



To: Ian Campbell, Senior Planning Inspector and the Board (Attention of Tom Rabbett)

From: Dr Maeve Flynn, MCIEEM, Inspectorate Ecologist

Re: Referral to inform Screening for Appropriate Assessment

1. Background

Reference ABP-313921-22 is Third-Party appeal related to an application for retention of an area of 400sqm which was subject to extraction of rock at a limestone quarry in Ballynahallia, Co Galway. In considering this case, the Board requested a referral to the Inspectorate Ecologist following the conclusion of a Section 131 notice (07/10/2024) for a report and recommendation on Screening for Appropriate Assessment (AA).

This technical note and AA screening recommendation aims to address the Boards request providing a professional opinion on likely significant effects on European Sites and also takes account of points raised by the Department of Housing, Heritage and Local Government in their observation (via the Development Applications Unit dated 30/08/2022).

I note that no new information was submitted as part of the Section 131 notice that would further inform AA Screening. I have considered the documentation on the file including case history and the Inspectors Report.

2. Location of the development, likely impact mechanisms and connections to European Sites

In considering the issues pertaining to AA Screening, I have applied the source, pathway, receptor model of impact prediction. The test for AA Screening is to determine if the possibility of significant effects on a European Site can be excluded based on objective information, in view of the conservation objectives of the site. A significant effect is one which could undermine the conservation objectives set for the site.

Source

The existing quarry basin and the specific areas subject to the retention application and appeal are within an area of limestone bedrock outcrop, characterised by worked quarry area and surrounding limestone pavement part of the Ballydotia Karst Landscape¹. The site is within the Geological Services Ireland (GSI) defined Ross Lake groundwater body². The areas subject of this appeal case were not and are not within or immediately adjacent to European Sites.

I note that the area of limestone extraction was of relatively low volume, comprising of 400sqm from existing rock faces, described as protruding ledges with removal required to stabilise the rock face. No extraction below the existing ground level was undertaken and works did not impact on the water table. The Applicant asserts that the quarry did not use process water besides that used for dust suppression and there is no indication of any water management measures employed.

From the description of works provided, the scale of the rock extraction was very limited. Impact mechanisms arising from the works would likely have included temporary noise and disturbance during the blast events and a lower level of ongoing noise from rock processing, possible release of construction related contaminants from machinery, increase in waterborne sediments collecting in any

¹ https://gsi.geodata.gov.ie/downloads/Geoheritage/Reports/GY012_Ballydotia.pdf

² <https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/RossLakeGWB.pdf>

surface water from dust and rock breaking and the associated percolation of any such pollutants and sediments into the receiving groundwater.

Taking account of information on the case file, including the limited extent of the works in discrete areas within the existing void of the quarry, the temporary nature of the works, I consider that the magnitude of any such potential contaminant release was low and temporary in nature.

Pathway

The wider area is underlain by limestone and is within the GSI defined Ross Lake Groundwater body. Due to nature of the karst geology, likely groundwater connections exist between the quarry and the local aquifer and potentially with ground water movements that support ground water dependant habitats part of European sites and the wider area.

The southern basin of Lough Corrib, part of the Lough Corrib Special Area of Conservation (SAC) and Special Protection Area (SPA) is located east of the site (>3km). Gortachalla Fen, part of the Lough Corrib SAC is located to the north of the quarry (within 800m). To the west, Ross Lake and Woods SAC is located within 1.5km of the quarry.

Information on the quarry from planning history, aerial photography and site photographs show varied levels of water on worked quarry floor from surface water accumulation and groundwater seepage. The karst landscape and geology is characterised by extreme groundwater vulnerability where groundwater readily and quickly receives water and contaminants from the surface. Precise groundwater flow movements at the site are not know and are unpredictable in karst but it is reasonable to assume that there is possible groundwater exchange throughout the karstic area with lake and wetland habitats which are driven by groundwater flows. Information on the Ross Lake groundwater body suggests that groundwater water movements are eastwards towards Lough Corrib (over distances of 2 to 3km from the quarry) but locally, groundwater flow directions can be highly variable. I note also the persistent presence of groundwater seepage on the quarry floor is an indication of upward hydraulic gradient acting on the site.

