A) and are addressed at Section 6 of this update.

3.2 NatureScot's acceptability framework

3.2.1 NatureScot's advice of 25 February 2026 established the interpretive framework against which vegetation change is assessed, and this update applies that framework throughout:

- change between woodland community types, including development of wetter communities and an upward shift in the transition between NVC types W7 and W9, is acceptable within-feature change (both W7 and W9 constitute the qualifying alluvial alderwood at this SAC);
- some change from woodland to swamp communities is acceptable, swamp being part of the wider dynamic alluvial ecosystem;
- wide-scale loss of woodland to swamp, or the formation of a persistent unvegetated drawdown zone, would constitute an adverse effect on site integrity.

3.2.2 This framework is recorded in the March 2026 Technical Annex (AI_3_27, paragraphs 1.1.3 and 2.1.4) and Summary Note (AI_3_26, paragraph 3.1.1) and is consistent with the Conservation Advice Package statement referred to in paragraph 3.1.3 of this update.

3.3 Assessed scenario

3.3.1 The assessed operational scenario throughout the 2026 submissions, and throughout this update, is the cumulative in-combination case: the Proposed Development operating in combination with the consented Loch na Cathrach PSH and the proposed Loch Kemp PSH, with the seasonal variable weir at Dochfour, and with the existing Foyers PSH incorporated within the hydrological baseline. All quantitative results cited in this update relate to that scenario unless expressly stated otherwise.

3.4 Approach

3.4.1 The assessment at Section 4 is organised by effect pathway within the operational water-level pathway. Section 4.1 sets out the common character of the operational regime and its ecological compatibility, and Sections 4.2 to 4.6 summarise the Applicant's current assessment of stage-change and margin stability, wave-driven erosional retreat, growing-season waterlogging across the wider SAC margin, the North-Eastern Lobe, and alder condition and *Phytophthora alni*. The consultation sequence through which these matters were considered and refined is recorded separately at Section 2.4.

3.4.2 The assessment applies the precautionary approach required for HRA: a conclusion of no adverse effect on site integrity is reached only where no reasonable scientific doubt remains as to the absence of such an effect.

4. Appropriate Assessment: operational Loch Ness water-level pathway - UBW SAC

4.1 Character of the operational regime

4.1.1 The factual foundation for each sub-pathway is the event-based characterisation of the operational regime first provided in the February 2026 Additional Information submission (AI_3_18, with supporting analysis packs AI_3_2 to AI_3_11). That submission provided LiDAR-derived elevation banding of the SAC at 0.2 m intervals from 15.7 to 17.5 mAOOD, overlaid with updated fine-scale NVC mapping, together with inundation-event and drying-event analyses for each elevation band, by season and for the growing season (defined as 1 April to 31 October).

4.1.2 The proposed regime is one of repeated, predominantly short inundation and recession, rather than being characterised by prolonged continuous inundation. Median inundation durations under the in-combination scenario are shorter than at baseline at each of the key lower elevation bands assessed (15.7 to 16.5 mAOOD), with inundation effects becoming increasingly slight above that range. This behaviour reflects the greater fluctuation associated with PSH operation. The rate of stage movement is of the order of centimetres per hour.

4.1.3 By way of illustration of the event-based regime, at 16.1 mAOOD during the growing season, under the in-combination scenario: the median inundation duration is 8 hours, compared with 41 hours at baseline, and approximately 78% of inundation events last no more than 24 hours; the intervals between inundations (drying events) have a median of 14 hours, with 75% no longer than 30 hours and 95% no longer than 130 hours (approximately 5.4 days). These figures are taken from the growing-season drying-event and inundation-event analysis packs (A2, AI_3_3, and A7, AI_3_8, respectively).

4.1.4 The February and March 2026 assessments also considered whether the characterised pattern of inundation itself was ecologically compatible with the mapped woodland and wetland communities at the loch margin. On the event-duration evidence and the flood tolerance of the existing W7 and associated wetland species, those assessments did not identify a pathway to persistent de-vegetation from the frequency and duration of inundation itself; the predicted response was compositional change within the dynamic wet woodland and swamp mosaic rather than loss of qualifying habitat (AI_3_18, Section 6; AI_3_27, Section 3.3). The separate question of persistent root-zone wetness where drainage may be slower is assessed at Sections 4.4 and 4.5 of this update.

