Our Case Number: ACP-323980-25

An Coimisiún Pleanála

Laura Kavanagh
11 Doncarrig
Ballycommon
Nenagh
Co. Tipperary

Date: 04 August 2026

Re: Proposed Water Supply Project for the Eastern and Midlands Region
in the counties of Clare, Limerick, Tipperary, Offaly, Kildare, and Dublin.

Dear Sir / Madam,

An Coimisiún Pleanála has received your submission in relation to the above-mentioned proposed development and will take it into consideration in its determination of the matter.

The Commission will revert to you in due course in respect of this matter.

Please be advised that a copy of all submissions/observations received in relation to the application will be made available for inspection on the Commission's website at the following link: https://www.pleanala.ie/en-ie/case/323980.

If you have any queries in the meantime, please contact the undersigned officer of the Commission. Please quote the above mentioned An Coimisiún Pleanála reference number in any correspondence or telephone contact with the Commission.

Yours faithfully,

Eimear Reilly
Executive Officer
Direct Line: 01-8737184

PA09

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Eimear Reilly

From: LAPS
Sent: Tuesday 21 July 2026 10:48
To: Eimear Reilly
Subject: FW: Case Number: ACP-323980-25
Attachments: Laura Kavanagh_Response to the Applicant_NIS Review.pdf

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From: Laura Kavanagh <lauramaykavanagh@gmail.com>
Sent: Tuesday 21 July 2026 10:26
To: LAPS <laps@pleanala.ie>
Subject: Case Number: ACP-323980-25

Dear Sir/Madam

Please find attached my response to the Applicant's Response to Submissions in relation to the Proposed Water Supply Project – Eastern and Midlands Region.

This submission responds only to those sections of the Response to Submissions that address the observations made in my original submission concerning the Natura Impact Statement and Appropriate Assessment. It considers whether the additional information provided resolves the scientific and legal issues previously identified.

I respectfully request that this submission be taken into account as part of the examination of the application.

Kind regards,

Laura Kavanagh

Response to the Applicant's Response to Submissions

Laura Kavanagh

Natura Impact Statement Review

1. Introduction

This submission responds only to those sections of the Applicant's Response to Submissions (RtS) that directly address observations made in my original submission and accompanying independent review of the Natura Impact Statement (NIS).

The purpose of this response is not to repeat my original submission. Rather, it examines whether the Applicant has adequately addressed the material legal, scientific and ecological issues raised.

Having reviewed the RtS, I remain of the opinion that the Applicant has not demonstrated, on the basis of complete, precise and definitive findings, that the Proposed Project will not adversely affect the integrity of European sites beyond reasonable scientific doubt as required under Article 6(3) of the Habitats Directive.

While the RtS expands upon aspects of the hydrological modelling and operational management of the Shannon system, it largely reiterates conclusions already presented within the NIS and EIAR without addressing the underlying deficiencies identified in my review.

2. General Observations on the Applicant's Responses

Before addressing each individual response, several recurring themes arise throughout the RtS. These issues are common to multiple responses and should be considered collectively.

2.1 Conclusions are repeatedly substituted for evidence

Throughout the RtS the Applicant repeatedly states that:

- the modelling demonstrates no significant effects;
- there would be no significant impacts;
- the assessment concludes there is no adverse effect.

However, the RtS rarely explains how the underlying evidence addresses the specific deficiencies identified in the original observation. The issue raised was not whether the Applicant concludes that effects are insignificant. The issue raised was whether the assessment demonstrates that conclusion through complete, precise and definitive findings capable of excluding reasonable scientific doubt. Simply restating the conclusion does not address the criticism.

2.2 Hydrological modelling is treated as the ecological assessment

This represents the principal scientific issue arising throughout the RtS.

The Applicant has undertaken extensive hydrological modelling of:

- lake levels;
- flows;
- drought scenarios;
- operational management;
- climate change.

However, the RtS repeatedly assumes that demonstrating negligible hydrological change is sufficient to demonstrate negligible ecological effect. That is not the assessment required under Article 6(3). Hydrological modelling predicts physical changes within the system.

The Appropriate Assessment must then demonstrate the ecological significance of those predicted changes for qualifying habitats, qualifying species and site conservation objectives. The RtS does not consistently make this transition.

In summary, the Applicant has demonstrated predicted hydrological conditions, but has not demonstrated the ecological significance of those predicted conditions for the relevant qualifying interests and conservation objectives.

2.3 Reliance on operational thresholds rather than ecological thresholds

The RtS frequently relies upon:

- the Normal Operating Band;
- statutory compensation flows;
- ESB operational management;
- historic lake level fluctuations.

These are operational and engineering parameters. They are not ecological thresholds. Remaining within the Normal Operating Band does not, of itself, demonstrate that conservation objectives will continue to be maintained. The legal question under Article 6(3)

is whether adverse effects upon site integrity can be excluded beyond reasonable scientific doubt.

