

**From:** [Jose Alonso](#)  
**To:** [Eve O'Sullivan](#)  
**Subject:** FW: Dublin benthos final report  
**Date:** Tuesday 10 September 2024 13:57:45  
**Attachments:** [DAS Dublin Bay WFD benthos monitoring 2024.docx](#)

---

**From:** Francis X O Beirn <Francis.XOBeirn@Marine.ie>  
**Sent:** Tuesday 10 September 2024 13:09  
**To:** Jose Alonso <J.Alonso@epa.ie>  
**Subject:** Dublin benthos final report

Dear Jose

Please find attached, a short overview of the WFD benthos quality element for coastal water Dublin Bay.

Please do not hesitate to contact me if you have any questions.

Sincerely

Francis

---

*Francis O'Beirn PhD  
Section Manager – Licensing and Policy Advice  
Marine Environment and Food Safety Services  
Marine Institute/Foras na Mara  
Rinville, Oranmore  
Galway, Ireland  
H91R673*

*Landline: + 353 91 387250: Mobile: +353 87 968 3094  
[www.marine.ie](http://www.marine.ie)*

Marine Institute

The information contained in this email and in any attachments is confidential and is designated solely for the attention and use of the intended recipient(s). This information may be subject to legal and professional privilege. If you are not an intended recipient of this email, you must not use, disclose, copy, distribute or retain this message or any part of it. If you have received this email in error, please notify the sender immediately and delete all copies of this email from your computer system(s). [Our Privacy Policy.](#)

Foras na Mara

Tá an t-eolas sa ríomhphost seo, agus in aon cheangaltáin leis, faoi rún agus tá sé dírithe ar an bhfaighteoir/na faighteoirí beartaithe amháin agus níor cheart ach dóibh siúd é a úsáid. D'fhéadfadh an t-eolas seo a bheith faoi réir pribhléid dhlíthiúil agus ghairmiúil. Mura tusa faighteoir beartaithe an ríomhphost seo, níor cheart duit an teachtaireacht seo, nó aon chuid di, a úsáid, a nochtadh, a chóipeáil, a dháileadh nó a choinneáil. Má fuair tú an ríomhphost seo go hearráideach, cuir an seoltóir ar an eolas láithreach agus scríos gach cóip den ríomhphost seo ó chóra(i)s do ríomhaire, le do thoil. [Ár bPolasaí Príobháideachta.](#)

**Date:** 10<sup>th</sup> September 2024  
**To:** licencing@epa.ie  
**CC:** Jose Alonso, EPA  
**From:** Francis O’Beirn, Marine Institute  
**Re:** S0033-01 Dublin Port DAS application - update on Marine Institute WFD benthic monitoring.

The Marine Institute, since 2012, has carried out monitoring to determine macro-invertebrate ecological quality status (EQS) in coastal and transitional waters around the Irish Coast as part of Water Framework Directive (WFD) monitoring. As part of this programme, sampling must be carried out within each waterbody at least twice within the 6-year cycle (once every three years). Dublin Bay is a coastal waterbody that is part of the WFD operational sampling programme and has been sampled more frequently.

WFD Sampling of the bay is carried out as part of the Marine Institute Winter Environmental Survey where 15 sites are sampled (Figure 1), infauna macroinvertebrates are analysed (identified and enumerated) and the status of the benthos in the bay is calculated using the Invertebrate Quality Index (IQI)<sup>1</sup>.

