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Transboundary Environmental Impact Assessment (EIA) Public Consultation – Dalradian Gold Mine Project development

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An Taisce Submission on Transboundary Environmental Impact Assessment (EIA) Public Consultation – Dalradian Gold Mine Project development, located in County Tyrone on the southern edge of the Sperrin Mountains

An Taisce, the National Trust for Ireland and a prescribed body in the Republic of Ireland's planning system, welcomes the opportunity to review the Transboundary Environmental Impact Assessment (EIA) Public Consultation – Dalradian Gold Mine Project development, and wishes to make the following submission.

This submission follows on from our previous submission regarding this project to the Public Inquiry being undertaken by the Planning Appeals Commission (PAC) of Northern Ireland.

1. Preliminary Public Participation Issues

We would highlight that as presented, this consultation provides a significant hurdle to meaningful public participation, as required under Aarhus and EU law. An Taisce is a prescribed body for planning in the Republic of Ireland (ROI), and comments on hundreds of planning and licencing applications per year. Despite this, the volume and complexity of the paperwork which we had to review in order to form a view on this consultation has rendered this exercise unnecessarily convoluted and time consuming. We would strongly highlight that the sheer volume of paperwork to review, in addition to very unintuitive nomenclature utilised has rendered this task far more complicated than necessary. The fragmented availability of key information in this process raises significant environmental justice concerns. Each element of the Dalradian proposal has its own set of documents, often with obscure names. These include applications, Environmental Impact Assessments (EIAs) conducted by the mining company, submissions and responses from statutory bodies, as well as statements and rebuttals from both official entities and third-party objectors. These materials are located across multiple online sources, making comprehensive access incredibly challenging.

Additionally, although Donegal County Council is the corresponding local authority, not all applications and related documentation are available on its website, despite the local authority's role. As a result of this horrendously complex maze of consultation paperwork, many of the public may be unaware of the most critical and far-reaching transboundary

implications, or indeed unable to participate in this consultation as a result of the sheer unnecessary complexity involved.

2. The Proposed Project

In 2017, Dalradian Gold, a subsidiary of Dalradian Resources, whose parent company Dalradian USA is owned by global investment firm Orion Resource Partners, submitted a planning application for a gold mine in Greencastle, Co. Tyrone, situated in the Sperrin Mountains. The project is the largest ever proposed in the history of Northern Ireland; it includes eight separate applications: the underground mine - 500 metres below the water table, 54-metre tall (17 story) dry stack tailings, two water abstraction and impoundment licenses, two water discharge licenses, 33kV overhead and underground power lines and a road abandonment proposal. Originally focused solely on gold, Dalradian later added silver and copper to the list of minerals for extraction. Additional minerals were again added by Dalradian in their Statement of Case to the Public Inquiry, however this is new information not in the planning application, therefore we do not consider them here. The PAC also stated at the first pre-inquiry meeting on 24th March 2024 that only gold, silver and copper will be considered for the public inquiry.

3. Potential Ecological Risks of the Mine

3.1 Acid Mine Drainage (AMD)

When sulphide minerals in rock are exposed to oxygen or water they produce sulfuric acid. This then strips out heavy metals such as mercury and arsenic, among others, which form, along with the acid, a toxic slurry which flows out in the mine waste water, or anywhere else where the extracted rock is exposed.

With the amount of rock that Dalradian proposes to extract and dump, acid mine drainage has the potential to be a forever-problem. Mines in Spain operating from Roman times are still leaching acid mine drainage (AMD) (Olias and Nieto, 2015). As a legacy of the Avoca mines in Co. Wicklow, which closed in 1982, 15 years after closure the Avoca River was still receiving 35 litres of AMD per second, labelled the 'most metal polluted river in Ireland' by the EPA.

3.2 Tailings Failure

The deposit Dalradian is interested in is 1,200 metres deep and between 1,500 and 1,900 metres wide. They are proposing to extract down to 700 metres and explore until 900m. However, they have not submitted a specific Mine Design Parameters Statement so we do not actually know what the size and dimensions of the mine will be. That said, it is clear that thousands of tons of rock will be removed, crushed and chemicals used to produce ore. The mineral rich ore will be taken off site, while the majority of the crushed rock will be stored as dry stack tailings, or 'Dry Stack Facility' (DSF). However, Dr S. H. Emerman, expert consultant hydrologist for Save Our Sperrins, clarified that it will not be dry, as they need to prevent blow off, and will contain at least 15% water. And this water level cannot be stable in an area such as the Sperrins – which receives an average of 200 days of rain per year, and in Ireland – where the effects of climate change will lead to higher probabilities of heavy rain and heavy snowfall, leading to sudden flooding events (EPA). Therefore, he states, "there is a major risk of catastrophic failure of the filtered tailings stack, with loss of life."

In a report prepared for Save Our Sperrins and Communities Against the Injustice of Mining (CAIM) Dr Emerman has calculated the spread of impact of this failure:

> *"Failure of the DSF [Dry Stack Facility] is possible because there have been at least five failures of these types of facilities over the past three years. Based on a statistical model developed from past tailings storage facility failures, the initial runout following failure of the DSF will cover 20 kilometers in the most-likely scenario (release of 34% of the stored tailings) and 65 kilometers in the worst-case scenario (release of 100% of the stored tailings). In the worst-case scenario, the tailings will travel along 17 kilometers of the River Foyle as it flows along the border between Northern Ireland and the Republic of Ireland during the initial event. In any case, subsequent to the initial event, normal fluvial processes will transport the tailings to Lough Foyle, including passage along River Foyle. Moreover, tidal currents could transport tailings from River Foyle upstream into River Finn for 11 kilometers along the border and into the interior of the Republic of Ireland. The mean tailings velocity over the initial runout will be about 35 kilometers per hour."*

Dalradian proposes a mere 15 year closure plan in their Statement of Case to the Public Inquiry (up from the five years in their planning application), however this plan concentrates solely on monitoring the water flooding the mine, and not the Dry Stack Facility.

Therefore, these tailings will become the responsibility, and financial liability, of the state (NI currently, and ROI in the possibility of constitutional change). These tailings never become benign, and the tailings facilities that hold them require perpetual upkeep. The Society for Mining, Metallurgy, and Exploration Tailings Management Handbook states:

> "*Unfortunately, humans have no experience in designing facilities to last forever, so responsible tailings management is required for as long as the TSF exists*".

3.3 Abstraction and Discharge

One of the Water Abstraction applications is to abstract the wastewater from the mine, 375,000 gallons daily, which then would contain 24 heavy metals due to the mine's processes and acid mine drainage, in order to discharge it into the Owenreagh River ASSI and the Owenkillew River SAC & ASSI.

This discharge would continue in perpetuity: in Dalradian's Statement of Case for the Public Inquiry they submitted new information, not consulted on, stating that in the immediate seven years post mine closure, there would be a discharge of 4,400 gallons per day from the mine site into the Owenkillew River SAC & ASSI, which would then increase to 176,000 gallons per day permanently. This is due to the fact that the mine would be at least 900 metres deep - 500 metres below the water table, which sits at approximately 400 metres deep.

4. Water

The Sperrin Mountains are hydrologically and ecologically connected to rivers and ecosystems spanning the Northwest of the island of Ireland - including County Donegal directly and County Leitrim, among other counties in the Republic of Ireland (ROI), indirectly. In fact, the entire island is considered 'a single biogeographic unit with shared landscapes, water sources, flora and fauna', as detailed in the EJNI report Linking the Irish Environment.

More particularly, the two rivers flowing from the proposed mine site follow a water course that runs into Irish waters and into the Atlantic Ocean. The Owenreagh River ASSI flows into

the Owenkillew River SAC & ASSI (both receiving flow from the mine site), flowing then into the Mourne River to meet the River Finn SAC from Donegal at Lifford/Strabane to become the River Foyle (and tributaries) SAC, flowing finally into Lough Foyle SPA & Ramsar site and on to the Atlantic Ocean. The River Finn SAC receives water from this flow path as the waters as far inland as Castlefinn are tidal, and therefore subject to back flow.