2.4 Historic variability is not equivalent to ecological insignificance

The Applicant repeatedly argues that predicted drawdown remains within historic operational variability. However, comparison with historic lake levels is a hydrological observation. It does not demonstrate that the ecological consequences of additional abstraction have been assessed.

The RtS does not explain why habitats and species dependent upon shallow littoral margins, groundwater interaction, floodplain inundation or habitat availability would remain unaffected simply because predicted water levels fall within historical operating ranges.

2.5 The RtS frequently answers a different question from that raised

Many of the observations in my original submission questioned whether the NIS adequately demonstrated compliance with Article 6(3). The RtS frequently responds by asserting that adverse effects will not occur. Those are different questions.

The issue is not whether the Applicant believes the project is acceptable. The issue is whether the evidence presented allows the competent authority to reach that conclusion beyond reasonable scientific doubt.

2.6 Ecological consequences remain largely unassessed

Throughout the RtS there remains a recurring absence of receptor-specific ecological assessment. The RtS demonstrates predicted hydrological conditions. It does not consistently demonstrate the ecological significance of those predicted conditions for the relevant qualifying interests and conservation objectives.

Hydrological outputs are repeatedly presented as the endpoint of the assessment rather than the starting point for ecological evaluation.

2.7 Opportunity to resolve uncertainty

The recurring deficiencies identified throughout the RtS could largely be addressed through the provision of species- and habitat-specific ecological threshold assessments that translate predicted hydrological changes into ecological consequences for qualifying interests.

Such assessments would allow the competent authority to determine whether abstraction-induced changes remain compatible with site integrity under reasonably foreseeable operating conditions, including prolonged low-flow and drought scenarios.

Where uncertainty is acknowledged, the Response to Submissions repeatedly relies on explanatory narrative and future operational management rather than testing that uncertainty through appropriate sensitivity analysis or ecological assessment.

3. Responses to Individual Applicant Responses

Response 10.3.12 Potential Impacts to Littoral and Shoreline Habitats

Applicant Response

The Applicant states that ESB will continue to operate Lough Derg and Parteen Basin within existing operational limits, taking account of the proposed abstraction alongside existing operational requirements. The Applicant further states that hydrological modelling predicts negligible changes in lake levels for approximately 99% of the modelled period, with only limited drawdown occurring during extreme drought conditions. It is concluded that these changes remain within historic variability and the Normal Operating Band, and are therefore insufficient to result in ecologically significant effects on littoral and shoreline habitats.

Why the Response Remains Inadequate

The Applicant's response does not address the substance of the original observation. The issue raised was not simply the predicted magnitude of lake level drawdown, but the absence of any assessment demonstrating how those predicted hydrological changes translate into ecological consequences for littoral and shoreline habitats and, ultimately, the qualifying interests and conservation objectives of the relevant European sites.

The response focuses almost exclusively on operational management of the Shannon system, predicted lake levels and comparisons with historic variability. While these matters are relevant to understanding the physical behaviour of the system, they do not in themselves constitute an ecological assessment. Demonstrating that predicted drawdown remains within the Normal Operating Band or within historical operational fluctuations does not demonstrate that the ecological functions supported by shallow littoral margins remain unaffected.

The Applicant repeatedly concludes that the predicted changes are too small to result in ecologically significant effects but provides no receptor-specific ecological evidence to support that conclusion. No assessment is presented of the sensitivity of littoral vegetation, macrophyte communities, fish spawning and nursery habitat, aquatic invertebrate production, or other ecological receptors that may depend upon shallow shoreline habitats. Likewise, the assertion that littoral habitats are "inherently adapted" to historic water level

variability is presented without identifying the ecological evidence, threshold analysis or habitat-specific assessment upon which this conclusion is based.

The original observation also highlighted that relatively small vertical reductions in lake level may translate into substantially greater lateral recession of shallow littoral habitat depending upon shoreline gradient. This is a recognised characteristic of shallow lake margins. The Applicant does not address this issue within the Response to Submissions, nor does it quantify any potential reduction in the extent or availability of littoral habitat associated with the predicted drawdown scenarios. Instead, the response remains focused on the vertical change in lake level without assessing the corresponding ecological consequences.

The response therefore demonstrates predicted hydrological conditions but does not demonstrate the ecological significance of those predicted conditions. Hydrological modelling predicts physical changes within the system; it does not, in itself, demonstrate that the conservation objectives of the relevant European sites will continue to be achieved. The transition from hydrological prediction to ecological assessment remains absent.

Accordingly, the Applicant has not addressed the deficiency identified in the original submission. The Response to Submissions continues to rely upon hydrological metrics and operational thresholds as proxies for ecological assessment, rather than providing complete, precise and definitive findings demonstrating that abstraction-induced changes to littoral and shoreline habitats would not adversely affect the integrity of European sites beyond reasonable scientific doubt.

