

Eve O'Sullivan

Subject: Submission on dredging and Dumping licence application S0026-02

From: Sinéad Sheehan [REDACTED]
Sent: Friday 22 December 2023 16:56
To: Licensing Staff <licensing@epa.ie>
Subject: Submission on dredging and Dumping licence application S0026-02

Sinéad Sheehan
[REDACTED]
[REDACTED]

22/12/23

Submission on Permit Application S0026-02 Aughinish Alumina (AAL)

This submission objects to the renewal of the licence to dredging of sediment from four sites around the AAL jetty and the dumping of dredged material at a dump site off Foynes Island in the Shannon estuary.

The reason for this objection includes the risks involved with dredging within a NATURA 2000 site i.e. the lower Shannon Special Area of Conservation (SAC) 01265: <https://www.npws.ie/protected-sites/sac/002165>

Risks associated with dredging include:

- Loss and alteration of seabed habitat and associated species at the location of the dredge/deposition areas, which lie within a Natura 2000 site
- Water quality impacts from increased suspended sediment and turbidity levels in the water column at the dredge location
- Disturbance to species through smothering from the deposition of suspended solids
- Temporary noise disturbance from dredging plant
- Water quality impacts from accidental oil spill associated with fuelling activities of the suction hopper dredger

Dredging technology will include plough dredging, long reach excavator on barge, and trailing suction hopper dredger.

While it is claimed by the applicant that the current application represents a renewal of an existing licence, it is contended that the difference between the previous licence to dredge is so extensively different than the proposals in the current application, that this application is not a renewal, it is a first time application to dredge more than 83000 tonnes per annum (Environmental Report, applicant documents), compared to 375 tonnes in 2022.

There are four sites proposed for dredging in the new application compared to two previously. There are three different types of dredging methods in this application, suction hopper, long reach excavator and plough dredging compared to only plough dredging in the existing licence.

The current application proposes 21 days of 24 hour continuous dredging twice a year, compared to 4-5 days of maintenance dredging at times when the berth is closed.

The previous application's dump site was the same as the dredge site, whereas the current application proposes dumping on a site further away from the berthing area near Foynes Island which is already a dump site used by another company

These differences are substantive and pose a much higher risk to the Shannon Estuary including the lower Shannon SAC than the previous application.

The current submission objects to the AAL dredging and dumping at sea licence application on the basis that the full extent of the risk of the dredging operations combined with the other operations of AAL, eg disposing of bauxite residue has never been fully assessed in terms of its cumulative impact over the time of operation. Manufactured risk has characterised development of the Shannon Estuary, without consideration of the effects on the estuary's unique ecosystem, as reflected in its SAC designation. Other countries who are at the forefront of environmental protection, have designated agencies enforcing regulations regarding environmental risks, assessed on the basis of chemical, physical and biological hazards and habitat destruction.

As a SAC area, it is believed that the estuary is vulnerable to all the above risks - a large number of protected species survive in this special ecosystem including freshwater pearl mussels, otters and bottlenose dolphins. Dolphins are particularly vulnerable to noise, and while the environmental impact assessment report refers to regulations involving a protocol to ensure mammals are not present while dredging occurs, there is no enforcement of this protocol.

The protocol suggests checking for marine mammals for 30mins before dredging begins. However, if dredging and dumping is to take place 24 hours a day for 21 days, this would surely cause noise disturbance and therefore distress and potential confusion to marine mammals, given their sensitivity to and reliance on sound. The Shannon Estuary is home to Ireland's only population of bottlenose dolphins and they are a protected species.

Lack of enforcement of the protocol to protect marine mammals from noise associated with dredging is an example of Ireland's slack enforcement of environmental protection laws meaning that industries can benefit from this lax regulatory framework to implement highly risky practices that imperil the habitat of humans and other species.

Now is a time when the urgency and importance of biodiversity protection cannot be overestimated: while the fundamental role of biodiversity and ecosystems to support human life does not need to be stated, according to UNEP, up to one million species are threatened with extinction globally as a result of human activities and this decade is crucial in preventing collapse of the biosphere and human civilizations. Taking stock of this, Ireland has declared a Biodiversity Emergency in 2019. The Citizen Assembly on Biodiversity Loss, the voice of civil society that the government is supposed to represent, has published its recommendations in March 2023, confirming the gravity of ecosystem loss in Ireland and warning about the dire consequences if we do not act. Among its more than 150 recommendations it urges the government to "take prompt, decisive and urgent action to address biodiversity loss and restoration and [...] provide leadership in protecting Ireland's biodiversity for future generations". The stakes have never been higher in protecting the SACs, including the Lower Shannon SAC. Currently Ireland pays fines for its lack of care of legally protected species - this must change. Last June, Ireland lost a case at the Court of Justice of the EU over the State's failure to implement environmental law on protected habitats. The conservation measures to protect this SAC are not in place and this contravenes the Habitats Directive.