Table of Designated Water Bodies within the impacted area of the project

Water body and designation	Qualifying interests	WFD/Habitats Directive Status	Risk level	Jurisdiction
Owenreagh River ASSI	Freshwater pearl mussel	Unfavourable	No Change	NI
Owenkillew River SAC & ASSI	Freshwater pearl mussel, Native Atlantic salmon, otter	Unfavourable	No Change	NI
Derg River	Native Atlantic salmon	Moderate	At risk	NI and ROI
River Finn SAC	Native Atlantic salmon, otter	Moderate	At risk	ROI
River Foyle and Tributaries SAC	Native Atlantic salmon, otter	'Unassigned'	48% of rivers in the Foyle catchment are at risk	NI and ROI (shared and disputed)
Lough Foyle SPA and Ramsar site	Whooper swan, light-bellied brent goose, bar-tailed godwit, migratory waterfowl	'Unassigned'	'Review'	NI and ROI (shared and disputed)

As the designations show, the affected area is heavily protected by EU legislation - such as the Habitats Directive, the Water Framework Directive and the Environmental Impact Assessment Directive, among others, as well as their corresponding legislation in Northern Ireland – such as the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 ('Habitats Regulations') and the Water Framework Directives NI (2015 & 2017).

There are a number of ways in which the protected waters mentioned above are at risk: via water abstraction, mine water discharge, acid mine drainage and the risk of failure of the tailings holding facility. Dalradian admits the impact of waste water discharge:

> *"It has been identified that significant adverse effects could arise through changes in water quality arising from discharges of waste water, and through changes in the hydrogeological and hydrological regime." (Dalradian Statement of Case, TR6 Ecology, 1.143)*

4.1 Water Framework Directive Transboundary Assessment

There appears to have been no consideration for transboundary water quality in the application documentation. The Owenkillew and Owenreagh rivers discharge into the River Strule, then the River Mourne, before joining with the River Finn in Strabane and becoming

the River Foyle. The River Foyle then discharges into Lough Foyle. Both of these latter waterbodies are cross border waterbodies. The River Finn and River Foyle are both at risk of not achieving their Water Framework Directive status by 2027, and the Foyle estuary is of moderate status[1]. There is a clear and direct hydrological connection between the proposed mine development and waterbodies which fall under the jurisdiction of the ROI. However, from our review of the application documents, there has been no assessment of potential risks to waterbodies downstream of the development, as we outline below.

Some of the heavy metals planned for discharge into the Owenkillew and Owenreagh Rivers include cadmium, lead, chromium, and mercury. The presence of even minute amounts of heavy metal contamination in hydrological media poses a major threat to aquatic systems and human health (Kaur & Roy, 2021[2]). Heavy metal pollution has a detrimental effect on ecological equilibrium as it can contaminate both freshwater and marine environments, which can cause cellular damage to aquatic creatures (Zeitoun & Mehana, 2014)[3]. The presence of contaminants can directly damage the environment through primary damage, or indirectly through subtle perturbations in the stability of the biological food web, which are only noticeable when the contamination lasts for a long time. Several heavy metals are known to cause harmful effects on the growth and development of fish, as well as the reproductive and respiratory systems of those fish (Sharma et al, 2023)[4]. Examples of damaging heavy metals quoted in this literature include cadmium, lead, mercury, copper, and zinc, several of which are planned for discharge from this development. Heavy metals do not decompose in the environment, and as such they are one of the most persistent and non-biodegradable pollutants. Heavy metals in ecosystems create a cyclical chain of contamination that includes the atmosphere, soil, water, fish, and humans (Brifa et al., 2020)[5]

Whilst the ROI waterbodies and designated sites are a distance from the proposed development site, the nature of the impacts, particularly the toxicity risks posed by several potential chemical releases and their persistent nature means that significant indirect effects could occur well downstream from the discharge point. These chemicals may be highly toxic, and the affected habitats and species are highly sensitive, making even low concentrations capable of accumulating within the watercourses, and bioaccumulating within species.

4.2 Risk to Water Quality after closure

In addition to the known risks as a result of heavy metal discharge during the operation of the plant, the Environmental Statement (ES) in Volume 2, Chapter 8 outlines how the mine will continue to pose a risk to water quality after closure as a result of the Dry Stack Facility:

[1] 01 Foyle Catchment Summary WFD Cycle 3.pdf
[2] Kaur, S., & Roy, A. (2021). Bioremediation of heavy metals from wastewater using nanomaterials. Environment, Development and Sustainability, 23(7), 9617–9640. https://doi.org/10.1007/ s10668-020-01078-1
[3] Zeitoun, M. M., & Mehana, E. E. (2014). Impact of water pollution with heavy metals on fsh health: Overview and updates. Global Veterinaria, 12(2), 219–231.
[4] Sharma, A. K., Sharma, M., Sharma, A. K., & Sharma, M. (2023). Mapping the impact of environmental pollutants on human health and environment: A systematic review and meta-analysis. Journal of Geochemical Exploration. https://doi.org/10.1016/j.gexplo. 2023.107325
[5] Brifa, J. F., Sinagra, E., & Blundell, R. (2020). Heavy metal pollution in the environment and their toxicological efects on humans. Heliyon, 6(9), e04691. https://doi.org/10.1016/j.heliyon.2020. e0469

"Although the DSF has a cover to reduce infiltration, some seepage through the facility will occur and will report to the Pollanroe Burn via the underdrain and along the toe of the restored DSF. The quality of this seepage before it reaches the Pollanroe Burn"

And:

"The results show exceedances of drinking water standards for antimony, nitrate, iron and manganese"

Each of these is likely to adversely affect fish, invertebrates, and aquatic habitats. Heavy metal toxicity is demonstrated in any ecosystem when levels exceed allowable thresholds or the necessary concentration (Raychaudhuri et al., 2021)[6]. Most exhibit moderate to high levels of chronic or acute toxicity to fish. While the applicant appears to seek to downplay the pollution risk posed by the DSF:

"The water treatment plant will remain in operation until the DSF is completely restored, after which there will be no discharges from the mine outfall. After the relevant authority agrees that the water treatment plant can be decommissioned, surface runoff from the site will flow directly into the Pollanroe Burn."

In fact, Dr. Emmerson made the challenge eminently clear, in his submission on the safety of the dry stack facility:

"a tailings storage facility is expected to confine the often toxic tailings in perpetuity, which requires the perpetual inspection, monitoring, maintenance, and review of the facility long after the end of the mining project."

As such, it is difficult to see what the applicant defines as 'completely restored' in regard to the DSF, as it would appear from Dr. Emmerson's evidence that ongoing maintenance would be required in perpetuity to prevent DSF failure and a significant pollution event. The mitigation proposed in the ES for this is entirely unacceptable from an environmental law perspective:

"Additional mitigation at closure through a passive treatment system will be implemented to reduce these concentrations to drinking water standards or baseline concentrations, whichever is higher. The water management ponds will be used to construct the passive treatment system, which will be installed prior to the decommissioning of the RO plant. The passive treatment system will be engineered, tested and its efficacy proven to the satisfaction of the regulators prior to the decommissioning of the RO plant. "

As such, a clear pollution risk has been outlined, which would have both Water Framework Directive (WFD), Environmental Impact Assessment (EIA) Directive and Habitats Directives implications, and no sufficient mitigation has been provided. If the details of the additional mitigation are not provided at application stage this, in our view, could be considered to constitute post-consent conditions. In the case People Over Wind v An Bord Pleanala (2015)[7] it was argued that, in regard to post-consent conditions,

'*...in respect of which there would be no public consultation or participation, there would be no possibility for the examination, analysis and evaluation under Article 6(3).*

It would not be possible to establish, in advance of the consent to the development

[6] Raychaudhuri, S. S., Pramanick, P., Talukder, P., & Basak, A. (2021). Polyamines, metallothioneins, and phytochelatins—Natural defense of plants to mitigate heavy metals. In: Studies in natural products chemistry (pp. 227–261). Elsevier BV. https://doi.org/ 10.1016/b978-0-12-819487-4.00006-9

[7] People Over Wind v An Bord Pleanala (2015) IEHC 271.

whether such mitigation measures would protect the integrity of the River Barrow and River Nore SAC,' (Para. 202).

This same argument applies here, where a risk to both Northern Irish and ROI rivers and SACs exists on foot of these predicted exceedances, but no definite mitigation has been provided, and the public and relevant authorities are being asked to take a leap of faith that the proposed passive treatment will be adequate for the purposes of preventing ecological damage. From a legal perspective, in particular regard to public participation, we are of the view that this is not compliant with Article 6(3) of the Habitats Directive and the principles outlined under the Aarhus Convention.