Request

I respectfully request that the Inspector require the Applicant to provide receptor-specific ecological assessment demonstrating how the predicted abstraction-induced changes in lake levels translate into ecological consequences for littoral and shoreline habitats, and where relevant, the qualifying interests and conservation objectives of the affected European sites. This assessment should be based on ecological evidence and threshold analysis rather than hydrological metrics or operational management parameters alone.

Response 10.3.14 Site-Specific Ecological Impact Assessment

Applicant Response

The Applicant refers to the hydrological and hydrodynamic modelling presented in the NIS and states that these demonstrate there would be no significant changes to water levels or flow regime upstream or downstream of the Proposed Project. On this basis, it is concluded that the proposed abstraction would have no effect on the qualifying habitats or species of the Lower River Shannon SAC.

Why the Response Remains Inadequate

The Applicant's response does not address the substance of the original observation. Despite the title of this section, the response does not identify any site-specific ecological assessment demonstrating how the predicted hydrological changes relate to the qualifying interests, conservation objectives or ecological sensitivities of the relevant European sites. Instead, it relies upon the absence of significant hydrological change as the basis for concluding that ecological effects can be excluded.

The concern raised was not whether hydrological modelling had been undertaken, but whether the outputs of that modelling had been translated into a site-specific ecological assessment capable of demonstrating that the conservation objectives of the relevant European sites would not be adversely affected.

The response simply reiterates the results of the hydrological modelling before concluding that no effects on qualifying interests would occur. It does not explain the ecological pathway by which this conclusion was reached, nor does it identify any receptor-specific assessment demonstrating how the predicted hydrological conditions relate to the sensitivity, ecological requirements or conservation objectives of the qualifying habitats and species.

Hydrological modelling predicts the magnitude and extent of the changes in the physical environment; it does not, of itself, determine the ecological significance of those changes for qualifying habitats, qualifying species or site conservation objectives.. An Appropriate Assessment must then evaluate the ecological significance of those predicted changes for the qualifying interests of the relevant European site. The response does not identify where this second stage of the assessment has been undertaken.

Instead, the Applicant assumes that because predicted changes in water level and flow are considered insignificant, ecological effects can also be excluded. This is precisely the deficiency identified in the original submission. The Response to Submissions therefore repeats the conclusion already presented in the NIS rather than addressing the absence of a receptor-specific ecological assessment.

Accordingly, the Applicant has not demonstrated how the outputs of the hydrological modelling were translated into complete, precise and definitive ecological findings capable of excluding adverse effects on the integrity of the relevant European sites beyond reasonable scientific doubt.

Request

I respectfully request that the Inspector require the Applicant to identify and present the site-specific ecological assessment linking the predicted hydrological changes to the qualifying habitats, qualifying species and conservation objectives of the relevant European sites. Where no such assessment has been undertaken, this should be supplemented to demonstrate, on the basis of ecological evidence rather than hydrological modelling alone, that adverse effects on site integrity can be excluded beyond reasonable scientific doubt.

Response 11.2.4 Future Climate Change

Applicant Response

The Applicant states that climate change has been incorporated into the hydrological assessment through the application of ICARUS climate change allowances to historical drought events. A precautionary 2080s climate change scenario based on the RCP8.5 Upper 75th percentile was modelled, together with adjustments to rainfall and evaporation. The Applicant concludes that, even under this scenario, predicted drawdown remains within the Normal Operating Band and therefore would not result in significant effects.

Why the Response Remains Inadequate

The Applicant's response does not address the substance of the original observation.

The original submission did not suggest that climate change had been omitted from the assessment. Rather, it questioned whether the modelling adequately demonstrated the performance of the proposed abstraction under prolonged, compounded and climate-adjusted drought scenarios that may reasonably be expected over the operational lifetime of the project.

The response explains how climate change allowances were applied to the historical 1995 and 2018 drought events but does not explain why these scenarios are sufficient to represent the full range of reasonably foreseeable future hydrological conditions identified in the original observation. In particular, the response does not address the absence of modelling for prolonged multi-season droughts, reconstructed historical droughts, or scenarios in which successive dry years occur without full hydrological recovery.

Instead, the Applicant reiterates that the simulated drawdown remains within the Normal Operating Band and historic operational variability. As noted elsewhere in this submission, these are operational management parameters rather than ecological thresholds and do not, of themselves, demonstrate that adverse effects on the qualifying interests or conservation objectives of the relevant European sites can be excluded.

The response therefore describes the climate change methodology adopted but does not demonstrate that the selected scenarios adequately capture the range of reasonably foreseeable future drought conditions over the lifetime of the Proposed Project. Nor does it explain how the outputs of those scenarios have been translated into receptor-specific ecological assessments capable of demonstrating, beyond reasonable scientific doubt, that the conservation objectives of the relevant European sites will continue to be achieved.

Accordingly, the Response to Submissions does not resolve the deficiency identified in the original submission.

