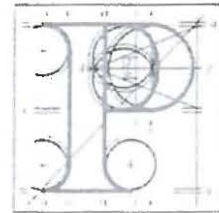


Our Case Number: ABP-318302-23



An
Bord
Pleanála

Environmental Trust Ireland
c/o Michelle Hayes, Solicitor,
3 Glentworth Street
Limerick

Date: 02 April 2024

Re: Expansion of the Bauxite Disposal Area, extension to the existing Salt Cake Disposal Cell and extension of the permitted borrow pit at Aughinish Alumina Limited
In the townlands of Aughinish East, Aughinish West, Island Mac Teige, Glenbane West, and Fawnamore at or adjacent to Aughinish Island, Askeaton, Co. Limerick

Dear Sir / Madam,

An Bord Pleanála has received your recent submission in relation to the above mentioned case. The contents of your letter have been noted.

If you have any queries in relation to the matter please contact the undersigned officer of the Board at laps@pleanala.ie

Please quote the above-mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Breda Ingle
Executive Officer
Direct Line: 01-8737291

CH08

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64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Attachments:

Response from Environmental Trust Ireland to An Bord Pleanála re Aughinish 29 March 2024.pdf

From: Environmental Trust Ireland [REDACTED]

Sent: Friday, March 29, 2024 5:25 PM

To: Bord <bord@pleanala.ie>; [REDACTED]

Subject: 318302 Aughinish

Caution: This is an **External Email** and may have malicious content. Please take care when clicking links or opening attachments. When in doubt, contact the ICT Helpdesk.

Submission of Environmental Trust Ireland - 29 March 2024 attached

ENVIRONMENTAL TRUST IRELAND

**Environment | Conservation | Biodiversity |
Ecology | Climate Change | Heritage | Advocacy**



Re: Planning Application ABP-318302-23

Response to Submission by Tom Phillips and Associates dated 6th July 2022

Previously ABP - 312146-21 - Permission quashed by High Court in Judicial Review proceedings - remitted to Board

Environmental Trust Ireland V An Bord Pleanála & Others - 913/2022 JR

Direct Planning Application to An Bord Pleanála in respect of a Strategic **Infrastructure Development - Section 37E of the Planning and Development Act 2000** (as amended),

Applicant - Aughinish Alumina Limited

Location: - Townlands of Aughinish East, Aughinish West, Island Mac Teige, Glenbane West, and Fawnamore at or adjacent to Aughinish Island, Askeaton, Co. Limerick on a site of c.222ha.

TO:

**AN BORD PLEANALA,
64 MARLBOROUGH STREET,
DUBLIN 1.
D01 V902**

Response:

1. By letter dated 11 March 2024 from An Bord Pleanála, Environmental Trust Ireland has been invited to respond to the submission from Tom Phillips & Associates dated 6 July 2022 for the Applicant, Aughinish Alumina Limited. Environmental Trust Ireland has raised very substantial issues in relation to this planning application previously, most recently in its submission to the Board on the 21st March 2024. To avoid duplication, these are not reproduced here but are relied on as if set out in full hereunder and the Board is also directed to these previous submissions by Environmental Trust Ireland in its consideration of this matter.
2. Tom Phillips and Associates for Aughinish Alumina Ltd. disputes that there could be significant effects on the Lower River Shannon SAC and on the River Shannon and River Fergus Estuaries SPA. It is not the role of Environmental Trust Ireland, an environmental ngo, when exercising public participation entitlements under the Aarhus Convention and other environmental legislation, to prepare additional reports for the planning applicant to supplement its inadequate reports or to repair any deficiencies in those reports. Nonetheless, as examples to illustrate the deficiencies and inadequacies in the developer's reports as the information relied upon in those reports is either self contradictory or factually incorrect, the following are relevant.
3. In relation to bottlenose dolphins, one of the qualifying interests of the Lower River Shannon SAC. Dolphins are very sensitive to pollution and display skin lesions. Dolphins bioaccumulate heavy metals and are susceptible to the impact of blasting from the quarry, contaminated marine sediments and benthic communities, contaminated groundwater and surface water. The developer's reports state that bottlenose dolphins are not common upstream of Glin which is about 15 miles downstream of the subject site. However, this is contradicted by the developer's own reports which state that Analysis of Static Acoustic Monitoring (SAM) data carried out at Aughinish from 2011-2014 found evidence of the local presence of the species for 29% of days monitored (as per MWP 2016). A 29% occurrence is not infrequent. There is deep water around Aughinish and Aughinish Alumina Ltd. even has a marine terminal in the deep water at the jetty about 1km from its refinery plant. In any event, dolphins have been recorded upstream as far as Limerick which is 30 km from the site, although dolphin presence in Limerick is not a common occurrence. Two