4.3 Waterbodies Assessed for the Purposes of the Water Framework Directive

Despite the risks outlined above, only a very limited number of watercourses are included in the surface water impact assessment in Chapter 8 of the ES in Table 8-8 and are shown in Figure 8-11. The only surface water catchments which appear to be considered are the Owenreagh catchment and the Owenkillew catchment. No consideration appears to have been given to watercourses any further downstream, with no clear apparent rationale for why this is the case:

> *"The most downstream assessment point within the study area, shown in Figure 8-11, is immediately downstream of the confluence of the Owenkillew and Owenreagh rivers. The assessment showed that impacts on surface water flow and surface water quality at this point are predicted to be negligible..... the negligible impacts of the project downstream of the confluence of the Owenkillew and Owenreagh will be substantially smaller in the rivers downstream of the site, including the Strule, Mourne and Foyle"*

It is unclear to us what 'assessment' the applicant is relying on to conclude that there will be no impact on surface water quality beyond this point, or indeed what metric is being considered. It should be noted that ecological impacts often occur at far lower levels than what would be deemed acceptable for drinking water standards. The assessment which should be carried out to determine no impact is an assessment which is adequate for the purposes of Article 4 of the Water Framework Directive, particularly, from our perspective, in regard to transboundary impacts on ROI waterbodies, namely the River Finn and Foyle, Lough Foyle as well as estuarine and coastal water impacts.

We would highlight modelling carried out by a Dr. Steven Emerman, submitted on behalf of the Save Our Sperrins group, which very clearly highlights a considerable risk to ROI waterbodies in the event of a Dry Stack Facility failure:

> *"In the worst-case scenario (release of 100% of the stored tailings), the runout during the initial event will cover 65 kilometers, including the River Mourne and 17 kilometers of the River Foyle, as it flows along the border between Northern Ireland and the Republic of Ireland. In any case, subsequent to the initial event, normal fluvial processes will transport the tailings to Lough Foyle, an estuary that connects to the Atlantic Ocean. The passage to Lough Foyle will include the 17 kilometers of the River Foyle as it flows along the border between Northern Ireland and the Republic of Ireland. Moreover, tidal currents could transport tailings from River Foyle upstream into River Finn for 11 kilometers, along the border and into the interior of the Republic of Ireland."*

The ES outlines the following criteria in regard to the WFD:

> *"The project will also meet water quality criteria in receiving water bodies appropriate to the WFD objectives for the water body. The methodology for determining the water quality criteria for the Pollanroe Burn, Owenreagh River, Curraghinalt Burn and Owenkillew River has been extensively discussed and agreed with NIEA. As agreed with NIEA, the water quality criteria for the Pollanroe Burn* ***reflect national drinking water standards*** *(SR 147 as amended) except for parameters where average baseline concentrations exceed drinking water standards at present (manganese and iron). For these parameters, the criteria are set at average baseline concentrations."* [Our emphasis]

We would highlight again, drinking water standards are often not appropriate as indicators of ecological health, for example drinking water limits for nitrate are 50mg/l, but for estuarine water quality they are far lower, at 11.5mg/l. The same discrepancy would exist across multiple chemicals. The ES further outlines:

> *"Water quality criteria for the Owenreagh and Owenkillew Rivers have been set considering average baseline concentrations and the receiving water standards and guidelines listed below. Concentrations will not exceed baseline conditions plus 10% of the relevant receiving water standard (or 3% for parameters where the existing baseline exceed standards)."*

With a range of standards and guidelines listed below in the document which refer to drinking water standards and WFD priority substances. However, this appears to grant the applicant flexibility to discharge over and above what is listed in the standards, for example, where the existing baseline exceeds standards, then this appears to suggest that 3% additional concentration will be permitted. It is entirely unclear to us how this aligns with WFD objectives, both legally and ecologically, and we would highlight that a rigorous Article 4 WFD assessment should be carried out to outline what impact this may have on all quality elements of the hydrologically connected waterbodies, including those in the ROI.

Additionally, the applicant states in their Statement of Case TR6 Ecology:

> *"The critical consideration in relation to matters concerning water quality is the setting of appropriate enforcement values in granting Discharge Consents. Discharge Consents set strict limit values for relevant parameters, with non-compliance most likely leading to enforcement action."*

The statement that 'with non-compliance most likely leading to enforcement action' is contestable given the previous actions of Dalradian and non-action of NIEA. In 2016, it emerged via a response to an FOI request, that NIEA had identified a pollution incident with polluted water running from Dalradian's exploration site at 'a number of points' into the Owenkillew River SAC & ASSI. The measured levels of discharge were three times higher than permitted levels. However, NIEA decided not to progress with prosecution as it was not five times higher – a threshold emerging from their 'informal Regulation Group guidelines'. Instead, it was recommended that they 'dispose of it [the case] by a warning letter'. Limits are set to align with Environmental Quality Standards; to then say it is permitted to exceed a limit fivefold is not acceptable and seriously compromises the integrity of the protected rivers. Dalradian have also been found on several other occasions during its exploration stages to be breaching consent conditions for exceeding permitted toxicity levels for zinc. This previous failure by both the applicant and the regulator to adequately address exceedances in discharges further undermines any confidence in the proposed mitigation measures. The

applicant has already demonstrated that they have repeatedly failed to comply with discharge standards, how can the public be reassured that they can be trusted with even higher levels of discharge over the lifecycle of this development? Likewise, when the regulatory response is so weak, how can the public be confident in should such a breach occur again, that the regulatory response will be adequate?

4.4 Requirement for Article 4 WFD Assessment

While the ES does provide a chapter on water quality, it does not appear that a specific WFD assessment as required under Article 4 of the Water Framework Directive has been provided in the consultation material made available to the public. This assessment is necessary to determine whether this project may cause a deterioration of the status, or indeed an individual quality element, of a body of surface water or where it may jeopardise the attainment of good surface water status or of good ecological potential and good surface water chemical status. Specifically, they should assess how increasing the load to a system which is already at risk of not achieving its WFD objectives (e.g. the River Finn and Foyle) is ecologically and legally robust, and a thorough cumulative assessment for the purposes of Article 4 of the WFD should be undertaken.

In Case C- 461/13 Weser the CJEU held:

> *"Article 4(1)(a)(i) to (iii) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy must be interpreted as meaning that the Member States are required*
>
> > *— unless a derogation is granted*
> >
> > *— to refuse authorisation for an individual project where it may cause a deterioration of the status of a body of surface water or where it jeopardises the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down by the directive."*

In addition to the following in para 70:

> *"In the light of all the foregoing considerations, the answer to the second and third questions submitted is that the concept of 'deterioration of the status' of a body of surface water in Article 4(1)(a)(i) of Directive 2000/60 must be interpreted as meaning that there is deterioration as soon as the status of at least one of the quality elements, within the meaning of Annex V to the directive, falls by one class, even if that fall does not result in a fall in classification of the body of surface water as a whole. However, if the quality element concerned, within the meaning of that annex, is already in the lowest class, any deterioration of that element constitutes a 'deterioration of the status' of a body of surface water, within the meaning of Article 4(1)(a)(i)"*

Section 8.3.7 of the EA concludes the following in regard to the potential impact on WFD status:

"In terms of the WFD objectives, the project will not result in a change in status for the water bodies present in the study area or compromise the attainment of WFD objectives as defined in the North Western River Basin management plan and associated LMA action plans. More specifically, design measures and additional mitigation measures will prevent the introduction of impediments to attaining, or maintaining, Good WFD status for the water bodies."

We would note there is no consideration of other waterbodies outside of the study area, or other river basin management districts, including those within the ROI jurisdiction. Furthermore, there is a notable paucity of evidence to underpin this statement, given there is no apparent Article 4 WFD assessment capable of allowing a decision maker to conclude with the necessary certainty that there will be no impact on WFD objectives, as elucidated in the Weser judgement. It is our interpretation of the law and jurisprudence that the decision maker has to be able to rule out a breach of Article 4 of the WFD to the same standard as the Habitats Directive does, analogous to an Article 6(3) assessment. This has clearly not been done in this case, and we are of the view that the application documentation has failed to adequately assess the development from an Article 4 WFD perspective, and as such, the relevant authority cannot discharge their obligation as provided by Article 4(1) of the WFD.

4.5 Unassigned Waterbodies

With regard to the unassigned WFD status of the Foyle and Faughan transitional water body and the Lough Foyle coastal water body, we would highlight the court ruling by *Justice Hyland (2018 740 JR)*, which clarifies how unassigned waterbodies must be treated when assessing planning applications against Water Framework Directive requirements, with implications for projects in proximity to unassigned waterbodies:

"The WFD, as interpreted by the CJEU, requires a Member State to ensure that the requirements of Article 4 are met before permission is granted. It cannot be so satisfied in respect of development affecting a water body whose status has (in breach of the WFD and the implementing regulations in Ireland) not been assigned by the EPA." [para 130 2018 740 JR]

This is an important consideration for the Article 4 WFD assessment which we believe is legally necessary for this development.