Request

I respectfully request that the Inspector require the Applicant to demonstrate that the climate change scenarios adopted adequately represent the range of reasonably foreseeable future drought conditions over the operational lifetime of the Proposed Project. Where uncertainty remains, additional sensitivity analysis should be undertaken to assess prolonged and compounded drought scenarios and to demonstrate, through receptor-specific ecological assessment, that abstraction-induced changes would not adversely affect the integrity of the relevant European sites beyond reasonable scientific doubt.

Response 11.2.9 Operation of the Model / Management of Water Levels Applicant Response

The Applicant confirms that the hydrological model assumes Lough Derg is generally managed towards the upper end of the Normal Operating Band prior to drought events, reflecting historic ESB operational practice. The Applicant acknowledges that water levels may not always be at the upper end of the operating band at the commencement of a drought but states that this is balanced by other precautionary assumptions within the model, including continuous abstraction at 300 MLD, the application of climate change allowances, and the ability to manage abstraction if required.

Why the Response Remains Inadequate

The Applicant's response partially acknowledges the concern raised in the original submission by accepting that Lough Derg may not always be at the upper end of the Normal Operating Band at the commencement of a drought. However, rather than evaluating the implications of this uncertainty through additional modelling or sensitivity analysis, the response relies upon a series of offsetting assumptions.

The original observation questioned whether the model evaluates abstraction impacts under optimistic initial storage conditions. The Applicant does not dispute that the model generally commences drought simulations with lake levels towards the upper end of the Normal Operating Band. Instead, it argues that this assumption is balanced by other assumptions, including continuous abstraction at 300 MLD, the application of climate change allowances, and the possibility that future demand may be lower or abstraction could be managed operationally.

These assumptions do not resolve the original concern. They do not demonstrate how the proposed abstraction would perform if drought conditions commenced when lake levels were already at mid-band or lower, or following successive periods of below-average inflows. Nor do they assess the sensitivity of the system to alternative, but reasonably foreseeable, initial storage conditions.

The response therefore substitutes explanatory narrative for quantitative assessment. Rather than testing the sensitivity of the model to different starting lake levels, it assumes

that other model assumptions compensate for the acknowledged uncertainty. Whether these assumptions offset one another has not been demonstrated through modelling.

Furthermore, the Applicant's statement that abstraction would be managed appropriately if water levels or demand became critical reinforces, rather than resolves, the uncertainty identified. The Appropriate Assessment must assess the project as proposed and demonstrate, on the basis of objective evidence, that adverse effects on the integrity of the relevant European sites can be excluded beyond reasonable scientific doubt. Reliance upon future operational management does not remove the need for that assessment.

Accordingly, the Response to Submissions does not address the deficiency identified in the original submission. The potential influence of alternative drought commencement conditions remains untested, despite the Applicant acknowledging that such conditions may occur.

Request

I respectfully request that the Inspector require the Applicant to undertake sensitivity analysis assessing the performance of the proposed abstraction under a range of reasonably foreseeable initial storage conditions, including drought events commencing from mid-band and lower-band lake levels and following prolonged periods of reduced inflow. Such analysis should demonstrate that the conclusions of the Appropriate Assessment remain valid across the range of reasonably foreseeable operational conditions.

Response 25.3 Adequacy of the Findings of the Appropriate Assessment Applicant Response

The Applicant restates the legal framework under Article 6(3), including the requirement to assess effects on European sites in view of their conservation objectives and current ecological condition. It then states that the Proposed Project would not undermine conservation objectives, deteriorate qualifying habitats or affect the conservation status of qualifying species. On that basis, the Applicant concludes that adverse effects on the integrity of any European site have been excluded and that Article 6(4) is not engaged.

Why the Response Remains Inadequate

The Applicant's response does not address the substance of the original observation.

The concern raised was not that the Applicant had misunderstood the general legal framework or had failed to state a conclusion of no adverse effect. It was that the NIS did not contain sufficiently complete, precise and definitive findings to enable the competent authority to reach that conclusion beyond reasonable scientific doubt.

Paragraphs 2587–2590 largely restate the legal test and explain when Article 6(4) would apply. However, the original observation did not argue that Article 6(4) must presently be

applied. The issue is whether the evidential requirements of Article 6(3) have first been satisfied. Explaining that Article 6(4) is unnecessary where adverse effects have been excluded does not demonstrate that they have, in fact, been excluded on the basis of adequate scientific evidence.

Paragraph 2591 similarly restates the conclusions of the NIS but does not identify the complete, precise and definitive findings upon which those conclusions depend. In particular, the response does not address the specific deficiencies identified in the original submission, including:

- the reliance on hydrological and operational metrics without adequate receptor-specific ecological assessment;
- the absence of ecological threshold analysis linking predicted changes in flow and water level to qualifying habitats and species;
- the adequacy of the assessment under prolonged low-flow, drought and climate-adjusted conditions;
- the sensitivity of the modelling to alternative initial lake-storage conditions;
- the assessment of all potentially hydrologically connected European sites; and
- whether mitigation and future operational management remove uncertainty rather than merely manage effects if they arise.