separate viewings of dolphins in Limerick city were reported by Limerick Local Radio Live 95FM news on 22 February 2024 and on 21 May 2020

Dolphins spotted in Limerick city

All Live95 News

Thursday, 22 February 2024 18:13
By Live95 News Team

- [Share on Facebook](#)
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- [Share on Whatsapp](#)



Paul

William's captured the Dolphin via @wearecanteen

A local businessman has captured what appears to be an unusual guest in Limerick city this afternoon.

What appears to be a pod of dolphins was photographed by local businessman Paul Williams.

The presence of the marine mammal in the river Shannon in Limerick city is not considered a common occurrence.

The most frequently sighted species around Irish waters include the Short-beaked Common Dolphin and the Bottlenose Dolphin.

WATCH: Dolphins swim to Limerick City

All Buzz

Thursday, 21 May 2020 15:01

By Amanda Flannery @ALLFlannery

- [Share on Facebook](#)
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(via Getty Images)

Dolphins have been spotted close to Limerick City.

The friendly aquatic mammals were spotted swimming around the River Shannon, close to Limerick City yesterday evening.

Ken O' Connell, who was out on his jet ski, captured this fantastic footage of the Dolphins close to the Shannon Bridge.

Take a look.

Dolphins swim close to Limerick City (via Ken O' Connell)

"They come up to boats and jet skis and jump and play in the wake of them," says Ken, who witnessed the spectacular sight.

"Not often there seen so close to the city, they were a few hundred meters down from the Shannon bridge and then headed back out the Estuary."

Ken says that kids should keep an eye this evening for more sightings: "Kids should keep a look out from Shannon Bridge for them again with the evenings tide due high again over 6 meters."

A video showing the dolphins near Shannon Bridge in Limerick is also available.

For the developer to conclude that dolphins are rare in the vicinity of Aughinish and to rule them out on that basis is clearly incorrect

4. As another example, in relation to the heavy metal Nickel, the developer in its reports states:

"Because nickel does not bioaccumulate in marine organisms, and based on the information available, the impact of nickel on the habitats and species using the SAC and SPA is not considered significant."

The claim that Nickel does not bioaccumulate is not supported by the scientific literature on the topic. For example, an Abstract from a peer reviewed Elsevier Journal article, on Nickel bioaccumulation reproduced below suggested liver functional impairment and potential kidney injury occurred.

FULL TEXT LINKS



2023 Apr 1:322:121174

doi: 10.1016/j.envpol.2023.121174. Epub 2023 Feb 4

Low-dose and repeated exposure to nickel leads to bioaccumulation and cellular and metabolic alterations in quails

[Damir Suljević¹](#), [Muhammed Fočak¹](#), [Jasmina Sulejmanović¹](#), [Elma Šehović¹](#), [Andri Alijagić¹](#)

Affiliations expand

- PMID: 36746289
- DOI: [10.1016/j.envpol.2023.121174](https://doi.org/10.1016/j.envpol.2023.121174)