4.6 Discharge exceedances

In Section 1.4.3.3 of the Shadow Habitats Regulation Assessment (sHRA) (TR6 Ecology) the applicant appears to suggest that by carrying out mining in the local area, it would actually improve the outcome for the Owenkillew River SAC with regard to water quality:

"1.433. Included at Annex 13 is an Outline Betterment Plan that seeks to secure further improvements to current baseline water and riparian / river channel quality associated with the Owenkillew River. As recognised by the statutory authorities, and reported within the sHRA (2020), pollution from agricultural practices is a significant (and unregulated) contributor to degraded water quality in the catchment. The Proposal involves the complete removal of agricultural activity (grazing / fertiliser inputs) across in excess of 240 hectares of agricultural land under the direct control of the Applicant. These proposals will further the stated conservation aims for the SAC..... such that the Applicant will be directly delivering measures cited as being required to improve upon

baseline conditions and help move the SAC towards favourable condition and then maintain such condition long-term"

And this in section 5.110:

"5.110. The proposed change to land use will effectively remove an element of agriculture from the relevant river catchments. The exceedances in accepted standards or proposed ranges relating to discharges / water quality must be viewed in the light of the betterment arising from a reduction in agricultural practices in the catchments."

It is our understanding that the majority of farming in the region is extensive sheep farming. It is difficult to follow the logic which presumes that replacing extensive agriculture with industrial mining, which requires discharge contents to licence the ensuing heavy metal pollution, and the maintenance of a dry stack tailing facility in perpetuity, would lead to an improvement in outcome for the SAC, or that industrial mining would be an environmentally favourable replacement for farming. Agriculture is indeed a large driver of water quality issues on the island of Ireland, but the suggestion that industrial mining would lead to better environmental outcomes, with no data or evidence to back up this statement stretches credulity. Furthermore, the suggestion that an increasing number of licenced discharges would improve outcomes for the SAC is similarly confusing logic.

In regard to phosphorus, Section 1.449 of the sHRA outlines the applicant's apparent reluctance to treat their discharge water in order to remove phosphorus:

"Regulation on Phosphorus would, on the face of it, appear an acceptable approach to setting the discharge consent limits, but in setting the enforcement limit, due regard must be had to the baseline situation because the Applicant will be treating baseline water as part of the water treatment process. The result of this approach is that the catchment baseline water is being regulated (and potentially enforced against) and not the mine proposals. That approach cannot be justified."

We would argue that it is entirely appropriate for set phosphorus thresholds to apply to discharges, irrespective of the baseline pollution level. While the relevant authorities should work to address the exceedances in the baseline, allowances cannot, and should not, be made which would grant this development permission to discharge phosphorus in excess of set standards. Baseline pollution is liable to fluctuate throughout the year, but discharge pollution cannot be permitted to exceed set standards, and any such fluctuation of intake water pollution levels should be factored into a business model whereby the applicant seeks to exploit existing water sources. While diffuse sources of pollution are more difficult to tackle, NIEA is entirely correct to seek to impose relevant thresholds to the discharge, irrespective of the intake levels. This approach can be very much justified from an ecological and a legal standpoint.

In regard to the existing discharge consent number 068/12/2, the sHRA outlines the following:

"1.125.

I am also mindful of the fact that Discharge Consent 068/12/2 relating to discharges from the exploratory mine into the Curraghinalt burn remains extant. The limit values

placed by the statutory authority upon relevant key parameters for this discharge consent are also well in excess of what is now being proposed. As with the other consents, at the point of the statutory authority issuing the discharge consent, the same issues associated with water quality) on interest features of the Owenkillew River SAC / ASSI (and wider catchment) were known. Significantly, the baseline position was similar to now in that key features were recorded as being in unfavourable condition.

1.126.

The rationale and proportionality of the discharge limits being suggested for the proposed development cannot be reconciled with the extant discharge consents. The discharge consents in the wider catchment are very significantly above the existing baseline level for the water environment."

It would appear to us that the extant licence is in urgent need of review and amendment in order to bring it into compliance with the WFD and Habitats Directive. While this argument appears to have been advanced in order to argue that NIEA's approach is now too stringent, it would, in fact, appear to suggest that prior licences did not undergo the necessary scrutiny, and a re-evaluation of some of those would appear now to be necessary, beginning with Discharge Consent 068/12/2.

4.7 Adequacy of Assessment

We would highlight the critique by the Loughs Agency and the Ecology Statement of Case prepared for Fermanagh and Omagh District Council both of which highlighted significant failures and shortcomings on behalf of the applicant in adequately assessing the impact of the development on waterbodies. Having reviewed their submissions we would agree with much of their critique, and would highlight that not only has the applicant failed to assess waterbodies downstream of the proposed development as we outlined, but even those which they have assessed rely on outdated data, and make assumptions about ecological quality which do not appear to be backed up by data or evidence. As such, the risks identified by the applicant are likely to be underestimated in regard to aquatic impacts, which has implications for impacts further downstream. The risks to the immediate waterbodies are likely to be of a far greater magnitude than was assessed, and this impact would likely have knock on impacts on downstream waterbodies. It is imperative that any failures in assessment are identified and addressed by the decision maker.

5. Biodiversity and Habitats Directive Considerations

This project has transboundary implications for Irish Natura 2000 sites, including the River Finn SAC and Lough Foyle SPA. The River Finn SAC has Salmon and Otter as qualifying interests (QIs), and Lough Foyle SPA has a range waders and water birds as qualifying interests. We focus primarily on the Natura 2000 sites which fall under the jurisdiction of the ROI given the transboundary nature of this consultation, but note the very valid concerns in regard to Natura 2000 sites in Northern Ireland which were raised in multiple other submissions.

As outlined above in our points on the need for a Water Framework Directive assessment, there is a clear hydrological connection between the proposed development site and these

Natura 2000 sites which fall under ROI's jurisdiction. Native Atlantic Salmon, *Salmo salar,* are a protected species under Annexes II and V of the Habitats Directive, rely on the health of the rivers that would be directly impacted by the water discharge and tailings failure for habitat and nursery purposes. Salmon are highly mobile and are found to be present from the headwaters to the sea, and are very selective about the areas in which they choose to spawn, requiring clean gravels and good water quality. The heavy metal discharge which we discussed above in the water section would have significant potential impacts on the QI Salmon of the River Finn. Additionally, Otter are found throughout a number of the hydrologically connected waterbodies and are a QI of the River Finn SAC. Given the heavy metal toxicity and build up outlined above in regard to water quality impacts, this would have very clear risks for bioaccumulation in the protected otter population as a result of contaminated fish and macroinvertebrates which the otter then predate, in addition to direct toxic impacts on the otters themselves.

The potential risks for the QI birds in the Lough Foyle SPA should also be considered. According to the National Parks and Wildlife Service (NPWS) of Ireland:

> *"Lough Foyle SPA is of high ornithological importance as it is part of an internationally important wetland site that regularly supports internationally important populations of Whooper Swan, Light-bellied Brent Goose and Bar-tailed Godwit, and nationally important populations of a further 20 species. Of note is that five of the species which occur regularly, i.e. Red-throated Diver, Bewick's Swan, Whooper Swan, Golden Plover and Bar-tailed Godwit are listed on Annex I of the E.U. Birds Directive."*

Similar to the otter concerns, consideration must be given to the impact on these QI bird species from ingesting potentially contaminated prey species, as a result of heavy metal toxicity resulting from mine discharge. The habitats, feeding sources and reproductive cycles of these protected species are at risk from the potential impacts of this proposal, and so the species themselves are at an unacceptable level of risk as well.

5.1 Lack of Assessment

In regard to designated sites in the ROI jurisdiction, the sHRA TR6 Ecology report identified the following sites which are hydrologically linked with the development site:

> *"1.56. Beyond a 10km radius, the following European designated sites / Ramsar sites are present which, whilst well removed from the Application Site, are hydrologically linked with it:*
>
> *a) River Foyle and Tributaries SAC;*
>
> *b) Lough Foyle SPA;*
>
> *c) Lough Foyle Ramsar site;*
>
> *d) River Finn SAC (Republic of Ireland); and*
>
> *e) Lough Foyle SPA (Republic of Ireland)."*

However, despite the clear hydrological links to Natura 2000 sites in the ROI, the sHRA did not fully assess impacts on downstream SACs, appearing to rely on mitigation measures to screen out the full assessment, with Section 1.142 of the TR6 Ecology report outlining:

"1.142. With reference to the Update sHRA (2020), effects relating to changes in water quality and the hydrogeological and hydrological regime are of greatest relevance to the Owenkillew River SAC. There is potential for effects to extend to River Foyle and Tributaries SAC, Lough Foyle SPA (UK and ROI), Lough Foyle Ramsar site and the River Finn SAC, due to hydrological connectivity. However, the mitigation proposed to address potential adverse effects arising in relation to water quality issues at the Owenkillew River SAC (waste water treatment including below baseline for key parameters,, consented limits on discharges and Betterment proposals which include the removal of existing nitrogen sources from the Applicant's lands), would in turn, mitigate against adverse effects on these other sites."