The assertion that the Proposed Project would not alter hydromorphological conditions in a manner affecting qualifying interests is itself a conclusion requiring ecological substantiation. The response does not explain how predicted hydrological changes were assessed against the ecological requirements and site-specific conservation objectives of the relevant qualifying interests. It therefore repeats the same inferential leap identified elsewhere in this response: because the hydrological effects are considered insignificant, ecological effects and adverse effects on site integrity are also treated as excluded.

The Applicant also states that the assessment is appropriately based on the sites' current ecological condition. However, assessment against the current baseline does not remove the requirement to consider whether the project would undermine the achievement of the applicable conservation objectives, including objectives requiring the restoration of qualifying interests where these are not currently in favourable condition. The relevant question is not limited to whether the project would preserve existing conditions, but whether it would adversely affect site integrity in view of the conservation objectives.

The reference to the in-combination assessment in Section 8 of the NIS is similarly conclusory. The fact that an in-combination section exists does not, without more, demonstrate that all relevant plans and projects, pathways and cumulative pressures were identified and assessed using sufficiently complete and reliable information.

Accordingly, the response does not demonstrate that the scientific deficiencies identified in the original submission have been resolved. It restates the legal test and the Applicant's ultimate conclusions but does not provide the underlying site-specific ecological findings necessary to exclude adverse effects on the integrity of the relevant European sites beyond reasonable scientific doubt.

Request

I respectfully request that the Inspector assess whether the NIS and subsequent information contain complete, precise and definitive ecological findings addressing each relevant European site, qualifying interest, conservation objective and impact pathway.

Where the existing information does not translate the hydrological modelling into receptor-specific ecological assessment, or does not test reasonably foreseeable low-flow, drought, climate and operational scenarios, the Applicant should be required to provide the necessary supplementary assessment before a conclusion under Article 6(3) is reached. The Applicant's stated conclusion of no adverse effect should not be accepted as a substitute for the scientific evidence required to support that conclusion.

Response 25.3.3 Assessment of Hydrologically Connected European Sites Applicant Response

The Applicant states that European sites were identified using a source–pathway–receptor approach supported by hydrological modelling. It considers Meelick Weir to define the upstream limit of influence from changes in Lough Derg water levels and concludes that there would be no measurable alteration of the hydraulic conditions controlling adjacent groundwater levels.

In relation to Barroughter Bog SAC, the Applicant relies on the predominantly ombrotrophic nature of raised bog habitats and states that, because no significant change in the surface-water regime or hydraulic gradients is predicted, no plausible pathway for effects exists. Barroughter Bog SAC was therefore excluded from the Appropriate Assessment. The Applicant states that the same conclusion applies to the River Shannon Callows SAC and other sites upstream and downstream of the proposed abstraction.

Why the Response Remains Inadequate

The response does not adequately resolve the specific deficiencies identified in the original submission.

The original observation acknowledged that the Applicant identifies Meelick Weir as the upstream limit of influence. The concern was that the NIS did not present quantitative hydraulic modelling or sensitivity analysis demonstrating that abstraction during low-flow and drought conditions could not influence upstream river stage or associated groundwater gradients within hydrologically connected European sites.

The RtS reiterates that there is free fall over Meelick Weir during medium and low flows and states that it is therefore physically impossible for Lough Derg water levels to influence conditions upstream. However, it does not identify any additional hydraulic calculations, model results or sensitivity testing supporting that conclusion under the range of low-flow, drought and operational conditions relevant to the Proposed Project.

The response therefore explains why the Applicant considers Meelick Weir to be a hydraulic boundary but does not provide the quantitative evidence requested in the original submission.

The statement that Parteen Basin is designated as a heavily modified water body does not establish the absence of hydrological or hydrogeological pathways to European sites. Heavily modified water body status describes the character and management of the water body under the Water Framework Directive; it does not demonstrate that water-level changes cannot affect adjacent groundwater conditions, dependent habitats or downstream ecological processes.

Similarly, the statement that no groundwater-dependent terrestrial ecosystems have been identified around Parteen Basin does not address the omission of Barroughter Bog SAC, which is located adjacent to Lough Derg and upstream of the proposed abstraction, or the specific concern relating to the River Shannon Callows SAC.

The Applicant's reasoning is circular:

1. the hydrological modelling is said to predict no significant change in surface-water levels or flows;
2. it is therefore assumed that hydraulic gradients and groundwater levels will not change;
3. on that basis, no ecological pathway is considered to exist; and
4. the European sites are consequently excluded from further assessment.

The original observation questioned whether the hydrological modelling had been translated into site-specific assessment of groundwater and ecological consequences. Repeating the model's general conclusion does not answer that concern.