Receptors

Lough Corrib is the largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). In terms of lake habitat, it can be divided into two parts: the southern basin, located east of the quarry is relatively shallow, underlain by Carboniferous limestone, and the northern basin, larger and deeper, underlain by more acidic granite, schists, shales and sandstones to the north. The southern basin is characterised by the qualifying interest lake habitat of Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp [3140], the hydrological regime of which is driven by groundwater flows. The conservation objective is to restore this habitat to favourable conservation condition.

The *Chara* beds of the southern basin are an important source of food for waterfowl and the site is designed SPA for the following species: Greenland White-fronted Goose, Gadwall, Shoveler, Pochard, Tufted Duck, Common Scoter, Hen Harrier, Coot, Golden Plover, Black-Headed Gull, Common Gull, Common Tern and Arctic Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds.

The main threats to the quality of the southern basin are from water pollution resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation (NPWS 2022)³.

The Fen at Gortachalla, located within 800m north of the quarry, is host to the rare and Annex II-listed Slender Green Feather-moss (*Hamatocaulis vernicosus*, formerly known as *Drepanocladus vernicosus*), a qualifying interest species of the SAC where it is widespread around the margins, and constitutes a large and significant population in the national context. The conservation objective is to maintain the favourable conservation condition of this habitat within the SAC.

³ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000297.pdf>

Based on the location and distance and absence of ecological connections to other groundwater dependent habitats, I am satisfied that the works undertaken were outside of any zone of influence for other qualifying interest habitats of Lough Corrib SAC.

Ross Lake and Woods SAC is also designated for [3140] Hard Water Lakes as the waterbody is underlain by limestone. The conservation objective is to restore the favourable conservation condition of this habitat. The SAC is also designated for an internationally important population of Lesser Horseshoe Bat (*Rhinolophus hipposideros*) [1303]. I am satisfied that possible significant effects on this species can be excluded based on the rationale set out in the Inspectors report.

Similarly, I am satisfied that possible significant effects on other European Sites in the wider area can be excluded based on the rationale set out in the Inspectors report.

3. Department of Housing, Heritage and Local Government observations

The Departments observations are centred around potential hydrological connectivity via groundwater between the quarry site and nearby European Sites including Lough Corrib SAC and Ross Lake and Woods SAC.

As detailed in the Inspectors Report, the observations note the following:

- The lands are part of the Ballydotia Karst Landscape.
- The site lies within a groundwater vulnerability which has been categorised as Extreme/Rock near surface within a Karst landscape.
- The site falls within both the Corrib and Ballycuike Lough Stream sub catchment areas.
- The quarry site contains water at the surface potentially fed from both surface spring or seepages and groundwater providing potential hydrological links to European Sites.
- Prior to granting retention An Bord Pleanála must be satisfied that the proposed development does not pose a significant impact on the nearby

European Sites qualifying interest's habitats, species and especially on water quality, and that an Appropriate Assessment is not required.

4. Overview of AA Screening

I note the planning history of this site as detailed in the Inspectors report. In the consideration of the application for retention of the 400sqm rock extraction, Galway County Council screened out the need for appropriate assessment based on the nature and scale of the development and the lack of direct ecological conduits between the subject site and European Sites.

Having regard to the nominal scale of the proposed development in the context of the wider quarry, there is little likelihood of significant effects on the conservation objectives of nearby Natura 2000 sites.

This decision by Galway County Council also took account of the screening determination made by An Bord Pleanála regarding the application for Leave to Apply for Substitute Consent (ABP Ref 309419). The Board considered that the lack of direct effects and lack of any known pathways linking potential pollutants arising from the quarry operations that could indirectly affect the SAC sites and the SPA excluded the requirement for AA, and that a need for substitute consent did not apply.

In considering the potential for significant effects on European sites, the planning inspector in the current appeal identified the release of hydrocarbons from vehicles a risk to groundwater which may result in potential damage to groundwater dependant habitats and species within Cough Corrib SAC and Ross Lakes SAC. The Inspector considered that such impacts could be significant in terms of the conservation objectives on their own or in combination with other plans and projects in relation to pollution related pressures.

Mitigation measures

There is no evidence that measures for the protection of groundwater or water quality monitoring have been actioned since substitute consent was granted for quarry operations in 2015 and therefore the planning inspector is correct in the

approach of not considering any mitigation measures intended to prevent negative impacts on a European Site.

