

Submission No 775

**From:** [Licensing Staff](#)  
**To:** [Grainne Power](#)  
**Subject:** FW: DAS permit application S0024-01  
**Date:** 22 March 2016 14:33:26  
**Attachments:** [0128\\_001.pdf](#)

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**Sent:** 22 March 2016 14:21  
**To:** Licensing Staff  
**Cc:** timothy.butter [REDACTED]  
**Subject:** DAS permit application S0024-01

To whom it may concern:

Please see attached application DAS permit S0024-01

Kind regards

*Sarah Campbell*

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Office of Environmental Sustainability,  
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22 March 2016

Dear Sir/Madam,

**RE. OBSERVATIONS ON APPROPRIATE ASSESSMENT OF DAS PERMIT APPLICATION S0024-01**

**1 Introduction**

1.1 The Irish Underwater Council (IUC) is the national governing body for scuba diving and snorkelling in Ireland. The organisation represents around 2000 members nationally. Dublin Bay is probably the most heavily dived area of the Irish coastline due primarily to the large number of our members who live within the Greater Dublin Area.

1.2 The IUC has a strong mandate from its members to protect the marine environment. The Memorandum of Association of the IUC states that the objects for which the council is established include *"To promote and advance underwater swimming and related activities .... and interest in, study of, care of, and history of the marine environment generally including all scientific disciplines relevant thereto and all other related interests"*. The extension of the organisations interest to care for the marine environment is based on the prerequisite that diving as a sport needs access to clean seas and a healthy marine ecosystem. The interaction that a diver has with the marine environment is very different to that of a person who has never seen the underwater world. In many ways, divers are the eyes under the waves for society as a whole.

1.3 The Alexandra Basin Redevelopment (ABR) project, proposed by the Dublin Port Company (DPC), incorporates a significant capital dredging programme with dredge spoil to be dumped on the existing dump site to the west of the Burford Bank site. The dump site, which is currently licenced, is fairly central within Dublin Bay, with the northernmost point being approximately 3 km due south of the Baily Lighthouse on Howth Head. Of particular concern is the fact that the dump site lies entirely within the Rockabill to Dalkey Island Special Area of Conservation (SAC) and within the UNESCO Dublin Bay Biosphere. The DPC has applied for a Dumping at Sea (DaS) permit, application reference number S0024-01, from the Environmental Protection Agency (EPA). The EPA has decided that the project requires Appropriate Assessment in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011.



1.4 The IUC welcomes the information contained within the DPC *Alexandra Basin Redevelopment Response to Request for Further Information* (ABR Response to RFI) document, dated February 2016. In particular, there is clarification of the methodology proposed for containment of contaminated sediments within Confined Aquatic Disposal (CAD) cells.

1.5 Nevertheless, the IUC still has concerns regarding the proposed dumping of dredge spoil within the Rockabill to Dalkey Island SAC and requests that the following issues are considered by the EPA during the Appropriate Assessment procedure.

## 2 Strategic Environmental Assessment and Environmental Impact Assessment

2.1 There is no Strategic Environmental Assessment (SEA) specifically for the ABR project. An SEA was prepared for the Dublin Port Masterplan, dated February 2012. This pre-dates the designation of the Rockabill to Dalkey Island SAC. A function of the SEA is to consider alternative options. The Masterplan SEA includes the proposed dumping of dredge spoil on the Burford Bank as an element of the capital dredging programme, but does not examine alternative proposals, such as the examination of other potential dump sites.

2.2 Ministerial consent is required to undertake scientific research within a Special Area of Conservation, particularly with respect to biological surveys and the collection of biological specimens. Bearing in mind that the EIS survey work included trawls and benthic grabs taken from within the boundary of the Rockabill to Dalkey Island SAC, it would be beneficial if the licence under which this work was undertaken was made available within the Appendices so that the scope of work could be cross referenced.