No quantitative relationship is presented between the predicted abstraction-induced changes in Lough Derg, local groundwater gradients and the hydrological requirements of the potentially affected habitats. Nor does the response identify monitoring data, piezometric information, site-specific hydrogeological analysis or ecological thresholds demonstrating that the predicted changes could not be transmitted to the relevant receptors.

The response acknowledges that Barroughter Bog SAC is situated adjacent to Lough Derg but nevertheless excludes it from Appropriate Assessment principally because its qualifying habitats are ombrotrophic.

While active raised bogs are predominantly rain-fed, this general habitat characteristic does not, by itself, demonstrate that every part of the site is wholly independent of surrounding surface-water or groundwater conditions. The Applicant itself acknowledges that groundwater interactions may occur in marginal areas. However, no site-specific assessment is presented of:

- the hydrological relationship between Lough Derg and the SAC;
- groundwater or surface-water interactions at the bog margins;

- the location and condition of the qualifying habitats relative to those pathways;
- the sensitivity of degraded or regenerating bog habitat to changes in boundary conditions; or
- whether predicted changes could affect the achievement of the site's conservation objectives.

Instead, the Applicant concludes that no pathway exists because no significant surface-water change is predicted. That conclusion depends on the same modelling assumptions and limitations challenged in the original submission and does not constitute a site-specific hydro-ecological assessment.

The statement that both required conditions for an effect are absent is therefore asserted rather than demonstrated through evidence specific to Barroughter Bog SAC.

Paragraph 2618 confirms that Barroughter Bog SAC was not considered in the Appropriate Assessment. This is important because the RtS now provides a substantive explanation for excluding the site that was not presented as a site-specific assessment within the NIS.

Even taking the RtS explanation into account, the Applicant has not demonstrated through complete and objective evidence that no plausible hydrological or hydrogeological pathway exists. The site's proximity to Lough Derg, the acknowledged potential for marginal groundwater interaction and the uncertainties concerning drought and low-flow conditions required a more specific assessment than a general reliance on the ombrotrophic character of raised bogs.

The Applicant states that its general conclusion regarding the absence of significant upstream hydrological effects also applies to the River Shannon Callows SAC. However, the response does not address the specific concern raised in the original submission: whether quantitative hydraulic modelling demonstrates that abstraction during low-flow or drought conditions would not influence upstream river stage or associated groundwater gradients within the SAC.

The River Shannon Callows SAC is ecologically and hydrologically distinct from Barroughter Bog SAC. Its qualifying habitats are associated with floodplain processes, including seasonal inundation, river levels, soil-water conditions and groundwater–surface-water interaction. A conclusion based on the ombrotrophic character of raised bog habitat is therefore not relevant to the assessment of the Callows.

Although the River Shannon Callows SAC may have been considered elsewhere in the NIS, paragraph 2618 does not identify the site-specific modelling or ecological analysis supporting the conclusion that abstraction-related effects can be excluded. In particular, the response does not quantify whether the Proposed Project could alter upstream river stage, inundation patterns, groundwater gradients or the hydrological conditions necessary to maintain the site's qualifying interests and conservation objectives during low-flow or drought conditions.

The assertion that a single general hydrological conclusion applies to all upstream and downstream European sites therefore falls short of the site-specific assessment required.

Paragraph 2612 again relies on ESB maintaining Lough Derg and Parteen Basin within their existing operational ranges and adjusting flows to Ardnacrusha in response to abstraction. This describes how the system is intended to be managed but does not demonstrate the ecological consequences of that management for connected European sites.

The statement that operation of Lough Derg will "feel and look very similar" and that there will be no visible day-to-day difference is not an ecological criterion and does not establish the absence of effects on groundwater gradients, floodplain inundation or qualifying habitats.

The response provides further narrative explaining why the Applicant considers hydrological pathways to be absent, but it does not provide the quantitative hydraulic, hydrogeological and site-specific ecological evidence requested in the original observation.

The Applicant has not demonstrated that Barroughter Bog SAC was appropriately excluded from the Appropriate Assessment on the basis of complete and objective evidence. Nor has it demonstrated, in relation to the River Shannon Callows SAC, that the specific concerns raised regarding upstream hydraulic influence, groundwater gradients and low-flow conditions have been addressed through site-specific quantitative assessment. Accordingly, the Response to Submissions does not resolve the deficiencies identified in the original submission or demonstrate, beyond reasonable scientific doubt, that all relevant hydrologically connected European sites have been adequately assessed.

Request

I respectfully request that the Inspector require the Applicant to:

1. provide the quantitative hydraulic evidence supporting Meelick Weir as an absolute upstream boundary under reasonably foreseeable low-flow, drought and operational scenarios;
2. provide site-specific hydrogeological and ecological assessment of Barroughter Bog SAC, including any surface-water or groundwater interaction at the site margins and the implications for its qualifying habitats and conservation objectives;
3. assess the River Shannon Callows SAC separately by reference to its floodplain hydrology, qualifying interests and conservation objectives, rather than extending conclusions reached for other sites or habitat types; and
4. demonstrate, for each potentially connected European site, how predicted changes in surface-water level and flow translate into groundwater, inundation and ecological consequences.