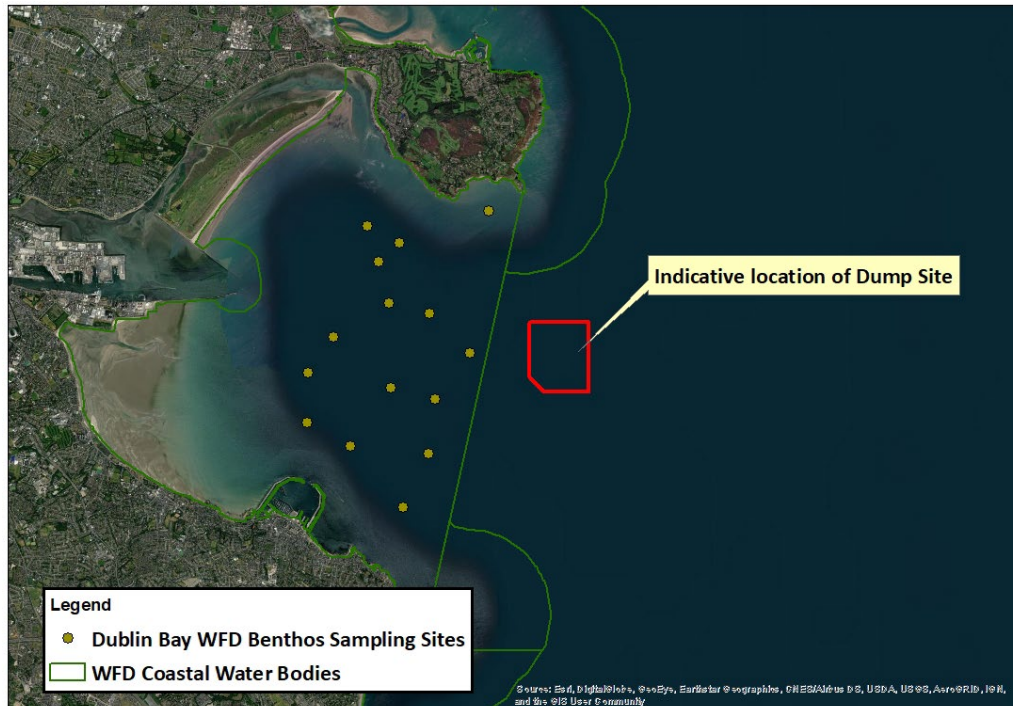
On the basis of monitoring in 2024, sediments samples from stations in Dublin Bay all tend to be comprised of muds and fine sands with some gravel component, in places. Furthermore, the communities surveyed in Dublin Bay continue to be characteristic of the shallow muddy fine sand sediments sampled. Taxa common throughout the stations included the polychaetes, *Nephtys sp.*, *Magelona johnstoni* and *Galathowenia oculata*, the bivalve molluscs *Abra alba*, *Fabulina fabula*, *Kurtiella bidentata* and *Nucula nitidosa* and Amphiuridae brittle stars. Crustaceans tended to be less abundant but the amphipod *Ampelisca brevicornis* was recorded at a number of the stations.

It should be noted that, in the 11 sampling events since 2012, the benthic macro-invertebrate EQS has been classed as Good or better each year (Table 1).

**Table 1: WFD (IQI) benthos scores Dublin Bay. 2012-2024**

|             | 2012  | 2014  | 2015  | 2016  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023  | 2024  |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| IQI - Score | 0.765 | 0.664 | 0.717 | 0.747 | 0.753 | 0.708 | 0.733 | 0.729 | 0.722 | 0.727 | 0.712 |
| EQS         | High  | Good  | Good  | Good  | High  | Good  | Good  | Good  | Good  | Good  | Good  |

<sup>1</sup> [Infaunal Quality Index: Water Framework Directive classification scheme for marine benthic invertebrates Report: SC080016](#)



**Figure 1. Dublin Bay Water Framework Directive benthos macro-invertebrate sampling points (n=15). General location of spoil site is also provided.**

The IQI is a versatile metric capable of determining impact on benthic macro-invertebrates resulting from organic enrichment, chemical contamination as well as physical disturbance (i.e., smothering). It is clear from the benthic monitoring carried out in Dublin Bay that the condition of the benthos is broadly consistent from year-to-year and represented by Good Ecological Quality Status.

It can still be reasonably concluded, therefore, that the effects of dredging (and loading) and spoil disposal do not appear to be impacting the wider seabed invertebrate communities in Dublin Bay.