



**FALMOUTH
HARBOUR**

UK's Atlantic gateway.

Dredging Q&A

Background – Dredging and Falmouth Harbour

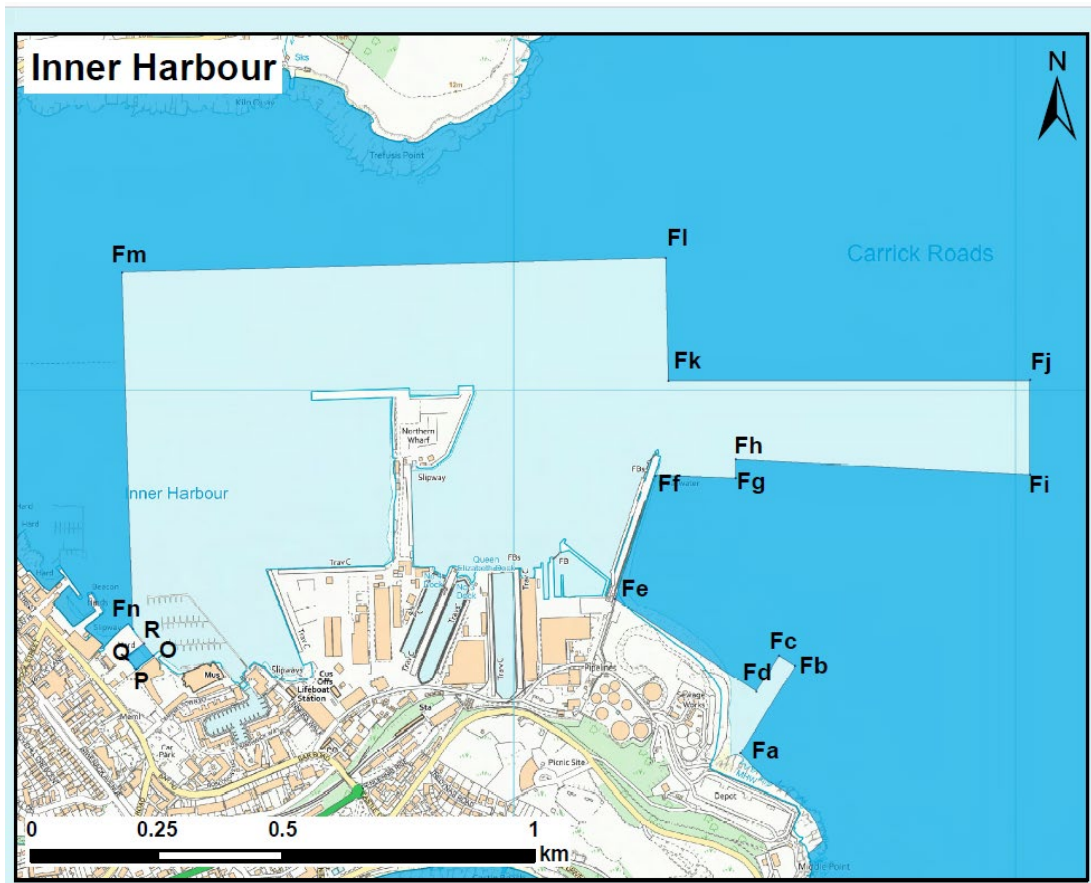
Falmouth Harbour are not planning any dredge activities. In terms of the waters under control of Falmouth Harbour, we have not undertaken any maintenance dredging for a considerable period but in order to maintain our commercial and leisure services, we may consider doing a relatively small capital dredge in the future, if appropriate.

Falmouth Harbour have, in partnership with other local stakeholders in the past, investigated the potential for a capital dredge to deepen the approach channel into the Port of Falmouth Docks and the inner harbour. We have deployed considerable resources and worked in conjunction with environmental organisations and stakeholders to assess the likely environmental impacts of dredging to habitats in Falmouth Harbour. The resulting scientific investigations and papers have contributed to an increased understanding of maerl as a valuable species and a habitat. This knowledge will contribute to its conservation in the future locally and further afield.

A dredging pre-application advice request was made by Falmouth Harbour in 2016 on behalf of a consortium of local partners. This asked the Marine Management Organisation whether dredging a new approach channel into the Inner Harbour would be considered to have an adverse effect on the integrity of the Fal and Helford Special Area of Conservation (SAC) and Falmouth to St Austell Bay Special Protection Area (SPA) for Birds. During this process there was a change in case law which meant that the proposed methods of mitigating the expected impacts were no longer accepted within Marine Protected Areas. In light of this information a decision was made not to proceed with the application.

Who is responsible for maintaining depth in the Docks access channel?