Until that information is provided, the Applicant has not demonstrated, through complete, precise and definitive findings, that Barroughter Bog SAC was appropriately screened out or that the assessment of the River Shannon Callows SAC and other potentially hydrologically

connected European sites is sufficient to exclude adverse effects on site integrity beyond reasonable scientific doubt.

Response 25.3.4 Adequacy of Mitigation Measures

Applicant Response

The Applicant states that the concern is not supported by the assessment or modelling evidence. It summarises the hydrological modelling undertaken, concludes that abstraction-related effects are negligible and largely confined to extreme drought conditions, and states that no likely significant hydrological effects are predicted. On this basis, the Applicant concludes that mitigation is not required for hydrological impacts. It further states that mitigation measures for other identified effects are clearly defined and linked to the conservation objectives of the Lower River Shannon SAC.

Why the Response Remains Inadequate

The response does not address the substance of the original observation.

The concern raised was not whether mitigation measures had been identified for effects already accepted by the Applicant. Rather, it was whether the proposed mitigation strategy demonstrably removes reasonable scientific doubt regarding the long-term operational effects of abstraction during drought conditions.

Instead of addressing that question, the Applicant reiterates the conclusions of the hydrological modelling and states that mitigation is unnecessary because no likely significant effects have been identified. This reasoning depends upon the underlying conclusion that the hydrological and ecological assessment is itself complete and sufficient to exclude adverse effects beyond reasonable scientific doubt. As set out elsewhere in this submission, that conclusion remains disputed.

The response does not explain how the identified uncertainties relating to drought conditions, climate change, model assumptions, initial storage conditions and ecological response have been resolved. Nor does it identify any mitigation specifically designed to address uncertainty associated with prolonged operational abstraction during low-flow conditions.

Paragraphs 2627 to 2631 describe how ESB intends to operate the system during flood and drought conditions, including adjusting flows, maintaining the Normal Operating Band and prioritising statutory compensation flows. These operational arrangements describe how the system is intended to function but do not constitute mitigation unless they are demonstrated to prevent adverse ecological effects. The response does not explain how these operational measures have been evaluated against the ecological requirements of the qualifying interests or conservation objectives of the relevant European sites.

Furthermore, paragraph 2632 concludes that no mitigation is required because no likely significant effects are predicted. This is a conclusion derived from the assessment rather than evidence that uncertainty has been removed. Where the adequacy of the assessment itself is in dispute, simply restating that conclusion does not resolve the original concern.

Finally, paragraph 2633 refers only to mitigation linked to the Lower River Shannon SAC. The original observation concerned the adequacy of mitigation for the Proposed Project as a whole, including its potential effects on all relevant European sites under long-term operational and drought conditions. The response does not explain how mitigation has been considered in relation to the wider Natura 2000 network where relevant pathways have been identified.

Accordingly, the Response to Submissions does not demonstrate that reasonable scientific doubt has been removed regarding the adequacy of mitigation for long-term operational abstraction during drought conditions.

Request

I respectfully request that the Inspector consider whether the conclusion that no hydrological mitigation is required is supported by complete, precise and definitive findings. Where uncertainty remains regarding the ecological consequences of prolonged abstraction during low-flow and drought conditions, the Applicant should demonstrate how that uncertainty has been resolved or, where necessary, identify mitigation measures that are capable of ensuring that adverse effects on the integrity of the relevant European sites can be excluded beyond reasonable scientific doubt.

Response 25.3.5 Reliance of the Appropriate Assessment on Average Flow Metrics

Applicant Response

The Applicant rejects the assertion that the Appropriate Assessment relies solely on average flow metrics, stating that the assessment considered flood, normal and drought conditions. It explains that detailed hydrological modelling was undertaken for the 1995 and 2018 drought events, together with a 2080s climate change scenario, and concludes that the predicted drawdown remains within the Normal Operating Band and would not affect water levels, flow regime or the qualifying interests of the relevant European sites.

Why the Response Remains Inadequate

The response does not fully address the substance of the original observation.

The original submission did not suggest that drought conditions had been omitted from the hydrological modelling. Rather, it questioned whether the Appropriate Assessment

adequately assessed the ecological consequences of abstraction under the low-flow and drought conditions during which qualifying habitats and species are likely to be most sensitive.

The Applicant explains that the hydrological model considered flood, normal and drought conditions and identifies the 1995 and 2018 droughts as the most sensitive events within the 52-year simulation period. However, the response continues to rely primarily on hydrological and operational indicators, including lake levels, the Normal Operating Band and statutory compensation flows, to conclude that ecological effects can be excluded.