Abstract

Nickel (Ni) is a widespread environmental pollutant commonly released into effluent due to industrial activities, the use of fuels, or wastewater disposal. Many studies confirm the toxic effects of this heavy metal. However, there is a lack of knowledge and data on bioaccumulation patterns in tissues as well as cellular and molecular responses following the exposure of living organisms to Ni. In this study, Japanese quails were exposed to low (10 µg/L) and high (2000 µg/L) Ni concentrations in the form of nickel(II) chloride via drinking water. Sub-chronic exposure lasted 30 days while nominal concentrations represented average Ni content in drinking water (low dose) and average Ni levels in highly polluted aquatic environments (high dose). It was revealed that a high dose of Ni was correlated with increased water intake and decreased body weight. Overall, Ni exposure induced the development of microcytic anemia and alterations in measured blood indices. Moreover, Ni exposure impaired immunological activation as seen through the increased number of the white blood cells, increased heterophile/lymphocyte (H/L) ratio, and pronounced thrombocytosis. Ni elicited changes in the albumin, glucose, cholesterol, and triglyceride serum levels in a concentration-dependent manner. Alterations of plasma protein fractions suggested liver functional impairment while high levels of urea and creatinine indicated potential kidney injury. Granulation of heterophiles and an increase in erythroblasts in the bone marrow showed that the hematopoietic tissue was also impacted by Ni toxicity. On average each quail bioaccumulated 5.87 µg of Ni per gram of tissue. Moreover, the distribution and bioaccumulation of Ni in terms of relative concentration were as follows: feathers > kidneys > heart > liver > pectoral muscles. Assessed bioaccumulation levels and associated cellular and metabolic alterations have revealed new multilayer toxicological data that will help in the extrapolation of Ni toxicity in other vertebrates, including humans.

Keywords: Bone marrow; Liver; Metal pollution; Sub-chronic exposure; Toxicity

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Similar articles

- [Chronic nickel bioaccumulation and sub-cellular fractionation in two freshwater teleosts, the round goby and the rainbow trout, exposed simultaneously to waterborne and dietborne nickel.](#)
Leonard EM, Banerjee U, D'Silva JJ, Wood CM. *Aquat Toxicol*. 2014 Sep 15;141:53. doi: 10.1016/j.aquatox.2014.04.028. Epub 2014 May 6. PMID: 24880786
- [Synergistic effect of nickel and temperature on gene expression, multiple stress markers, and depuration: an acute toxicity in fish.](#)
Kumar N, Thorat ST, Gite A, Patole PB. *Environ Sci Pollut Res Int*. 2023 Dec;30(59):123729-123750. doi: 10.1007/s11356-023-30996-6. Epub 2023 Nov 22. PMID: 37991621
- [Influence of environmentally relevant concentrations of Zn, Cd and Ni and their binary mixtures on metal uptake, bioaccumulation and development in larvae of the purple sea urchin *Strongylocentrotus purpuratus*.](#)
Nogueira LS, Domingos-Moreira FXV, Klein RD, Bianchini A, Wood CM. *Aquat Toxicol*. 2021 Jan;230:105709. doi: 10.1016/j.aquatox.2020.105709. Epub 2020 Dec 3. PMID: 33296850

Clearly, it cannot be concluded that no reasonable scientific doubt remains that significant effects on the two European sites cannot be ruled out and accordingly, the Board has no jurisdiction to grant planning permission for this development.

5. As another example, the dramatic decline in hen harrier between 2015 and 2022 as evident in the release below from the NPWS website. The Stacks to Mullaghareirk Mts., West Limerick Hills & Mt. Eagle SPA is designated for Hen Harrier but was ruled out at Stage 1 from further assessment. It is noted that the developer declined to update its environmental reports to include *inter alia* the current status of the hen harrier. When a species becomes red listed or is likely to become red listed, even small impacts can have enormous effects on the sustainability of that species. Given the precarious state of Hen Harrier populations currently, reliance on desk top studies and the National Biodiversity data website is completely insufficient.