There is no apparent further mention or assessment of these European protected sites in the sHRA Ecology report, and the sensitivities of the individual species of QI in both the SPA and the SAC are not assessed at any point. Similarly, the evidence base for why the proposed mitigation measures are to be considered adequate does not appear to be elucidated at any point in the documentation. This is particularly concerning given the widely reported toxic impacts on aquatic organisms and ecosystems which can arise on foot of heavy metal contamination, as outlined earlier in our submission.

It would appear to us, that the applicant has essentially screened out any further assessment of these Natura sites based on proposed mitigation measures. The CJEU in case C-323/17 clarified that the Habitats Directive:

"must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site".

It was the court's view that the existence of mitigation measures in the first place *"presupposes that it is likely that the site is affected significantly and that, consequently, such an assessment should be carried out"*. Taking account of these measures at the screening stage would:

"be liable to compromise the practical effect of the Habitats Directive in general, and the assessment stage in particular, as the latter stage would be deprived of its purpose and there would be a risk of circumvention of that stage, which constitutes, however, an essential safeguard provided for by the directive".

It is our view that this lack of assessment of Natura 2000 sites further downstream from the development site, including the River Finn and Lough Foyle SPA, contravenes the requirements of the Habitats Directive, and would compromise the practical effect of the Habitats Directive, as outlined in case C-323/17.

5.2 Adequacy of Assessment

We would highlight the critique by the Loughs Agency and the Ecology Statement of Case prepared for Fermanagh and Omagh District Council both of which highlighted significant failures and shortcomings on behalf of the applicant in adequately assessing the impact of the development on waterbodies. Loughs Agency highlighted that this planning application, with

regards to its environmental determinations made in the shadow Habitats Regulation Assessment (sHRA), is fundamentally flawed. Loughs Agency has reviewed the sHRA and supporting documents for the proposed scheme and has noted several overarching issues which are consistent across all the documentation. These issues can be broadly defined under five themes:

- Factually incorrect information presented as data
- Outdated survey results and datasets
- Surveys not carried out using accepted best practice methodologies appropriate for the area
- Apparent inappropriate application of international standards
- Failure to appropriately consider impacts on surrounding watercourses, in particular; the Curraghinalt Burn, the Pollanroe Burn and Owenreagh as well as "Un-named watercourse", in the context of salmonid populations

Having reviewed their submissions we would agree with much of their critique, and would highlight that not only has the applicant failed to assess aquatic SACs and waterbodies downstream of the proposed development as we outlined, but also those which they have assessed rely on outdated data, and make assumptions about ecological quality which do not appear to be backed up by data or evidence, or based on best practice methodology.

The Statement of Case from the NIEA (discharge licence applications TC80/20 and TC 81/20) emphasises the likelihood that the proposed discharges will adversely impact the ecological integrity of the receiving water bodies:

> *"5. The information in the applications under consideration appears likely to result in exceedance of the appropriate standards for levels of Nitrate and BOD in the Owenkillew SAC. [Annex G, Table 2a and 2b] Given this water quality is already assessed as being in unfavourable condition against the Conservation Objective standards,* ***NIEA is unable to ascertain that there will be no adverse effect on the integrity of the SAC for each of the discharge consents****, as required under regulation 43 of the Conservation (Natural Habitats etc.) Regulations (Northern Ireland), 1995."* [emphasis added]

While this concern is expressed in regard to NI SACs, the logical extension is that this same risk cannot be discounted for Natura 2000 sites further downstream, including both the River Finn SAC and Lough Foyle SPA. The requirements for certainty in this regard are well established in case law. In *Case C-258/11, Sweetman & Others v An Bord Pleanála & Others*, it was held that:

> "*authorisation for a plan or project ....may therefore be given only on condition that the competent authorities ....are certain that the plan or project will not have lasting adverse effects on the integrity of the site. That is so where* ***no reasonable scientific doubt remains*** *as to the absence of such effects*" [emphasis added].

The competent authority must therefore refuse authorisation for any plans or projects where there is uncertainty as to whether the plan or project will have adverse effects on the integrity of the site. It was also held in paragraph 44 that:

> "*So far as concerns the assessment carried out under Article 6(3) of the Habitats Directive, it should be pointed out that it* ***cannot have lacunae*** *and* ***must contain complete, precise and definitive findings*** *and conclusions capable of removing*

all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned (see, to this effect, Case C 404/09 Commission v Spain, paragraph 100 and the case-law cited)..." [emphasis added].

We would highlight, that along with the doubt expressed by NIEA in the excerpt above, there has been no assessment of hydrologically connected Natura 2000 sites in the ROI jurisdiction (River Finn SAC and Lough Foyle SPA). As such, the assessment cannot be considered to provide complete, precise and definitive findings capable of removing all reasonable scientific doubt.

To further highlight the obligations on the decision maker, we would note that in *Kelly v An Bord Pleanála & Others, [2013 No 802 J.R.]* with reference to *Commission v Spain c-404/09*, the High Court held in paragraph 36 that the competent authority must carry out an Appropriate Assessment for a plan or project in light of the best scientific knowledge in the field. It was also held that the competent authority must lay out the rationale and reasoning which was used to arrive at the determination.

The Kelly Judgement has provided a very helpful clarification of the requirements of an AA, and in particular in paragraph 40, a summary of what must be delivered by the process in order to be lawfully conducted:

> *"(i) Must identify, in the light of the best scientific knowledge in the field, all aspects of the development project which can, by itself or in combination with other plans or projects, affect the European site in the light of its conservation objectives. This clearly requires both examination and analysis.*
>
> *(ii) Must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps. The requirement for precise and definitive findings and conclusions appears to require analysis, evaluation and decisions. Further, the reference to findings and conclusions in a scientific context requires both findings following analysis and conclusions following an evaluation each in the light of the best scientific knowledge in the field.*
>
> *(iii) May only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where upon the basis of complete, precise and definitive findings and conclusions made the Board decides that no reasonable scientific doubt remains as to the absence of the identified potential effects.*"

It is our view that this the provided sHRA is incomplete, relies on out-of-date data, and is not scientifically robust. It cannot be considered to reach the threshold required by the Habitats Directive and attendant jurisprudence, and any decisions which rely on this assessment is likely to be in contravention of the Habitats Directive. It is our view that the relevant authorities are legally required to refuse authorisation on these grounds.

5.3 Donegal County Development Plan

As an ROI county adjoining the wider area to be affected by the subject proposal, particularly with regard to potential impacts upon the River Finn SAC and Lough Foyle, the objectives of the Donegal County Development Plan 2024-2030 must be given sufficient regard when determining the subject proposal. We would highlight Policy BIO-P-1 (p. 205) which concerns adherence to the Habitats and Birds Directives when assessing development applications:

> *"To require all developments to comply with the requirements of the EU Habitats Directive and EU Bird Directive, including ensuring that development proposals:*
>
> *a. Do not adversely affect the integrity of any European/Natura 2000 site (i.e. Special Areas of Conservation and Special Protection Areas) including effects on ex-situ but functionally linked habitats, and species (e.g. Pearl Mussel) save where a plan must be carried out for imperative reasons of overriding public interest (IROPI).*
> *b. Provide for the protection of animal and plant species listed in Annex IV of the EU Habitats Directive and the Flora Protection Order.*
> *c. Protect and enhance features of the landscape (such as rivers, riverbanks, field boundaries, ponds and small woods) which are of major importance for wild fauna and flora and the ecological coherence of the Natura 2000 network."*

We do not consider the proposal to comply with these requirements, as clearly formulated in the Donegal County Development Plan due to toxic discharge and associated degradation of designated aquatic habitat and species.