As set out elsewhere in this submission, compliance with operational water-level limits does not, of itself, demonstrate that the ecological requirements of qualifying habitats and species will continue to be met under drought conditions. The response does not identify ecological thresholds, receptor-specific sensitivity analyses or site-specific assessments demonstrating how the predicted hydrological changes were evaluated against the conservation objectives of the relevant European sites.

The fact that drought events were modelled therefore does not resolve the original concern. The issue is not whether drought simulations were undertaken, but whether those simulations were translated into a robust ecological assessment capable of demonstrating that abstraction during periods of greatest ecological sensitivity would not adversely affect site integrity.

Similarly, the Applicant relies on the fact that predicted drawdown remains within the Normal Operating Band and historical operational variability. These are measures of system operation rather than ecological performance and do not demonstrate that non-deterioration and site conservation objectives are maintained during reasonably foreseeable low-flow and drought conditions.

Accordingly, the response reiterates the hydrological modelling results but does not address the central criticism that the Appropriate Assessment continues to rely upon hydrological metrics without adequately demonstrating their ecological significance during the conditions most relevant to the Article 6(3) assessment.

Request

I respectfully request that the Inspector consider whether the Appropriate Assessment adequately evaluates the ecological consequences of abstraction under low-flow and drought conditions, rather than relying principally on hydrological and operational metrics. Where ecological sensitivity is greatest during periods of reduced flow, the Applicant should demonstrate, through receptor-specific ecological assessment, that the predicted hydrological changes would not adversely affect the qualifying interests and conservation objectives of the relevant European sites beyond reasonable scientific doubt.

4. Conclusion

The purpose of this rebuttal has not been to repeat the original submission, but to assess whether the Applicant's Responses to Submissions resolve the scientific and legal issues that were raised in relation to the Natura Impact Statement and the Appropriate Assessment.

Having reviewed the Responses to Submissions in detail, it remains my opinion that they do not adequately address the substantive concerns identified in the original submission. In many instances, the responses restate the conclusions of the NIS or explain the methodology previously adopted, rather than providing additional evidence or analysis capable of resolving the issues raised.

A recurring feature of the Responses to Submissions is the continued reliance on hydrological modelling and operational water management metrics as the principal basis for concluding that ecological effects can be excluded. While hydrological modelling is an essential component of the assessment, it does not, of itself, demonstrate the ecological significance of predicted changes for qualifying habitats, qualifying species or the conservation objectives of the relevant European sites. Throughout the Responses to Submissions, conclusions regarding site integrity are frequently inferred from hydrological outcomes without corresponding receptor-specific ecological assessment.

Similarly, where uncertainties have been identified—including those relating to drought conditions, climate change, model assumptions, initial storage conditions and hydrologically connected European sites—the Responses to Submissions generally explain why the Applicant considers those uncertainties to be acceptable but do not consistently test them through additional modelling, sensitivity analysis or ecological assessment. As a result, several of the concerns raised in the original submission remain unresolved.

The Responses to Submissions also continue to rely upon compliance with operational parameters, including the Normal Operating Band, compensation flows and established ESB operating practices, as evidence that ecological effects will not occur. These operational measures may describe how the system is intended to function, but they are not ecological thresholds and do not, in themselves, demonstrate that the conservation objectives of the relevant European sites will continue to be achieved under reasonably foreseeable operational and climatic conditions.

Taken together, the Responses to Submissions do not, in my opinion, provide sufficiently complete, precise and definitive findings and conclusions to exclude adverse effects on the integrity of the relevant European sites beyond reasonable scientific doubt, as required by Article 6(3) of the Habitats Directive. While additional explanation has been provided in several areas, the fundamental scientific and ecological deficiencies identified in the original submission remain largely unresolved.

Accordingly, I respectfully request that the Inspector carefully consider whether the information before An Coimisiún Pleanála is sufficient to enable a lawful conclusion under Article 6(3) of the Habitats Directive. Where uncertainty remains, or where hydrological predictions have not been translated into site-specific ecological assessment, further information should be required before it can be concluded, beyond reasonable scientific

doubt, that the Proposed Project will not adversely affect the integrity of the relevant European sites.

5. Recommendations

To enable the competent authority to reach a lawful conclusion under Article 6(3), I respectfully request that the Inspector consider requiring the Applicant to:

• supplement the NIS with species- and habitat-specific ecological threshold assessments demonstrating how predicted hydrological changes translate into ecological consequences for relevant qualifying interests;

• undertake receptor-specific hydro-ecological assessment where hydrological changes are relied upon to exclude ecological effects;

• undertake additional sensitivity analyses addressing reasonably foreseeable drought, climate and initial storage scenarios where uncertainty remains;

• provide quantitative hydraulic and hydrogeological evidence where European sites have been excluded from assessment on the basis that no hydrological pathway exists;

• demonstrate that operational management measures relied upon within the assessment are supported by ecological evidence rather than operational assumptions alone.