NPWS - Results of the 2022 National Hen Harrier Breeding Survey now published

Date Released: Friday, February 2, 2024

The latest report on the status of breeding Hen Harrier (*Circus cyaneus*) in Ireland has just been published in the National Parks & Wildlife Service's *Irish Wildlife Manual Series*.

The 2022 National Hen Harrier Breeding Survey was completed with a significant contribution of over 7,700 hours of fieldwork by approximately 250 surveyors. The National Parks & Wildlife Service, and survey partners, the Golden Eagle Trust, the Irish Raptor Study Group and BirdWatch Ireland, would like to acknowledge the valuable contribution made by all surveyors, particularly the eNGO volunteer network. In a change from previous national surveys, the Hen Harrier European Innovation Project (HHP, funded by Department of Agriculture, Food and the Marine), in operation between 2017-2022, undertook the monitoring of breeding hen harriers across the six breeding Hen Harrier Special Protection Areas (SPAs) and contributed those records to the national survey. The Northern Ireland Raptor Study Group also assisted in coverage in the border counties.

Key findings

The hen harrier is a territorial bird of prey, and known for its spectacular aerial courtship display, the 'sky-dance'. It typically bred in open habitats such as heath and bog, with areas of low-intensity farmed grassland also favoured. The 2022 results indicate that:

- the national hen harrier population has declined by one third since 2015, to an estimated maximum of 106 breeding pairs (i.e. 85 confirmed, 21 possible).
- Its breeding range has contracted by 27% for the same period. A review of data for those sites covered in each of the past five national surveys (i.e. 1996/00 to 2022) indicates a 59% long-term decline for those sites.
- The magnitude of declines observed for the subset of sites surveyed across all five national surveys would likely prompt the Red-listing of hen harrier on the Birds of Conservation Concern of Ireland.

The conservation of Hen Harrier is considered one of the most urgent bird conservation priorities in Ireland and on January 12th of this year, Minister Noonan launched the [Public Consultation on the Hen Harrier Threat Response Plan](#). The consultation closes on 20th February 2024, having been previously extended from 13th February. This iconic bird of prey, once regarded as relatively common in the mid-19th century, now breeds in uplands affected by competing land-use pressures including forestry, agriculture, renewable energy and recreation. Such changes have resulted in both losses in extent or area of open habitats and habitat features (e.g. scrub, hedgerows, copses, heather) for breeding Hen Harrier and in the suitability of what remains, with lower food availability, increased predation pressure and poorer overall habitat condition linked to declines. Conservation challenges include development of effective measures to address sizeable landscape-scale deterioration in hen harrier habitats, caused by the extensive land-use changes that have precipitated lower breeding success, poor juvenile over-winter survival, and lower recruitment into the breeding population.

This report makes a number of recommendations to halt further declines and support much-needed population recovery (more details provided in the published [Irish Wildlife Manual](#)), all of which will be considered in the finalisation of the Threat Response Plan.

6. Environmental Trust Ireland stands over and reiterates its view that that significant effects on the European sites cannot be ruled out on the basis of the documentation submitted by the developer. The facts remain that the reports and in particular, the environmental reports remain inadequate and contain data lacunae.
7. There has been a significant intervention which has potentially very significant individual and cumulative effects on the current application under consideration, namely, the Applicant has applied to the EPA for a Dumping at Sea licence off the nearby Foynes Island in respect of its activities. No account has been taken in any of the environmental reports submitted by the Applicant to the Board of this new Dumping at Sea licence application. The NIS and EIA reports are accordingly deficient and inadequate and cannot be relied upon in support of the current application. Further, the cumulative impacts have not been considered in the EIA which is deficient. A copy of the submission of Environmental Trust Ireland to the EPA is at the end of this submission.
8. Several surveys and reports are absent from the Applicant's application, for example, there is no marine mammal risk assessment survey and other essential surveys and reports are absent.
9. In relation to the red mud environmental disaster in Hungary, the developer claims that the method of bauxite storage in Hungary was "**entirely different**" and "**an older technology was used called 'wet ponding'**." The developer states that an environmental disaster situation would not arise as the present development deploys a dry stacking technique whereas the type applied in Hungary applied an older technique of wet ponding. However, this ignores the fact that the dry stacking technique or mud farming technique was not employed until 2009 at