Another important Donegal County Development Plan policy (WW-P-2) requiring close consideration when determining the proposal concerns aquatic environment impacts:

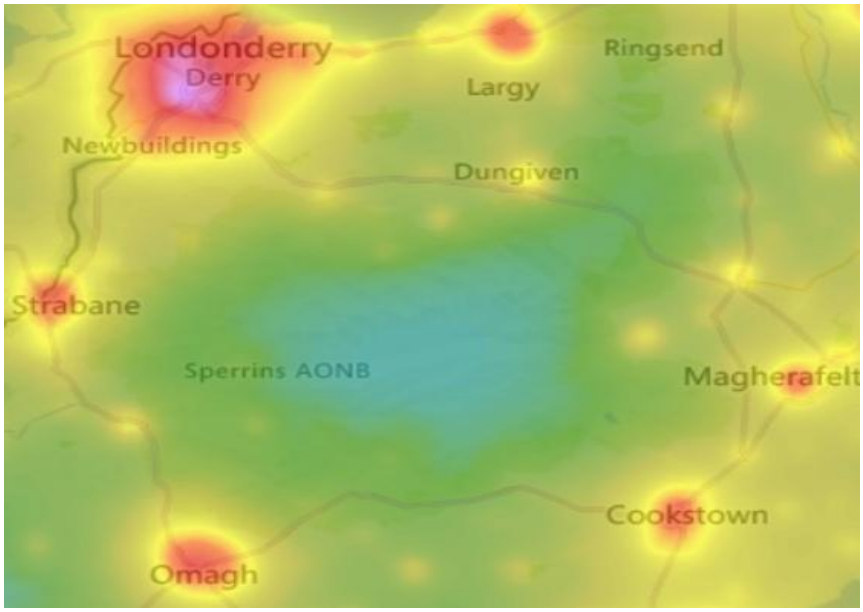
> *"Ensure that new developments:*
>
> *a. Do not have an adverse impact on surface and ground water quality, drinking water supplies, Bathing Waters and aquatic ecology (including Water dependent qualifying interests within Natura 2000 sites); and*
>
> *b. Do not hinder the achievement of, and are not contrary to:*
> *(i) The objectives of the EU Water Framework Directive.*
> *(ii) EU Habitats and Birds Directives*
> *(iii) The associated Programme of Measures in the River Basin Management Plan 2022-2027 including any associated Water Protection or Restoration Programmes.*
> *(iv) Drinking Water Safety Plan.*
> (v) *The Guidelines on the Protection of Fisheries During Construction Works In and Adjacent to Waters (Inland Fisheries Ireland, 2016)*."

6. Artificial light pollution

We note that the subject site is located within the OM Dark Sky Park and Observatory, which is a key cultural resource for stargazing as well as a refuge for nocturnal flora and fauna. Therefore, it is crucial that the applicant's industrial lighting design specifications are assessed

with regard to guidance provided by environmentally friendly lighting experts.[8] [9] [10] [11] As currently proposed, we have concerns that the proposal is likely to adversely impact upon insects, nocturnal animals, plants and human health due to the emitting of excess light from LED sources. As outlined by Dark Sky Ireland in their 'Environmentally Friendly Lighting Guide', *"there is a substantial growing body of evidence that shows that the colour temperature, CCT, of lights can be particularly disruptive to circadian rhythms, sleep patterns and the production of melatonin".*[12]

The following extract from a light pollution map compiled by dark sky experts shows the current dark sky area where the subject site is proposed. We would highlight the existing light pollution pressures surrounding this area from urban areas, which exacerbates the undesirability of placing an intrusive light-emitting facility in this location.



Light Pollution Map[13]

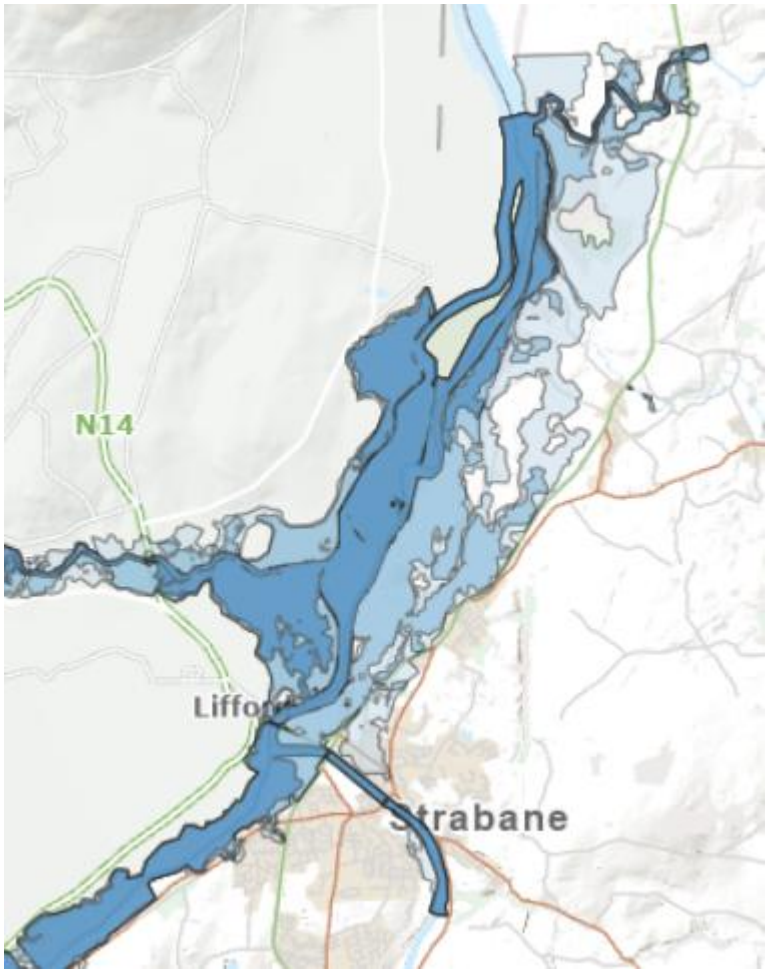
7. Flooding

Given the transboundary nature of this consultation, we would highlight that such a frequently high volume of mining discharge into surrounding aquatic waterbodies would be likely to increase flooding and pollution risk for the River Finn SAC and associated catchment water

[8] Dark Sky Ireland. Environmentally Friendly Lighting Guide. https://www.darksky.ie/wp-content/uploads/2024/05/DSI-Environmentally-Friendly-Lighting-Guide-4.pdf
[9] South Downs National Park. 2021. Dark Skies Technical Advice Note. https://www.southdowns.gov.uk/planning-policy/supplementary-planning-documents/technical-advice-notes-tans/dark-skies-technical-advice-note-tan/
[10] Government of Wales. 2025. Good Practice Guidance: Planning for the Conservation and Enhancement of Dark Skies in Wales. https://www.gov.wales/sites/default/files/publications/2025-02/dark-skies-guidance.pdf
[11] Friends of the Lake District. 2023. Good Lighting Technical Advice Note. https://www.friendsofthelakedistrict.org.uk/Handlers/Download.ashx?IDMF=87cb1811-5fce-40c7-9759-d3be06a4d4f3
[12] https://www.darksky.ie/wp-content/uploads/2024/05/DSI-Environmentally-Friendly-Lighting-Guide-4.pdf

[13] https://www.darksky.ie/measuring-light-pollution/

bodies which flow into Donegal. This would be undesirable for the human and non-human populations alike. For example, the OPW's flood risk mapping tool shows that the Strabane and Lifford area is susceptible to low, medium and high probability flooding events. Crucially, the OPW modelling to inform these flooding risk projections does not take climate change into account, which exacerbates these risks due to projected increases in rainfall intensity[14]. Consequently, the addition of high volumes of water discharge arising from the proposal would contribute to worsening the risk associated with flooding and pollution, which requires close consideration by the Department.



OPW Flood Risk Map[15]

8. The Marine Strategy Framework Directive

It is submitted that the proposal requires assessment against the Marine Strategy Framework Directive, which contains 11 descriptors describing different elements of the marine

[14] https://www.epa.ie/publications/monitoring--assessment/climate-change/ICCA_Volume-1.pdf
[15] https://www.floodinfo.ie/map/floodmaps/

environment and the requirement to achieve Good Environmental Status (GES) for each of these:

1. Biological Diversity, 2. Non-indigenous species, 3. Population of commercial fish/shellfish, 4. Elements of marine food webs, 5. Eutrophication, 6. Sea floor integrity, 7. Alteration of hydrographical conditions, 8. Concentrations of contaminants, 9. Contaminants of fish/seafood for human consumption, 10. Marine litter, 11. Introduction of energy including underwater noise.

The Department should ensure that the proposal is assessed with regard to each of these descriptors to ensure that development works do not contribute to degradation of the marine environment.