However, with regard to hydrocarbons and fuels, I consider that it is reasonable to assume that certain on-site housekeeping with regard to storage of fuels was implemented for overall site safety, and that the risk of any major fuel or hydrocarbon spill occurrence during the period of the works undertaken was very low. I note that a screening report prepared by Ingram Ecology (2020) for the (invalidated) application for retention permission to Galway County Council stated that there were no spillages or accidental emissions during the works.

5. Review and assessment

Having reviewed the information on file including the Inspectors report, the Departments observation, Galway County Councils planning determination and consideration of AA screening tests, I am satisfied that the only impact mechanism that requires further consideration in terms of possible significant effects on Lough Corrib SAC and SPA and Ross Lake and Woods SAC is that related fugitive emissions from plant operations and implications for receiving groundwater.

The planning Inspectors main concern is the release of hydrocarbons from vehicles used for the extraction and processing of the rock and infiltration of such pollutants into the receiving groundwater. He considers that the distance of groundwater flows between the quarry site and sensitive receptors within the European sites may not be sufficient to dilute any such impacts to a non-significant level.

I consider that this determination doesn't take account of the temporary and likely low magnitude of any such emissions if they occurred, the wider groundwater resource and the capacity to dissipate local minor impacts (notwithstanding the extreme vulnerability of karst), indirect hydrological connections and distance to groundwater dependant water bodies associated with the European sites and conservation objectives for those habitats.

I consider that the conservation objective set to restore the favourable conservation condition of Hard oligo-mesotrophic waters with benthic vegetation of Chara spp

[3140] for Lough Corrib SAC and Ross Lake and Woods SAC was not undermined by the rock extraction and processing works based on the following:

The maintenance of the hydrological regime necessary to support the qualifying interest habitats as groundwater flows were not disrupted as the minor nature of the works did not affect the water table or disrupt or change groundwater flows.

The conservation objectives related to the maintenance of water quality are largely focused on limiting nutrient enrichment (nitrogen and phosphorous), factors that the works would not have contributed to.

As for other water quality indicators, the minor nature of the works combined with indirect ground water flow distance would not undermine the default target for (hard water) lake habitat 3140 of high status.

The conservation objective to maintain the favourable conservation condition of Alkaline Fen habitat such as is present at Gortachalla Fen north of the quarry site would not have been undermined as targets to maintain hydrological regimes and ground water flows were not affected and the maintenance of appropriate water quality, particularly nutrient levels, to support the natural structure and functioning of the habitat were not affected by the nature of the rock extraction works.

As there are no surface water features comprising streams or rivers present at the quarry site, there was and is no risk to conservation objectives set for freshwater species dependant on river water quality including Freshwater Pearl Mussel, White-clawed Crayfish, Sea Lamprey, Brook Lamprey and Salmon.

By excluding the potential for significant effects on the Lake habitat, effects on the Lough Corrib SPA and special conservation interest bird species dependant on water quality can also be excluded with confidence as there would have not been a significant impact on the quality or functioning of the wetland habitat within the SPA.

In combination effects

The rock extraction works would not have added to the existing main threats to lake water quality which is nutrient enrichment from agriculture and sewage emissions. I am satisfied that the minor and temporary works would not have added to any

existing quarry related pressures in the wider area in a manner that could cumulatively result in significant effects on European sites.

6. Conclusion and recommendations

I consider that the small scale of rock extraction in the overall context of this quarry site could not have generated pollution potential of a magnitude that would have significantly affected European sites that may be indirectly connected by ground water flows in the wider area.

Any minor impacts that may have been generated would have been of a low level, temporary in nature and quickly dissipated within the wider groundwater system.

Such impacts alone or in combination with other projects would not have had potential to result in significant effects on ground water dependant habitats or species that rely on those habitats in view of the conservation objectives of Lough Corrib SAC, Lough Corrib SPA and Ross Lake and Woods SAC.

I consider that the potential for significant effects can be excluded at the screening stage based on objective information and that further assessment in stage 2 AA was not and is not necessary.

Signed: 

10/11/2024

Maeve Flynn BSc, PhD. MCIEEM

Inspectorate Ecologist