4.2 Stage-change and geotechnical stability of the vegetated margin

4.2.1 The March 2026 assessment separately considered whether the rate and cyclic character of loch-level change could introduce a distinct geotechnical instability mechanism at the woodland-loch margin, including rapid-drawdown-type loading. Rapid-drawdown instability arises where external water-level recession is sufficiently rapid relative to the dissipation of internal pore pressures in bank geometry capable of generating material gravitational driving stress (AI_3_26, Section 2.3; AI_3_27, Section 3.4).

4.2.2 Under the assessed regime, stage movement is of the order of centimetres per hour and is interrupted by frequent reversals between pumping and generation, rather than comprising sustained large-amplitude drawdown. The UBW loch margin is also characterised by a shallow deltaic gradient of approximately 1:100 and low bank heights. These conditions do not provide the combination required for rapid-drawdown instability, and stage movement does not itself introduce a material hydraulic forcing mechanism additional to the existing wind-wave regime (AI_3_27, Section 3.4).

4.2.3 The March assessment also considered the stabilising contribution of the existing vegetation. The established alder, willow and ground-flora root-soil matrix provides additional resistance to shallow shear and surface detachment, while material loss of that reinforcement would require prior vegetation mortality followed by root decay. As retention of woodland vegetation is predicted by the ecological assessment, this reinforcement remains a supporting factor in margin stability (AI_3_27, Section 3.5).

4.2.4 The assessment accordingly concludes that the proposed cyclic stage-change regime would not introduce a distinct or materially intensified geotechnical instability mechanism at the vegetated SAC margin.

4.3 Wave-driven erosional retreat of the vegetated margin

4.3.1 The appropriate test of erosion risk under the proposed regime is the distribution of dissipated wave energy across elevation bands, assessed against the site-specific empirical reference provided by the existing stable vegetated margin, rather than the cumulative time during which the loch surface lies above any particular elevation. Exceedance above an elevation is not equivalent to wave attack at that elevation (May 2026 response, AI_3_32, Section 2).

4.3.2 The wave-energy-by-elevation analysis (Grey, 2026; AI_3_32, Section 3 and Appendix A) shows that the proposed regime redistributes cumulative dissipated wave energy across a broader vertical range than baseline, with reduced peak concentration. Energy delivered to the baseline peak band (15.6–15.7 mAOD) is reduced relative to baseline; energies at higher elevations increase relative to baseline but remain below the site-specific empirical reference wave energy level identified on a precautionary basis at the 15.85 mAOD band.

4.3.3 This site-specific empirical reference is grounded in the observed stability of the existing vegetated margin and quantified using the modelled baseline energy distribution. The vegetated margin at approximately 15.7–15.8 mAOD sits immediately above the baseline peak energy band, and the historical mapping and imagery record for 1870 to 2026 shows no material net retreat of the vegetated SAC frontage; the shoreline record is dominated by deltaic progradation and local reorganisation, consistent with a sediment-supplied fluvial-lacustrine margin (AI_3_32, Sections 3.6 and 5). Localised dynamics (tree fall, root exposure, woody-debris accumulation and local scour and deposition) are normal features of this environment and are not evidence of systematic retreat.

4.3.4 The baseline wave energy at the 15.85 mAOD band was therefore adopted on a precautionary basis as a site-specific empirical reference corresponding to a shoreline condition demonstrably accommodated without material net retreat. By comparing to this site-specific empirical reference, the assessment accordingly concludes that the redistribution of the wave energies created by the proposed regime would not cause material net erosional retreat of the vegetated SAC margin.

4.3.5 The response, including the wave-energy analysis and the treatment of shoreline processes and sediment supply, was subject to external geomorphological peer review by Dr Derek McGlashan, who concurred with this comparison and the central conclusion (AI_3_32, Section 7).

4.4 Growing-season waterlogging across the wider SAC margin

4.4.1 NatureScot's advice of 2 April 2026 requested demonstration that potential growing-season waterlogging would not be an issue at the lower margin of the SAC, noting that the site's dynamic channel history made it unsafe to simply assume laterally homogeneous free-draining sediments, and advising that further analysis be based either on field evidence or on transparent and justified reasonable worst-case assumptions. The 6 May 2026 and 22 June 2026 responses addressed the question by both routes.