9. EIAs flawed and cumulative impacts not assessed

There have been varied and substantial criticisms of Dalradian's EIAs for the eight applications connected to this gold mine – including a heavy focus on ecology and water quality, from statutory agencies such as the Loughs Agency and NIEA, and local government.

We highlight the following statement from the Department for Infrastructure Statement of Case:

"Loughs Agency also raised concerns with the application especially with regards the impacts on Atlantic salmon (Appendix 3). Loughs Agency are of the opinion that the information provided, particularly in relation to the fisheries assessment, is not reflective of the current status of the ecosystem, is not robust enough for an application of this scope and that appropriate considerations have not been given to the potential impacts on water quality. In addition, the environmental data is both out of date and lacks the required continuity to accurately describe the environmental conditions on appropriate temporal scales."

We also highlight from Fermanagh and Omagh District Council (FODC)'s Statement of Case:

"Cumulative impacts on aquatic habitats and species exposed to elevated nitrate and metals are not adequately considered nor are sub lethal impacts or potential bioaccumulation of metals. Higher flow levels into the Owenkillew River have not been adequately assessed nor has the impact of discharging water which will have been treated through a reverse osmosis process"

This project consists of eight separate applications, all pieces of the overall development. It appears that each of the EIAs for these separate applications did not consider the other aspects of the project. This could therefore constitute project splitting. This should be fully assessed by the relevant authority.

10. Air

The potential for air pollution from this project arises from the fine particulate matter released from crushing of rock, dust from the dry stack tailings, and diesel fumes from fossil fuel burning (4.3 million litres per annum). Dust from mining operations has been recorded twice as far away as Dalradian's project would be to the ROI border; a study in Finland found fine ore dust of 2.5 particulate matter containing arsenic and mercury, on the leaves of trees 60

kilometres from a goldmine at Kittila. Dalradian's proposed site is approximately 18 miles/30 km from parts of Donegal.

The potential for air contaminants to blow across the northwest of the island is exacerbated by the rise in storm frequency and severity due to climate change. The recent Storm Éowyn in Febrary 2025 brought record-breaking gusts of 114mph to Donegal and Galway. No worst-case scenario climate modelling has been done to calculate and therefore mitigate for the risks of air pollution from this project to the health of humans, animals and ecosystems across the north of the island and across the jurisdictions of NI and ROI inclusively.

Additionally, sulfur dioxide can be emitted from the mining process if sulfur-containing ores are present – as is the case at Curraghinalt, contributing to acid rain and further impacting the health of ecosystems and putting communities at risk.

These risks, and the lack of consideration that Dalradian has shown for them, is in direct contravention of the revised Ambient Air Quality Directive and the UNECE Convention on Long-range Transboundary Air Pollution.

11. Climate Change

In addition to climate change contributing to the exacerbation of mining impacts – such as air and water pollution, Friends of the Earth NI believe that this proposed goldmine project would not be in compliance with the Climate Change Act (Northern Ireland) 2022 (CCANI 2022). This is due to the levels of fossil fuel emissions at source, along with the lack of assessment of emissions downstream. The Carbon Brief outlines how Greenhouse gas emissions from global mining and resource extraction result in up to £2.5tn ($3tn) in damages worldwide every year.

12. Cultural heritage for the island of Ireland

We refer here to the report by Dr Amy Strecker and Dr V'cenza Cirefice on Cultural Heritage, Cultural Landscape, and People and Place, prepared for the rebuttal of Save Our Sperrins to Dalradian Gold where the importance of the Sperrin Mountains in terms of cultural heritage is laid out.

Research by Dr Cirefice demonstrates that:

> *"the Sperrins has abundant social, sacred, ecological, historical and personal meaning. The proposed application by Dalradian would cause immense harm to the sense of place, belonging and relationships people have with the landscape and each other in the Sperrins"*

The mine application site overlaps with the Beaghmore Area of Significant Archaeological Interest (ASAI). According to HED (Historic Monuments):

"Generally, it is unlikely that ASAIs will be able to accommodate large scale development such as quarrying or mining operations... as it is likely that the overall impact of such proposals could be particularly damaging to the distinct appearance, character and historic environment of the area."

12.1 Dinnseanchas

A recent and relevant decision by the Planning Appeals Commission is that of the Doraville Wind Farm, proposed also for the Sperrin Mountains. The PAC recommended the planning application be refused, with a material consideration being 'dinnseanchas' - "meaning the spirit of a place, which results from interactions of natural and human processes over time." In the decision they draw on the 2015 Northern Ireland Regional Landscape Character Assessment (NIRLCA), where they state that this concept should be a 'prime consideration' for 'substantial development' projects in an area which includes the Sperrin Mountains.

The PAC concludes in the Doraville case: *"Whilst the landscape must be viewed as a dynamic entity, the scale of this proposal and the magnitude of change that it would affect thereon has the potential to detract from local peoples' sense of place and connection to the land."*

12.2 Solastalgia

Additionally, precedent for the consideration of emotional and psychological impacts of projects that negatively alter landscape has also been set by Monaghan County Council in June 2022 when they requested additional information from the French gypsum miner Saint-Gobain concerning the potential for 'solastalgia', or ecological grief, that would result from the expansion of their gypsum mine. This mine had previously caused a large subsidence incident in September 2018 when a GAA pitch was split in two due to a collapse of the underground mine beneath it.

We consider that both concepts of dinnseanchas and solastalgia of material consideration for this proposed gold mine in the Sperrin Mountains. The magnitude of the project, the location and the impacts would most certainly negatively affect sense of place and connection to the land in an Area of Outstanding Natural Beauty and cultural importance, leading to probable ecological grief.

12.3 Landscape and Archaeology

We would have concerns over the ability of the subject site to be visually remediated in the decommissioning phase of the proposal. For example, we would query the extent to which mining tailing and other waste can be effectively covered over with vegetation given the acidity and toxicity of the material. We note a study from Hassan *et al* (2024)[16] which finds that physical treatment of mine tailings i.e dumping, covering and solidifying, experiences reduced efficacy when the soil is highly contaminated. This introduces prohibitive costs for the mine operator and may reduce the quality of remediation. The leaching effects into receiving aquatic ecosystems that this entails has transboundary implications due to watercourses flowing into the River Finn SAC and Lough Foyle SPA, both of which are within the ROI jurisdiction. Also, given the intensive nature and environmental impacts of the proposal, the ability for a visually unobtrusive remediation of mine tailings seems difficult. This requires close consideration by the Department.

Furthermore, we note that the subject site is located in close proximity to an area designated within the Fermanagh and Omagh District Council Local Development Plan 2030 as the 'Beaghmore Area of Significant Archaeological Interest'. The Historic Environment Division's map viewer reveals a cluster of significant monuments to the north and east of the application site, many of which may be protected under the Historic Monuments and Archaeological Objects (NI) Order 1995 and listed on the Scheduled Historic Monuments list for Co. Tyrone[17] Insights from community submissions reveal that the site may comprise an ancient route

[16] https://www.sciencedirect.com/science/article/abs/pii/S0045653524007823
[17] https://www.communities-ni.gov.uk/sites/default/files/2025-03/scheduled-historic-monuments-of-ni.pdf

known as the Green Road and the site of the Battle of Formil. Local knowledge is an important repository of heritage information and perceived value which should be taken into account by the planning authority, even if monuments likely to be disturbed by the mining proposal are not legally scheduled.

Overall, introducing an intensive mining facility into this location would disturb the archaeological interest of the region and impede community amenity in this respect when seeking to interact with local monuments. These monuments also contain all-island cultural and heritage significance. The planning authority requires full consideration of the landscape-level heritage value of this region, for NI and the wider island, and how the proposed mining development may hinder this. We recommend consultation with the Historic Environment Division (HED) to determine the full extent of heritage impacts.

13. Procedural Problems and Democratic Rights

The democratic and participative process required by law for this gold mine application, and associated applications, to progress is flawed in parts and completely absent in others. We summarise below failures in access to information to allow citizens firstly of NI and ROI to be able to participate in the decision making of this significant and controversial project.