Aughinish and the wet ponding technique was used in the original unlined part of the BRDA which remains *in situ*. In addition to the hazardous Salt Cake Disposal Cell located within the BRDA, there were two previous SCDC located within the Phase 1 BRDA and that these were unlined and comprised shallow hollowed out areas of circa 1 ha (page 276, EIAR) and there is also a softer area existing within Phase 1 of the BRDA. Seepage from the base of the BRDA which is unlined is occurring and the results from the groundwater monitoring wells around the site show excess amounts for certain metals which cannot be ignored. Clearly, Aughinish remains an environmental disaster waiting to happen.

10. In respect of radiological assessments, there has been no assessment by the Radiological Protection Institute of Ireland since 2008, now part of the EPA. Tom Phillips and Associates state the Applicant conducted its own assessments in 2021 but it is noted that a mere three samples were taken, two from the BRDA and one process sample. Once off limited sampling of this nature is completely inadequate for statistical analysis and comparison purposes. Although radioactive isotopes of Thorium 232 and Uranium 238 are naturally occurring in bauxite, they do not occur naturally in the amounts and in the concentrations present at the Aughinish facility. The greater the amount of radioactive material, the greater the risk from it.

Radioactive Uranium and Thorium have extremely long half-life periods, the half-life, being the time it would take for radioactive Thorium or radioactive Uranium to decay to half their amounts, is 14 billion years for Thorium 232 and 4.5 billion years for Uranium 238. The longer these radioactive isotopes remain, the greater the risk. Notwithstanding these facts, a mere 3 samples were taken on behalf of the Applicant and simply sent to the EPA / RPII laboratory for measurement of radioactivity in the samples taken. This is not sufficient. It is not clear if individual radioisotopes were measured from the samples provided by Aughinish Alumina or if it was an overall measurement. In any event, there should have been a full radiological assessment of the entire facility and surrounding areas which is long overdue and a comprehensive report prepared to inform members of the public in accordance with the Aarhus Convention.

11. It is noted that the European Commission is yet to make a decision on whether or not to refer Ireland to the Court of Justice of the European Communities in respect of Ireland's apparent failure to comply or to fully comply with its obligations under the Spent Fuel and Radioactive Waste Directive (Council Directive 2011/70/Euratom). Ireland as an EU Member State is required to draw up and implement a national programmes for the management of all spent fuel and radioactive waste generated in this country, from generation to disposal. Aughinish Alumina Limited has not produced any report or assessment dealing with the management of all spent fuel and radioactive waste.
12. In respect of groundwater monitoring and heavy metals, groundwater vulnerability is high to extreme over much of the site and there are karst features. From the developer's own reports and sampling conducted, clearly there are excess amounts of toxic heavy metals including arsenic and mercury in groundwater. No account has been taken by the developer of the impact of karst on groundwater directional flow. The groundwater contours in the developer's reports are too simplified. The reports and explanations offered by the developer are not satisfactory, are not scientifically robust and the precautionary principle has not been properly taken into account.
13. In respect of its sampling generally, the developer did not engage with the specific excess levels but glossed over same and offered a range of excuses varying from a once off result, saline intrusion, heavy metal naturally occurring, similar to background levels at marine ports, heavy metals not bioavailable and others. Several heavy metal thresholds which were exceeded. In relation to the water and sediment sampling, where sampling results were repeated as an exceedance was found the first time, where only one alternative set of data was obtained, the second set was no more reliable than the first set of data and the precautionary principle applied. The developer was not in a position to conduct Appropriate Assessment on the information available and the reports obtained are according defective.