## 3 Mitigation Hierarchy

3.1 A sequential process should be adopted to avoid, mitigate and compensate ecological impacts. This is often referred to as the mitigation hierarchy. The mitigation hierarchy is defined by the Chartered Institute of Ecology and Environmental Management as follows (CIEEM, 2016):

Avoidance	Seek options that avoid harm to ecological features (for example, by locating on an alternative site).
Mitigation	Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.
Compensation	Where there are significant residual adverse ecological effects despite the mitigation proposed, there should be offset by appropriate compensatory measures.
Enhancements	Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.



3.2 The DaS permit application focuses on the second level of the hierarchy (mitigation) rather than the first (avoidance). Furthermore, mitigation is restricted to reducing direct impact on harbour porpoise and other marine mammals due to the operation of vessels at the dump site. There is no mitigation proposed for the reduction of harm to other ecological features of the site, such as benthic communities.

3.3 It is noted that Section C of the EPA Dumping at Sea Permit Application Form requires the applicant to assess alternatives to dumping at sea, but does not require the applicant to examine alternative dumping at sea options. The applicant has concluded that there is no reasonable option but to dump the dredge spoil at sea. However, since variations of dumping at sea options are not requested by the EPA, they have not been examined by the applicant (although it is a requirement of the SEA).

3.4 The location of a large scale waste disposal site entirely within the boundary of a Special Area of Conservation raises long term questions regarding site management in terms of achieving the conservation objectives for the SAC. Dublin Bay has a number of active port and harbour areas, not just Dublin Port. Maintenance dredging, and subsequent dumping of the dredge spoil, of all these areas is a relentless on-going requirement.

3.5 Bearing in mind that avoidance is the preferred ecological option, to avoid dumping within the SAC the only reasonable alternative would be to open a new dump site beyond the eastern perimeter of the SAC. Clearly, the impacts of opening a new dump site would be considerable, but without this information it is not possible to determine whether the current proposal is the best environmental and ecological option.

3.6 Whilst the use of a dump site further out to sea would initially appear to require the use of more fuel (and therefore higher cost and greater carbon emissions), it is noted that the proposed dumping method for the current DaS permit application is to have the dredge spoil discharged from the dumping barge over a period of hours as the barge moves slowly across the dump site (Appendix E.3(II) of ABR Dumping at Sea Permit Application Supporting Information and Attachments). This contrasts markedly with the dumping methodology for the current maintenance dredging for Dublin Port (DaS permit number S0004-01) where the dredge spoil is dumped rapidly from the barge over a period of around 10 -15 minutes.

#### **4 Article 6(2) of the Habitats Directive**

4.1 The EPA has decided that the application for a DaS permit requires Appropriate Assessment in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations transpose into Irish law the EU Habitats Directive (92/43/EEC).

4.2 Article 6(2) of the Habitats Directive states that "*Member States shall take appropriate steps to **avoid**, in the special areas of conservation, the deterioration of natural habitats and the **habitats of***



*species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this directive” [emphasis added].*

4.3 In interpreting Article 6(2), Section 3.2 of the European guidance document “Managing Natura 2000 Sites: The Provisions of Article 6 of the ‘Habitats’ Directive 92/43/CEE” (European Communities, 2000) states that *“this article should be interpreted as requiring Member States to take all appropriate actions which it may reasonably be expected to take, to ensure that no significant deterioration or disturbance occurs”*. Furthermore, the same section continues *“Article 6(2) applies **permanently** in the special areas of conservation (SACs). It can concern past, present or future activities or events...If an already existing activity in a SAC causes deterioration of the natural habitats or disturbance of species for which the area has been designated, it must be covered by the necessary conservation measures foreseen in Article 6(1). This may require, if appropriate, that the negative impact be brought to an end either by stopping the activity or by taking mitigating measures.”*

## 5 Qualifying Interests for Rockabill to Dalkey Island SAC

5.1 This SAC has just two qualifying interests:

- Habitat - Rocky reef (Habitat code 1170)
- Species - Harbour porpoise (*Phocoena phocoena*)