According to the National Parks and Wildlife Services Website "Once special areas for conservation are designated, EU countries must introduce appropriate conservation objectives and measures. They must do everything possible to:

- guarantee the conservation of habitats in these areas
- avoid their deterioration and any significant disturbance to species"

It is contended that NOT everything possible has been done or is being done to guarantee conservation of habitat and that granting a licence to Aughinish Alumina for dredging and dumping at sea would seriously jeopardise the protection of the lower Shannon SAC.

The Citizen's Assembly on biodiversity loss recommended implementing a Rights of Nature legislative framework which would give due consideration to nature as a complex system that has rights which need

recognition. The River Shannon and the Shannon Estuary exists itself as an entity which already has legal recognition, and these are rights which must be upheld.

The proposed dredging and dumping of materials does not recognise the importance of the natural ecosystems - instead it interferes with nature by removing and destroying a significant area of the river bed so that huge quantities of materials such as mined bauxite ore from rainforests in West Africa and Brazil can be shipped in to the AAL refinery. The processes conducted on the bauxite lends itself to heavy fossil fuel emissions as AAL relies on gas. The refining process also creates millions of tonnes of waste which are laid precariously on the banks of Shannon Estuary. The dredging of the river and dumping materials to sea by AAL is a part of the wider context of unsustainable development and illegal as well as unethical lack of regard for the national climate and biodiversity emergency, as [well as](#) the global climate and biodiversity crisis.

Within this context of unpredictability and extent of risk, and the lack of the risks' proper assessment, the precautionary principle should be invoked, where it is considered best practice not to take any risks which could pose a potential threat to the SAC. The principle has traditionally been enshrined in many EU treaties and national legislations to reflect the incompleteness of scientific evidence and the uncertainty it generates about potential harm to human health and the environment in the case of the effects of hazardous practices, such as the totality of AAL operations.

One of the examples of the lack of certainty about the potential risk to the environment is in relation to the modelling of how the plume of dredged material is likely to form a column as it is dumped. All such modelling is open to criticism - there is not enough evidence provided in the application to conclude no risk to the Shannon Estuary, the SAC nor the dumpsite near Foynes island. Referring to the Dredge Modelling Report attached to the licence application, and the Environmental Report it firstly appears as though there may be some inconsistencies.

The reports both say that dredging campaigns will take place twice a year, 24 hours per day for 21 days. The existing dredging licence is limited to 4-5 days only with a plough dredge and does not permit dumping at the proposed location near Foynes Island. The estimated change in quantity of dredged material, according to the environmental report will be from 374.9 tonnes per annum (pg14 Table 4-1) to maximum of 83,556 tonnes per annum (page 10 Table 2-1).

The environmental report page 10 Table 2-1 Quantity to be Loaded and Dumped at Sea and Table 2-2 Quantity of material to be plough dredged states that the maximum total annual amount of dredged material to be dumped is 53,846 (to be dumped near Foynes Island) and 29,710 to be dumped at the dredging sites, totalling 83,556 tonnes of dredged materials altogether.

On the other hand, the Dredge Modelling Report reports three campaign scenarios each 21 days each; with Campaign 1 totalling 64,462 tonnes, Campaign 2 totalling 4300 tonnes and Campaign 3 totalling 64,462 tonnes. Considering the application is for two 21 day campaigns per year, the dredging could be proposed to be 128,924 tonnes of material per annum, given that the reports do not address which campaigns would be used and when (it does say that Campaign 1 is likely to be the first campaign). If the licence were granted, it would therefore be possible for AA to dredge up to 128,924 tonnes of materials, as opposed to 83,556, representing a serious discrepancy between the Environmental Report and the Dredge Modelling Report.

Of course, it could be argued that there is a great deal of uncertainty about the dredge modelling scenarios. The numbers provided in the dredge modelling report are based on factors measured at certain times of year and there is no guarantee that the two 21 day periods will fall during the same days as those measurements. The saying "You can never walk into the same river twice" aptly reflects the constant change and unpredictability of the Shannon River's Estuary and therefore a lack of ability of the modelling to appropriately assess the risk to the SAC by the proposed dumping at sea.

Mike21 FM HD is the modelling used in this application, but according to peer reviewed science, the limitations of Mike21 FM HD include that "it is not possible to directly validate the model, due to the lack of available comparative real data"

In other words, the modelling is based on scant real information and there is huge and likely potential for the dredged materials to behave differently than the model suggests.

The dumping process is a relatively short-term activity, which is not easy to be captured regarding the instantaneous shape changes at each moment.

The full implications of the application for dredging and dumping at sea in the lower Shannon estuary SAC need to be taken fully into account, far beyond what is indicated in the documents attached to the application, in the awareness of the irreversibility of such potential effects and the damage they could cause to an ecosystem of utmost importance.

It is therefore recommended, with reference to the numerous risks outlined in this submission, which have been inadequately assessed by the applicant that the licence application S0026-02 is refused.

Yours sincerely

Sinéad Sheehan