4.4.2 Field-based geomorphological assessment (Dr Hamish Moir; AI_3_32, Section 4) found the lower SAC margin to be a heterogeneous alluvial-deltaic environment, hydraulically connected to Loch Ness through an extensive active and relict coarse-bedded channel network. Fine-grained deposits occur locally, particularly towards the loch margin and in low-energy settings, but the field evidence does not support their presence as laterally extensive or continuous lenses at a scale that would materially impede drainage across the general SAC frontage, which is therefore expected to drain relatively freely following inundation. The North-Eastern Lobe (NEL) of the SAC (representing 5% by area) was identified as the principal area within the SAC where slower local drainage may be materially relevant, reflecting its separation from active fluvial reworking; its treatment is at Section 4.5 of this update.

4.4.3 An upper-bound assessment of a potential worst-case scenario in respect of the NEL was assessed in the AECOM Technical Note at Appendix B to the May 2026 response. This identified the potential maximum percentage of the SAC which could be impacted by an impeded drainage assumption being applied to the NEL and was the basis for justifying the collection of further evidence on this area to address this risk. This additional treatment of the NEL is addressed below at Section 4.5.

4.5 North-eastern lobe - precautionary assessment

4.5.1 The North-Eastern Lobe ("NEL") is a distinctive, low-lying and wetter part of the SAC, relatively separated from recent fluvial reworking, and was identified as the principal area where localised slower drainage could reasonably be relevant. The May 2026 extreme upper-bound assessment indicated that, under deliberately severe assumptions, approximately 1.49 ha of woodland could in principle convert to open swamp. This was expressly noted as not the predicted outcome, but its scale warranted the site-specific ecological assessment undertaken in June 2026.

4.5.2 In terms of character, the NEL comprises wetter W7b alder woodland in the north, with S28 reed canary-grass swamp in canopy openings and W7 woodland on gently rising ground to the south. Historical mapping from 1808 shows progressive woodland establishment across previously cleared central areas rather than woodland decline (AI_3_32, Section 4.9; AI_3_43, Section 3 and Appendix A).

4.5.3 The assessment assumes, on a precautionary basis, that localised lower-permeability substrate may be present and that accordingly water may remain pooled as loch levels recede. It does not depend on proving that the NEL is free-draining. On that precautionary assumption, the relevant mechanism is recurring replenishment of retained water by oxygenated Loch Ness water; any drainage or partial exposure would provide additional re-aeration but this is not relied upon (AI_3_32, Appendix B, Sections 6.1 to 6.5; AI_3_43, Sections 1, 3 and 6).

4.5.4 On the conservative assumption that retained water does not drain, the drying-event analysis provides the interval before the next rise in loch level renews Loch Ness water input. At 16.1 mAOD, representative of the dominant low-lying NEL bands, the growing-season median interval is 14 hours; 75% of drying events are no longer than 30 hours and 95% no longer than 130 hours (approximately 5.4 days). Median inundation duration is 8 hours, compared with 41 hours at baseline, with approximately 78% of events lasting no more than 24 hours. The regime is therefore characterised by frequent recurring Loch Ness water input rather than prolonged isolation of retained water (AI_3_3 and AI_3_8).

4.5.5 Loch Ness is a large, deep and thermally buffered waterbody subject to mixing and continuous turnover. This differs materially from the prolonged warm, stagnant or oxygen-depleted growing-season conditions associated with harm in the literature. At Mound Alderwoods, Hendry and Edwards (2012) identified a permanently high, but fluctuating, water table and chronic anaerobic soil conditions, while also recognising that alder can survive on permanently wet sites flushed with oxygenated water. The regime assessed here, with frequent renewed Loch Ness water input, does not reproduce the harmful Mound Alderwoods envelope (AI_3_27, Section 3.7) but instead provides regular flushing with oxygenated water from Loch Ness.

4.5.6 The specialist ecological assessment (Dr Andy McMullen, Botanæco; AI_3_43, Appendix A) concludes that increased wetness would result in retention and reorganisation of the qualifying alluvial woodland rather than its loss. Alder regeneration in the NEL is presently limited principally by shade rather than waterlogging; established alder persists through regrowth from mature trees; and wetter conditions would favour alder relative to less flood-tolerant competitors. Willow provides a further flood-tolerant woody regeneration pathway. Existing well-developed W7b woodland in the wettest northern part of the NEL provides site-specific evidence of mature alder persisting under very wet conditions.