5.2 The computer modelling of coastal process presented in the ABR EIS indicates minimal impact on rocky reef habitats, such as those around Howth Head, from, for example, the sediment plume generated from dredge dumping. It is noted, however, that the applicant has not provided field data to validate the accuracy of any of the computer modelling presented in the EIS or other documentation. The IUC has requested this information on a number of occasions. Without field validation the computer models are wholly unsubstantiated. Furthermore, it is re-iterated that the graphics presented in Chapter 9 of the ABR EIS (Coastal Processes) are overly simplistic two dimensional charts of complex three dimensional processes. This assertion applies in particular to the models of plume dispersion for dredged sediments dumped from a barge at the dump site.

5.3 The National Parks and Wildlife Service, in assessing the importance of the Rockabill to Dalkey Island SAC to harbour porpoise states that *“the size, community structure and distribution or habitat use of harbour porpoise inhabiting Rockabill to Dalkey Island SAC are not fully understood. In acknowledging limitations in the understanding of aquatic habitat use by the species within the site, it should be noted that **all suitable aquatic habitat is considered relevant to the species range and ecological requirements at the site and is therefore of potential use by harbour porpoises**”* (NPWS, 2013), [emphasis added]. In relation to the current DaS permit application, the proposed dump site lies entirely within the ‘suitable aquatic habitat’ as defined by NPWS (2013). This document continues *“gaps remain in the knowledge of the species foraging ecology within Rockabill to Dalkey Island SAC and the available data may be biased toward particular locations [i.e. adjacent to headlands and islands] due to the nature of survey effort and opportunistic reports from a range of sources. No*



*detailed information is currently available on individual or group movements by harbour porpoise within or into and out of the site, nor is it known whether individuals or groups of the species demonstrate any faithfulness to the site (i.e. site fidelity or residency). Nevertheless, the consistent annual and seasonal occurrence of the species at the site, its occurrence during the calving/breeding period and density/population estimates available to date all indicate the importance of this coastal site for the species”.*

5.4 The ABR EIS and NIS both concede that there will be impacts on harbour porpoise, including disturbance to animals from dredge dumping activity. Harbour porpoise are generally considered to be relatively shy animals that avoid human disturbance. The DPC proposes to have dredge barges on the dump site for prolonged periods of time (many hours), cruising slowly around the dump site whilst slowly releasing the dredge spoil. It is stated in Appendix E.3(II) of the DaS permit application form that this *“method of dumping has been designed to obtain an even distribution of dredged material across the full extent of the licensed dump site”*. It is not explained in the DaS permit application why it is felt to be important to evenly distribute the dredged material across the site – it has not been done during previous dredging campaigns. However, it would seem that this methodology will result in totally unnecessary disturbance of harbour porpoise within the dump site, which itself is within the boundary of the SAC. Such disturbance could potentially interfere with movement of harbour porpoise through the site for prolonged periods of time.

5.5 Dublin Bay and the adjacent coastline are recognised as an important breeding and calving area for harbour porpoise (NPWS, 2013), a significant factor in the designation of the Rockabill to Dalkey Island SAC. It is therefore of paramount importance that the deterioration of the habitats of species for which the areas have been designated is avoided. Many studies of diet in harbour porpoise indicate the importance of fish belonging to the family Gobidae (gobies) to juvenile porpoise (Santos & Pierce, 2003). The fisheries data presented in the ABR EIS is based on a desk survey of recreational and commercial fisheries data and a number of survey trawls (n = 18) taken over three days between 17 May and 5 June 2013. The survey data, restricted to just a few days in summer time, cannot indicate long term (including seasonal) trends in gobies and other important prey species for harbour porpoise. Santos & Pierce (2003) also state that populations of harbour porpoise in specific areas tend to have clear preferences for a limited number of prey species, with the animals preying primarily on just a small number of fish species amongst the total range of species present. The prey preference exhibited by Dublin Bay harbour porpoise does not appear to have been established.