13.1 No independent transboundary screening on mine

The Espoo Convention requires transboundary screening, a process where countries notify and consult each other about projects that are likely to have significant environmental impact across national borders. This screening aims to identify potential environmental concerns early on, allowing for mitigation strategies and collaboration between affected countries. The transboundary consultation notice which was published on 26 February in Ireland, was provided on foot of information from the DfI, Northern Ireland. However, in our view this was an incomplete screening, as the information provided by Dfl Northern Ireland included the references to the EIAs for the mine and powerlines applications, but not the four applications relating to water abstraction, impoundment and discharge consents, had chosen to not fully screen. This is notable, because from an ecological perspective, the greatest risk to transboundary species and habitats would arise on foot of the latter issues. Information on these were provided at a later date, on January 30th, with the consultation page appearing to minimise their import:

> *"which members of the public are free to review and consider in terms of making submissions"*

Additionally, they point out:

> *"no independent transboundary screening has been carried out to assess the potential impact of the mine (or the water abstraction and discharge applications) on the shared habitats, species (Atlantic salmon, otter, freshwater pearl mussel, birds) or shared waterways and water quality in Ireland. The only transboundary screening carried out to date is the one conducted by Shared Environmental Services on the powerlines."*

We would emphasise the importance of timely and coordinated cooperation between the Northern Ireland and Republic of Ireland states in environmental governance, which has been compromised due to the late notification of the transboundary nature of potential

environmental impacts arising from the proposal. The Irish state contains the following National Policy Objective (56) in its Final Draft Revised National Planning Framework:

> "Work with the relevant Departments in Northern Ireland for mutual advantage in areas such as spatial planning, development and promotion of the all-island economy, co-ordination of social and physical infrastructure provision and environmental protection and management." (p. 109)

This cooperation is increasingly important in the context of the worsening triple planetary emergency of climate breakdown, biodiversity loss and pollution.

13.2 Failures in the current transboundary consultation process

The Espoo Convention states: the transboundary State in whose territory the project is intended to be carried out is required to send to the affected State, **no later than when informing its own public**, a description of the project and any available information on its possible transboundary impact.

Dalradian submitted its mining applications in 2017, 2019 and 2020 respectively, yet the Department for Infrastructure waited until April 2024 to notify Donegal County Council and only referred to the main mine and power lines applications, not the water abstraction and impoundment and water discharge licenses, which are the most significant from a transboundary perspective. An initial public consultation was held in Donegal between the 28 November 2024 and 6 January 2025, but it was based on incomplete information.

Regarding this consultation, EJNI notes:

> *"On 14 February the DfI responded to the DHLGH with a table including references to the EIAs for the mine and powerlines applications, but not the four applications relating to water abstraction, impoundment and discharge consents, i.e. those especially relevant for transboundary implications."*

13.3 Transboundary consultation boundaries

According to the announcement of this transboundary consultation on the website of Donegal County Council:"The environmental screening process identified potential transboundary issues for Ireland relating to the River Finn."

We question why just the River Finn has been identified – given the clear potential impacts also for the River Foyle and Tributaries, Lough Foyle and the Atlantic Ocean.

Furthermore, we also question why only Donegal County Council was identified as the designated local authority. This restricts citizens in other border counties that may be affected by air pollution and acid rain, and the rest of the country affected by the wider socio-economic impacts (discussed below).

Disputed border

The issue of where the border is drawn when it comes to our shared water bodies – particularly the River Foyle and Lough Foyle, is a very complex one and one where no clarity has been afforded by DfI, DHLGH nor Donegal County Council. It is impossible therefore to make a full submission given the jurisdictional uncertainties.

14. The Northern Irish state is not equipped

It is submitted that the Northern Irish state is not equipped to manage a project of this magnitude, nor is it able to adequately protect the environment nor the population of this island from the impacts of such a project.

14.1 Outdated legislation

The operating law in terms of mineral extraction in NI is the Minerals Development Act, 1969, therefore the NI minerals policy regime does not honour the multitude of environmental and public participation laws and regulations that have come into force since. Friends of the Earth NI have called on the Northern Irish government to refer itself at the High Court, to judicially review their Minerals regime in the context of the past 55 years (ref).

14.2 Failures in the management/regulation of this project to date

In practice, all relevant Departments of the state have shown significant failure in the face of this project to date. The Northern Ireland Environment Agency (NIEA), after 23 months in the High Court, conceded a judicial review that was granted on seven grounds, regarding the discharge consents given to Dalradian, leading to the quashing of the granted discharge consent. Indeed, we are responding to this transboundary consultation because the lack of this necessary step was identified by local citizens of Donegal in January 2025 during the PAC Public Inquiry; not by the Department of Infrastructure, whose job it was to carry it out, and not in 2017, when the Planning Application was first submitted.

15. Wider Implications

15.1 Socio-economic implications of the project not considered

Dalradian claim that 350 direct jobs will be created by their project, as well as many more indirect jobs. If this is the case, what will the effect of the increase in population on housing, transport, services etc. – the so-called 'gold rush effect'. This has not been assessed.

15.2 No need for gold

We would not consider gold end-uses for jewellery in emerging markets in the developing world, which appears to constitute the purpose of the bulk of the gold to be extracted, as necessitating the scale of environmental degradation proposed. The framing of the applicant's arguments in this respect appear to focus narrowly on economic considerations, at the expense of local human and non-human communities and the environment. A clear articulation of how the gold from the proposal is warranted due to essential societal need rather than wants is lacking. This would allow for an assessment of the proposal with regard to the doughnut economic model, with societal needs being met in a way which does not surpass planetary boundaries, of which chemical pollution, freshwater impacts, land conversion and biodiversity elements are of most relevance in this case. Furthermore, given the prevalence of obsolescence within modern electronic consumer goods, the stated application of gold from the proposed mine within digital society uses raises e-waste and circular economy concerns. We would also have serious concerns about gold's potential utilisation in manufacturing AI hardware, a sector whose demand is projected to increase significantly.

We note an assertion from the applicant's consultant within the statement on 'Dalradian's Curraghinalt Project: The Societal Value of its Metals', which states the following:

"Curraghinalt is one of the highest-grade undeveloped gold deposits in the world; and its underground configuration and commitments to carbon neutrality and net positive impact on biodiversity, translate into the mine having limited environmental impacts." (p. 5)

In light of our aforementioned points on environmental impacts arising from the proposal, corroborated by other stakeholders such as the Loughs Agency and NIEA, we consider this assertion to be unfounded and requires reconsideration.

15.3 Need for development not adequately assessed

On the issue of **need**, Friends of the Earth NI have highlighted that the documents that accompany this planning application are wholly inadequate in that they fail to address the need for this development and that there has consequently been **a breach of both the SEA and EIA Directives**. This prejudices the ability of people to adequately participate in the transboundary notification process.

In relation to the provisions of the EIA Directive this application has been defined by the Department for Infrastructure as being of regional significance. Therefore this designation in itself (a) recognises that any site-specific assessment of need in the context of determining the planning application must look at the **need** for this development not just in relation to that part of the Sperrins where it is located but to the entire social-economic framework on Northern Ireland and (b) invites us to assess need in the context of what is an obvious cross border economy and a cross border social context. The failure to assess this transboundary and wider regional need is in breach of the EIA Directive.

16. Embedding an Extractive Economy

Mining is not only energy intensive but also irreversibly damages ecosystems and puts water quality at high risk of pollution. It is not a sustainable economic activity. Furthermore, typically, little economic benefit stays within the host country. Despite this, both NI and ROI are positioning our island as 'Open for Business' to the global mining industry. In 2019 ROI was ranked by the Fraser Institute as 2nd in the world for the "attractiveness of their mining policies", previously ranking 1st for five years in a row. NI ranked 6th up until 2018 when the reporting stopped. Currently, approximately 25% of both NI and ROI are concessioned to mining companies (this figure fluctuates as concessions expire and new ones bought).

This prioritising of mining over investment in more sustainable, environmentally resilient and socially just industries is aligned with the 'endless economic growth' mindset that we questioned in our response to the draft revised National Planning Framework (NPF).

Then, as now, we recommend that, instead, the Doughnut Economics framework by Kate Raworth be used to guide our planning policies and practices. It requires that development ensures that everyone has the societial essentials (housing, food, energy, education, health, water, employment, justice and equity, etc.) while remaining within our planetary and ecological boundaries (climate, biodiversity, water quality, air quality, etc.). Our assessment concludes that this project does not align with that model of development that we advocate for.

17. Conclusion

On the basis of the points in this submission, we recommend that permission for the project be refused. In particular, we would reemphasise that is our view that there has been a wholly inadequate assessment for both WFD and Habitats Directive.

The application documentation has failed to adequately assess the development from an Article 4 WFD perspective, and as such, the relevant authority cannot discharge their obligation as provided by Article 4(1) of the WFD.

It is also our view that this lack of assessment of Natura 2000 sites further downstream from the development site, including the River Finn and Lough Foyle SPA, contravenes the requirements of the Habitats Directive.