4.5.7 Even assuming pooled water over lower-permeability substrate, frequent replenishment by oxygenated Loch Ness water does not reproduce the harmful stagnant or anoxic conditions identified in the literature, and the ecological response predicted is retention of qualifying woodland with compositional adjustment rather than habitat loss.

4.6 Associated pathway: alder condition and *Phytophthora alni*

4.6.1 The published literature associates both direct waterlogging damage and elevated *P. alni* susceptibility with a specific harmful envelope: sustained warm, stagnant, anoxic, growing-season saturation at the rooting zone. The *P. alni* causal pathway additionally requires inoculum presence in the catchment, prolonged growing-season contact of susceptible tissue with warm infectious water, and host stress sufficient to reduce resistance. The proposed regime, characterised by predominantly shorter inundation events and frequent renewal by thermally buffered, oxygenated loch water does not establish the prolonged warm-water exposure or host-stress conditions required for that pathway to be materially elevated; median inundation durations are reduced relative to baseline at the key lower elevation

bands assessed (AI_3_27, Section 3.7, particularly paragraphs 3.7.17 to 3.7.28 and 3.7.42 to 3.7.44). No records of *P. alni* in the Great Glen or Loch Ness catchment were identified in the assessment (Hendry and Elliot, 2024, as considered therein), although absence of records does not confirm absence of the pathogen.

4.6.2 The baseline inoculum status of the catchment is unknown, but that uncertainty exists independently of the Proposed Development and does not create reasonable scientific doubt as to a project-induced effect, because the hydrological stress pathway through which the scheme could materially elevate susceptibility (sustained stagnant, anoxic growing-season root-zone conditions) is not established for the reasons set out at Sections 4.4 and 4.5. No further survey or monitoring is relied upon in reaching the conclusion of no adverse effect on site integrity.

5. Conservation objectives assessment - UBW SAC

5.1 Objective 1 - favourable condition and contribution to favourable conservation status. The qualifying feature is currently assessed as being in Unfavourable No change condition, with invasive species, over-grazing and water management identified as existing negative pressures. The evidence at Section 4 does not identify any mechanism by which the proposed regime would worsen the condition of the feature; the predicted vegetation responses fall within the acceptability framework at Section 3.2. The Proposed Development therefore does not prevent the feature from attaining favourable condition or from making an appropriate contribution to favourable conservation status.

5.2 Objective 2a - maintain the extent and distribution of the habitat. No loss of qualifying alluvial alderwood extent is predicted. Predicted changes are compositional adjustments within the qualifying feature: an upward shift in the W7/W9 transition (both types constituting the qualifying habitat at this SAC), a shift within the wetter ground from W7 towards W7b-type vegetation, and field-layer adjustment towards wetland species already present. The extent and distribution of the qualifying habitat within the site are maintained.

5.3 Objective 2b - restore the structure, function and supporting processes of the habitat. The established wet woodland structure is expected to be retained, with woody cover expected to be maintained for the reasons summarised at paragraph 4.5.6. The dynamic wet woodland and swamp mosaic - recognised in the Conservation Advice Package as intrinsic to the feature - is retained; fluvial processes and alluvial deposition by the Rivers Enrick and Coiltie continue; and a regime of periodic inundation and recession is consistent with, and characteristic of, the supporting processes of alluvial woodland. The proposed regime does not impede restoration of structure, function or supporting processes.

5.4 Objective 2c - restore the distribution and viability of the typical species of the habitat. Alder, the key typical species, is in the highest published flood-tolerance class and is favoured relative to its principal, less flood-tolerant competitors under wetter conditions; willow provides a complementary flood-tolerant woody component; and the predicted field-layer response is expansion of the distinctly wetland species already present. The distribution and viability of typical species are not compromised.

5.5 Overall. No deterioration of the qualifying habitat by vegetation loss, erosional retreat, drawdown-zone formation or stagnant or anoxic root-zone conditions is predicted. The Proposed Development does not compromise any of the Conservation Objectives for UBW SAC.