14. In relation to the exclusionary zone beyond 15km. no reasons were provided for exclusion by AAL other than it is "nominal" 15km and no sites outside the 15 km radius were listed. No reasons for exclusion of Killarney Oakwoods was included which on a source pathway assessment was clearly within the Zone of Influence, particularly for indicator species such as bryophytes and lichens.
15. No account has been taken of the impact through rainfall of emissions from the Aughinish facility on *Cladium* and other species in the Askeaton Fen Complex SAC and the overall impact of habitat fragmentation and degradation. No account has been taken of several protected species listed in the Flora Protection Orders. No surveys were conducted of indicator species such as bryophytes and lichens. No survey was even conducted on the very rare triangular clubrush which is unique to the Shannon estuary and no assessment has been conducted on the impact of the proposed development on this and other species forming habitat subtypes within the Annex 1 protected priority habitats of the Lower River Shannon SAC. No account or no proper account has been taken of biodiversity loss and threats to biodiversity.
16. Applying for different planning permissions or licences in close proximity temporally to each other is clearly relevant. Most recently, a Dumping at Sea Licence was applied for, as though it was completely independent of everything else including the current application before An Bord Pleanála. It is noted that the developer did not disclose the existence of the Dumping at Sea licence application in its response to An Bord Pleanála dated 19th January 2024. In the instant case, planning permission was applied for in December 2021, a mere three months after the grant of planning permission in September 2021. The Applicant was aware of a 2017 document from the European Commission entitled *"Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report"* which defines the **"baseline scenario"** as *"a description of the current state of the environment and the likely evolution thereof without the implementation of the Project. This sets the stage for the subsequent EIA,..."* Applying for planning permission in a piecemeal or disjointed manner means that the already permitted activity would be the new baseline scenario and this could simply be subtracted from the anticipated effects

of the current project. Further, this impacts on how the cumulative and in combinations effects are assessed or not assessed. It is not consistent with the requirements of EU law on environmental protection.

17. In relation to the blasting operations, it is submitted that the instruments recording the blasting have not been calibrated properly. It is and that the expected that calibration be done in a neutral area away from the proposed development site and in the absence of blasting. It appears that AAL used the two blasting operations conducted on the quarry post EPA licence grant in September 2021 as a baseline and to calibrate the instrumentation used in order to measure noise and vibration for subsequent blasting events. That which it is intended to measure cannot be used to calibrate the instrumentation, because that involves subtracting the effect of that blasting impact from the measurement results obtained. The instruments should be calibrated before they are used to measure anything.
18. There are a number of waterbodies in proximity to the site which have not been designated under the Water Framework Directive. In the circumstances, An Bord Pleanála has no jurisdiction to grant planning permission on the current application. Further water quality status reports are either not available or indicate declining status.
19. No assessment of the cumulative and combination effects of quarrying has been conducted. No assessment of the impact of other quarries on the quarrying operation has been conducted.
20. The documentation provided by the Applicant is inadequate and not conducive to effective and meaningful public participation. For example, the chemical sampling indicates only a limited number of samples were brought forward for chemical analysis, which is itself completely inadequate for statistical analysis. The sampling methodology is completely suspect with no chain of custody of samples and so forth. Significantly, there has been no attempt to interpret or explain the analytical measurement results obtained in the form of a report or some evaluation of the measurement results. As such, the information has not been provided in a

format required for effective and meaningful public participation as required under Aarhus.

In addition, public participation was undermined recently when the Dumping at Sea licence was advertised in a local newspaper with circulation restricted to a limited local area thereby depriving members of the public from effective and meaningful public participation. It was only when the matter was highlighted to the EPA by Environmental Trust Ireland that the licence application was readvertised.

Environmental Trust Ireland reserves the right to make further submissions in this matter.

Dated this 29th March 2024

For and on behalf of Environmental Trust Ireland.

Environmental Trust Ireland,
C/O Michelle Hayes, Solicitor,
President, Environmental Trust Ireland,
3 Glentworth Street,
Limerick.