From:	Sean O"Callaghan
To:	Licensing Staff
Subject:	Ref: S0039-01
Date:	Wednesday 21 May 2025 15:15:09
Attachments:	20250417-EPA-003901.pdf

A Chara,

Please find enclosed An Taisce's submission on the Disposal at Sea licence application ref: S0039-01.

Is mise le meas,

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20250521-EPA-003901

Environmental Protection Agency,
Johnstown Castle Estate,
Co. Wexford,
Y35 W821.

Sent by email to: licensing@epa.ie

21st May 2025

Ref: S0039-01

App: Port of Cork Company Cork.

For: At Ringaskiddy West, the construction of an additional circa 182m of quay is proposed the expand the existing services of the Port. With this application, dredging is required to create the required berth and safe approaches to the berth

Site: Eight kilometres South East of Roches Point.

A Chara,

An Taisce would like to make the following observations on the above Disposal at Sea licence application.

Ecological Survey

Firstly, we would advise that a thorough ecological assessment of the dump site is carried out prior to the commencement of dredged material disposal, in order to ascertain fully the ecological value of the site and to determine if sensitive ecological receptors may be adversely affected. For example, it would appear on the Marine Atlas mapping tool[1] that the proposed disposal site and the surrounding marine area may contain biogenic reef habitat under EUNIS habitat type A4: Circalittoral rock and other hard substrata. This may contain sensitive marine macro-invertebrates who may respond negatively to turbidity, sedimentation and potential contaminated dredged material disposal. Consequently, these elements need to be fully factored into a rigorous impact assessment prior to determining disposal suitability at this location. Such an impact assessment also needs to take sediment plume direction and dispersion fully into account, such as via a Sediment Transport Model.

We also submit that the absence of seagrass habitat requires confirmation before proceeding with disposal of dredged material at this location, due to the highly important carbon sequestering and

[1] https://atlas.marine.ie/#?c=51.9104:-8.0887:10

habitat provisioning role of this species. Particular attention should be given to sedimentation and turbidity (Erftemeijer & Robin Lewis III, 2006).[2]

The degree to which the disposed dredge material sediment size corresponds with the sediment present at the disposal site is also an important consideration. As noted by the Ospar Commission (2008)[3] *"the deposition of fine grained sediment on coarser grained natural sediment can lead to a reduced complexity and changes in community structures."*

Furthermore, the Ospar Commission highlights how direct burial under large quantities of material can smother the benthos community and induce mortality. As noted by Erftemeijer *et al* (2012), *"In many cases, dredging operations have contributed to the loss of coral reef habitats, either directly due to the removal or burial of reefs, or indirectly as a consequence of lethal or sublethal stress to coral caused by elevated turbidity and sedimentation."*[4] The reduction of light availability and photosynthetic activity is a key sedimentation impact for reefs, along with feeding and respiration impacts. Benthic communities can recover if the deposited amount of material is small, and/or the deposition is not a continuous activity. These aspects require close consideration by the EPA when determining the potential impact of deposited dredge material.

This point on ensuring sufficient recovery time is corroborated by other scientific research, such as Aramendia *et al* (2020) who emphasise that *"recurrent depositions without enough recovery time lead to permanent changes".*[5] Such permanent changes result from repeated pulse disturbances from deposited material generating short-term responses in the sediment characteristics and eventual transition to an alternate state with a different composition compared to before.

Additionally, dredged sediment disposal can lead locally to an increase in turbidity which can interfere with *"primary production, growth of macroalage and eel grass and visual predator fish species (e.g. herring and sprat) or fish eating bird species (e.g. tern species)… Increased suspended particulate matter concentrations may interfere with food intake of filter-feeding benthos and copepods, and functioning of gills of fish may be impaired due to clogging."*[6] (Ospar, 2008) Consequently the presence or absence of these species types should be determined prior to any decision on disposal at this site, alongside a clear modelling of recoverability likelihood.

We would also recommend that an assessment of potential toxicity and presence of contaminants in the dredged material is conducted prior to disposal. Otherwise, potentially contaminated material may deposited on a sensitive marine habitat. Terrestrial pollutants can be contained within the dredged material such as nutrients and chemicals associated with sewage and agricultural runoff (Erftemeijer, 2012).[7] When consider cumulatively, in-combination contamination effects in the form of nutrient enrichment, for example, is required in Cork Harbour due to the presence of sewage discharge, waste facilities and upstream agricultural runoff.

With regard to impact minimisation, the aforementioned alignment of dredged sediments with the sedimentary characteristics of the receiving site is required, alongside a determination that contaminants are not present in the dredged material. As noted by the Ospar Commission (2008)[8]:

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[2] Erftemeijer & Robin Lewis III. 2006. Environmental impacts of dredging on seasgrasses: A review. Marine Pollution Bulletin. https://www.sciencedirect.com/science/article/abs/pii/S0025326X06003778
[3] https://www.ospar.org/documents?v=7119
[4] https://www.sciencedirect.com/science/article/pii/S0025326X12001981
[5] https://www.sciencedirect.com/science/article/abs/pii/S0025326X20308547
[6] https://www.ospar.org/documents?v=7119
[7] https://www.sciencedirect.com/science/article/pii/S0025326X12001981
[8] https://www.ospar.org/documents?v=7119

"The disposal method of dredged sediment should be adapted to natural processes and give motile macrofauna the opportunity to migrate horizontally to the new surface layers. The sediment should be disposed during the time of year when the impacts are minimal".

Furthermore, species assemblages at the disposal site require full assessment, as well as understanding natural variability of turbidity and sedimentation at the site and using this as a baseline when modelling potential effects from introducing a large volume of dredged material. Continuous monitoring of water quality and biogenic reef and associated organism health is crucial before, during and after the sediment disposal process.

Please acknowledge our submission and advise us of any decision made.

Is mise le meas,

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