6. Ness Woods SAC

6.1 The qualifying woodland habitats of Ness Woods SAC beside Loch Ness (dry woodland types equating to NVC types W9 and W17) occupy significantly sloping ground rising from the loch, in contrast to the shallow deltaic profile at UBW SAC. The August 2025 HRA Statement (Section 7.3) concluded no adverse effect on the integrity of Ness Woods SAC, alone or in combination, on the basis of the steepness of the lochside terrain, the location of the qualifying habitats above the steep rocky shoreline, and the limited potential for long-term inundation of qualifying woodland.

6.2 Nothing in the 2026 evidence alters the Ness Woods SAC assessment or conclusion; effects of Loch Ness water level on that site remain lesser than at UBW SAC, for which no adverse effect is concluded at Section 4 of this update. The Ness Woods SAC conclusion of the August 2025 HRA Statement stands.

7. In-combination assessment

7.1 The quantitative hydrological and effect analyses in the 2026 submissions (the February 2026 event analyses and the May 2026 wave-energy analysis) were produced on the full in-combination scenario defined in Section 3.3 of this update, comprising the Proposed Development, Loch na Cathrach and Loch Kemp with the seasonal variable weir, against a baseline incorporating the existing Foyers PSH; the ecological assessments apply to that regime. Every quantitative result cited for the proposed regime at Section 4 is therefore inherently the in-combination case.

7.2 For all other pathways and phases, the in-combination assessment in the August 2025 HRA Statement is unaffected and continues to apply.

8. Conclusion on site integrity

8.1 On the basis of the evidence summarised at Sections 4 to 7 and set out in full in the formal submissions listed at Section 9, the Proposed Development, alone and in combination with other plans and projects, will not adversely affect the integrity of Urquhart Bay Wood SAC or Ness Woods SAC.

8.2 That conclusion is reached applying the precautionary approach described at paragraph 3.4.2 and having regard to the Conservation Objectives for the respective sites. The determination of site integrity remains a matter for the competent authority, informed by the totality of the HRA evidence.

9. Document register

9.1 The formal submissions and correspondence underpinning this update are as follows. This update should be read alongside them; it does not reproduce their content.

Principal underlying HRA document

- Statement to Inform HRA Update - Urquhart Bay Wood SAC and Ness Woods SAC. AECOM, August 2025. (Legislative framework, zone of influence, baseline, screening, mitigation, Appropriate Assessment framework, Ness Woods SAC assessment; Quality Information and Statement of Authority at its Section 1.6.)

Additional Information submissions (Urquhart Bay Wood SAC), 2026

- AI_3_18 - Urquhart Bay Wood SAC: Additional Information Submission: Ecological Summary and Supporting Technical Analyses (February 2026), incorporating AECOM, *Further information on water levels and Urquhart Bay Wood SAC*.
- AI_3_2 to AI_3_6 - Drying Event Analysis Packs GEE AI TA A1 to A5 (February 2026): autumn (AI_3_2), growing season (AI_3_3), spring (AI_3_4), summer (AI_3_5), winter (AI_3_6).
- AI_3_7 to AI_3_11 - Inundation Event Analysis Packs GEE AI TA A6 to A10 (February 2026): autumn (AI_3_7), growing season (AI_3_8), spring (AI_3_9), summer (AI_3_10), winter (AI_3_11).

The packs principally relied upon at Sections 4.1 and 4.5 are A2 (AI_3_3) and A7 (AI_3_8), the growing-season drying and inundation analyses respectively.

- AI_3_26 - Urquhart Bay Wood SAC: Response to NatureScot, Summary Note (March 2026).
- AI_3_27 - Urquhart Bay Wood SAC: Response to NatureScot, Technical Annex (March 2026).

- AI_3_32 - Urquhart Bay Wood SAC: Response to NatureScot Further Advice (May 2026), including Appendix A (AWS Ocean Energy wave-energy assessment), Appendix B (AECOM reasonable worst-case ecological technical note) and Appendix C (nearshore bathymetric survey).
- AI_3_43 - Urquhart Bay Wood SAC: Response to NatureScot Further Advice on the North-Eastern Lobe (June 2026), including Appendix A (Botanæco, Urquhart Bay Wood Habitat Assessment).

NatureScot correspondence

- 11 November 2025 (ref. CDM173569); 25 February 2026; 2 April 2026; 13 April 2026; 10 July 2026 and 10 August 2026.