5.6 Recognising that Dublin Bay, including the dump site of the Burford Bank, is an important breeding and calving area for harbour porpoise, it is of paramount importance that the deterioration of the habitats of species for which the SAC has been designated is avoided (as per paragraph 4.2). Most goby species are demersal and live in very close proximity to the seabed. Gobies are therefore dependent on the benthic communities upon which they live. Furthermore, compared to many fish species, gobies are relatively immobile and would not easily avoid dredge dumping activity.

5.7 The baseline data for the benthic communities that are presented in the ABR EIS are based on an already degraded system.



## 6 Baseline Data on Benthic Communities

6.1 The ABR EIS (section 5.4.3 The Dredge Disposal Site and Proposed Disposal Plans) states that the area of the proposed dump site has been in use for “100 years or more” for the disposal of dredge spoil.

6.2 The report Benthic Ecology of Dublin Bay in Relation to Sludge Dumping: Fauna (Walker & Rees, 1980), cited in section 5.4, Benthic Ecology and Fisheries, of the ABR EIS and based on survey work undertaken in the bay in 1971 and 1972, states in the opening line of the introduction that “sewage sludge and dredge spoil have been dumped in the Dublin Bay area for many decades and there is no pre-dumping quantitative data for close comparison with this study”.

6.3 Section 5.4 Benthic Ecology and Fisheries of the ABR EIS also cites a report entitled Pre-Dredging Sediment Assessment, Burford Bank, Dublin (Kennedy, 2008). This report states in its conclusions that “the dumping site appears to have recovered well from previous dredging events and to be capable of receiving further spoil”. However, this study is based solely on the data collated by the author and based on comparison of the community at the Burford Bank with communities expected on similar sediment types at similar depths at other Irish and UK sites. Since there is no comparison with data obtained from previous surveys of benthic communities at the dump site, it is not clear how the author came to the conclusion that recovery has occurred.

6.4 Section 5.4.4 of the ABR EIS (Habitat Type of the Receiving Environment) states “The biological communities identified from the dumpsite and the adjacent areas in these surveys [i.e. surveys undertaken for the ABR EIS] are similar to those recorded by Walker and Rees (1980), who had identified communities present in Dublin Bay dominated by similar fauna over 30 years earlier. This indicates the stable nature of the benthos within Dublin Bay and around the area of the dumpsite and its resilience to continual disposal of dredge spoil”. However, the assessment of the benthic communities at the dump site presented in the ABR EIS, and by Kennedy (2008), is predicated on the fauna present being of types consistent with a dump site that receives regular dredge spoil. Indeed, section 5.4.8 of the ABR EIS (Residual Impacts) states “The disposal area is an active disposal site, and as such the benthic communities are adapted to periodic disturbance and contain communities in a continuous state of recovery”.

6.5 Section 5.4.8 of the ABR EIS (Residual Impacts) continues “full recovery at the site is not expected to occur until the full six year campaign is completed. The residual impacts associated with this campaign are considered be moderate, but localised and typified by reduced benthic diversity and biomass of benthic macroinvertebrates and to a lesser extent mobile epibenthos including crustaceans and fish”. Therefore, it will take more than six years for a stable “post-dumping” benthic community to develop. It is noted from paragraph 5.3 that the ecological use of the area of the Burford Bank by harbour porpoise is not known. Thus, for a six year period the ecological function of the area of the Burford Bank will be disrupted, with unknown consequences on harbour porpoise as the ecological use of the SAC by harbour porpoise remains unknown (NPWS, 2013)



6.6 The data presented in the ABR EIS, and in both Walker and Rees (1980) and Kennedy (2008), merely confirm that the benthic communities present at the dump site are of types that would be expected in an area that has received regular dredge spoil. There is no indication as to the composition of a fully recovered benthic community in an area that has not received dredge spoil for a number of decades.