9.2 The Applicant's Technical Clarification of 25 July 2026 was a clarification document rather than Additional Information; it introduced no new evidence, and its reasoning is incorporated in Section 4.5 of this update, with citations to the underlying formal submissions. It is recorded in the consultation record at Section 2.4 and is not listed as an evidential reference.

10. Statement of authority and quality assurance

10.1 The August 2025 HRA Statement carries its own Quality Information and Statement of Authority (its Section 1.6), which continues to apply to the underlying HRA framework: it was prepared by AECOM ecologists who are members of CIEEM at the appropriate grade (Tony Marshall CEcol MCIEEM, Nick Dadds MCIEEM, Pete Cowley MCIEEM and Robbie Watt MCIEEM), verified by Dr James Riley CEnv MCIEEM, AECOM's HRA lead for the UK and Ireland, and authorised by Ian Gillies, Renewables and Energy Transition Practice Lead.

10.2 Each 2026 evidential input carries its own quality assurance, recorded in the relevant document and summarised as follows:

- February 2026 AECOM note (within AI_3_18): prepared by Nick Dadds MCIEEM; checked by Jenny Hunter MCIEEM; verified by Dr Eleanor Ballard CEnv MCIEEM; approved by Marcella Campbell.
- March 2026 Summary Note and Technical Annex (AI_3_26 and AI_3_27): prepared by N. Dadds MCIEEM and T. Meadows; checked by J. Hunter MCIEEM; verified by Dr J. Riley CEnv MCIEEM; approved by M. Campbell.
- May 2026 response (AI_3_32): prepared by WestGlen Consult Ltd (lead authors Martin Lacey and Peter MacDonald, as recorded on that document), with the geomorphological assessment by Dr Hamish Moir, the wave-energy assessment by Simon Grey (AWS Ocean Energy Ltd), ecological input by AECOM, and external geomorphological peer review by Dr Derek McGlashan (Saltire Sustainability Ltd). Appendix B (AECOM): prepared N. Dadds MCIEEM; checked J. Hunter MCIEEM; verified J. Riley CEnv MCIEEM; approved M. Campbell.
- June 2026 response (AI_3_43): prepared by WestGlen Consult Ltd (lead author Peter MacDonald, as recorded on that document), with contributions by Dr Hamish Moir, and the specialist habitat assessment by Dr Andy McMullen (Botanæco Ltd).

10.3 **Authorship and assessment integration.** This consolidated update has been prepared by Peter MacDonald and Martin Lacey of WestGlen Consult Ltd, acting as lead authors and assessment integrators. WestGlen has coordinated the multidisciplinary assessment and consultation process through the 2026 submissions, including the identification and definition of the technical questions arising from NatureScot's advice; coordination of the relevant specialist inputs; and integration of the hydrological, ecological, geomorphological, substrate, shoreline-process and other technical evidence into the assessment set out in this document.

WestGlen is a specialist large-hydropower project management consultancy with extensive experience across the hydropower project lifecycle, from project development and feasibility through procurement, construction, commissioning and operation. That combination of hydropower-sector experience and multidisciplinary project

integration provides the basis for WestGlen's role in coordinating and integrating the specialist evidence within this consolidated assessment.

10.4 AECOM technical review.

The completed consolidated update has been subject to technical review by Dr James Riley CEnv MCIEEM of AECOM. Dr Riley has undertaken HRA technical review, considering the document's HRA framing and terminology; application of the Appropriate Assessment framework and conservation objectives; treatment of mitigation and in-combination effects; and the integration of the specialist evidence within the HRA assessment.

The review does not constitute a re-performance of the underlying hydrological, ecological, geomorphological or other specialist assessments, which remain attributable to the respective specialist authors and submissions identified above. The scope and outcome of the review is recorded in the Technical Review Statement provided on the final page of this document.

HRA Technical Review

I have reviewed this consolidated Statement to Inform HRA from a Habitats Regulations Appraisal perspective, including its structure and terminology, application of the Appropriate Assessment framework and conservation objectives, and its integration and presentation of the specialist evidence cited within it.

I am satisfied that the document presents the Applicant's assessment and conclusions within an appropriate HRA framework. I have identified no material HRA framing or process issues requiring amendment.

Dr James Riley CEnv MCIEEM

AECOM

Date: 20 August 2026

This review has not sought to repeat the underlying hydrological, ecological, geomorphological or other specialist assessments, which remain supported by and attributable to the respective specialist submissions identified in this document.