6.7 The ABR EIS does not address the issue of what the benthic community was before dumping on the Burford Bank started. Walker and Rees (1980) state in their discussion that, in respect of the sludge dumping site off Howth Head, that *"it is likely that the area has evolved from a stony community towards one of muddier sediments"*. It seems reasonable to assume that a similar change may have occurred at the Burford Bank as it has received dredge spoil for over one hundred years. If the substrate of the Burford Bank was stony, then it is also reasonable to assume that there would historically have been a rich epibenthos of hydroids, sponges, bryozoans, anthozoans, tunicates etc. The instruction from European Communities (2000), highlighted in paragraph 4.3, is reiterated: *"If an already existing activity in a SAC causes deterioration of the natural habitats or disturbance of species for which the area has been designated, it must be covered by the necessary conservation measures foreseen in Article 6(1). This may require, if appropriate, that the negative impact be brought to an end either by stopping the activity or by taking mitigating measures"*.

## 7 Conclusions

7.1 Dublin Port Company are applying for a permit to dump 6.3 million cubic metres of dredge spoil over a period of 6 years within the Rockabill to Dalkey Island Special Area of Conservation (SAC).

7.2 SACs are EU designated sites for wildlife conservation. Such is the level of protection that ministerial consent is required for the removal of even a sample of worms or seaweeds for scientific identification.

7.3 There is no Strategic Environmental Assessment that covers the dumping of dredge spoil in the SAC.

7.4 The mitigation hierarchy has not been fully applied in this DaS permit application. Avoidance has not been considered at all. There is no mitigation of any sort proposed to reduce the impact of dumping on the benthos within the SAC (the benthos is a habitat of a species of interest in the SAC, i.e. harbour porpoise). Finally, there is no proposed compensation to offset residual adverse ecological effects on the benthos.

7.5 There appears to be no field validation of the computer model used to assess the coastal processes such as plume dispersion and sediment movement. Furthermore, the dispersion plume is illustrated using a simple two dimensional depth averaged graphic whereas this is a complex three dimensional process.





7.6 In assessing this application, the EPA are operating in the absence of sufficient knowledge regarding the habitats, species, and habitats of species within the SAC:

- There is reasonable doubt regarding the long-term composition of the benthos at the dump site if dumping were to cease.
- The physical composition of the sea bed at the dump site before dumping commenced is uncertain. It is likely that prior to dumping the substrate of the Burford Bank was stonier, in which case there would have been sessile epibenthos present instead of the infauna community reported in recent surveys.
- The ecological use of the SAC, including the dump site, by harbour porpoise (a qualifying interest of the SAC) is not fully known. However, the NPWS considers all suitable aquatic habitat within the SAC to be of importance to the species.
- Harbour porpoise are primarily piscivorous, yet relevant fisheries data is deficient as it is based solely on trawls taken over three days in summer. Harbour porpoise are resident all year in the SAC – therefore year-round fisheries data is required. Indeed, there is no fisheries data from within the dump site.
- The impact on the movement of harbour porpoise through the SAC due to the prolonged presence of active vessels on the dump site has not been assessed.

7.7 An essential question in assessing this DaS permit application is, what would the seabed and benthic community be like if dumping had never occurred? It is clearly an aspiration of the EU Habitats Directive that degraded habitats within SACs are restored to their natural status.

7.8 The Rockabill to Dalkey Island SAC is an EU designated site for wildlife conservation that is under Irish guardianship. The proposal to dump 6.3 million cubic metres of waste material inside an SAC is, in its essence, contrary to the ethos of designating SACs as protected sites. Were such a project to be proposed in a terrestrial or freshwater SAC, it is extremely unlikely that it would be permitted. However, for most people a project undertaken at sea is out of sight and out of mind. This is not true for divers who witness the impacts of these actions first hand.

## 8 References

CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, 2<sup>nd</sup> edition, Chartered Institute of Ecology and Environmental Management, Winchester, UK.

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NPWS (2013) Rockabill to Dalkey Island SAC (site code: 3000) *Conservation objectives supporting document - Marine Habitats and Species, Version 1 April 2013*, National Parks and Wildlife Service, Dublin.

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