Most of the access waters to Falmouth Docks are within Falmouth Docks Engineering Company waters under their jurisdiction within the Falmouth Docks Act 1959. This includes the approach channel which runs just short of West Narrows buoy, as outlined in plan in light blue below. This includes the access channels to the North of the Northern and Queens jetties and the access channels to Duchy and County wharves. Any proposal to dredge to maintain these waters are a matter for Falmouth Docks and Engineering Company (FDEC) to carry out and justify due to the fact the majority of channel is outside Falmouth Harbour jurisdiction or responsibilities.



Plan of inner Harbour (Light blue FDEC Waters, dark blue Falmouth Harbour)

Is it likely that another major capital dredge application will be submitted?

Within our waters the Falmouth Harbour Commissioners have and could consider the possibility of undertaking dredging when there is sound economic, environmental, and social basis for such works. It is critical that we take actions and invest to maintain and increase economic value of the Port to the local economy. As a Trust Port we are required to proactively contribute to the Ports vibrancy and the sustainable development of the area.

As a stakeholder, Falmouth Harbour would positively approach and consider proposals for dredging outside of our waters. Associated port growth could be a critical element of keeping our Harbour vibrant and viable in the long term. It could also be a major contributor in attracting new business and future technologies such as Floating Offshore Wind and grow existing business such as cruise, but we are aware this needs to be completed in a sustainable way.

What is dredging and why is it required?

Dredging is the removal of sediments and debris from the bottom of lakes, rivers, harbours, and other water bodies. It is focused on maintaining or increasing the depth of navigation channels, anchorages, or berthing areas to ensure the safe passage of boats and ships. Vessels require a certain amount of water to float and not ground on the seabed. The depths required vary with vessel size.

Falmouth Harbour is one of the first major ports on the approaches to the English Channel, which is one of the busiest shipping routes in the world. Large numbers of vessels, over 250,000, pass by

every year. Some stop for shelter during heavy weather, to bunker, crew change and / or take on stores in the bay and some vessels come into the docks for repair or cargo transfer. In addition, even relatively small leisure vessels approaching the Inner Harbour, marinas and quays could be affected by constrained water depths. We may also have to maintain depths of water so we can safely operate our Pilot Boats at all states of tide.

It is therefore vital to Falmouth's thriving maritime organisations that navigational depths are safely maintained. Generally, depths are stable within Falmouth Harbour however there is evidence of some sedimentation in some areas. All vessels both leisure and commercial are becoming larger and more varied due to the evolution of the way we utilise the marine environment.

Dredge activity, therefore, plays a potentially vital role in the maintenance of our port, to ensure the social and economic benefits are maintained.

There are two main types of dredge:

- Maintenance dredging is required to maintain water depths in areas where sedimentation occurs and is a routine activity required for the preservation of navigable depths. There is a legal requirement for ports to maintain safe navigational access and this sometimes requires dredging.
- Capital dredging enables new activities to proceed by creating new or improved existing navigational channels and berths, often making them deeper and/or wider.

Authorised dredge areas include those that are licensed or those that are exempt from a licence, but which are required to be carried out by, or on behalf of, a harbour authority.

What are the environmental impacts of dredging?

There are varying methods of dredging. All methods disturb the seabed and impact upon the habitats and marine communities within the seabed. This is a localised impact that effects only the flora and fauna in the sediments.

There are however more wide-ranging impacts such as the suspension of particles into the water column that cause the water to become cloudy or turbid. This turbidity, if prolonged, can limit light getting to the seabed and impact on species that need light to grow such as maerl, kelp and seagrass.

As the suspended particles fall out of the water, which may be some distance away they can also fall on top of light requiring species which again can impact on their growth. If there are contaminants within the sediments being disturbed these are resuspended and may impact on flora and fauna.

In any application to dredge these impacts, and others, will need to be considered as to whether they are likely to cause a significant impact on the features of the Fal and Helford Special Area of Conservation. Samples will be required of the sediments that will be dredged to assess for pollutants and help to decide on an appropriate disposal route.

The impacts discussed above are provided through summarising the Natural England advice on operations information¹. This can be accessed online using the link below.

¹ [Designated Sites View \(naturalengland.org.uk\)](https://www.naturalengland.org.uk)

Recently dredging has been in the news as the potential cause of a crab mass mortality event off the Yorkshire coast near Teesside. In May 2022 a joint agency investigation into Teesside and Yorkshire Coast Crab and Lobster mortalities Investigation summary report was issued. [Joint agency investigation into Teesside and Yorkshire Coast Crab and Lobster mortalities investigation summary \(publishing.service.gov.uk\)](#). The report concluded that recent maintenance dredging was very unlikely (less than 10% chance) and exceptionally unlikely that capital dredging (less than 1%) was responsible for the unusual mortalities in Teesside in October 2021. The British Ports Association has provided further information alongside links to the independent report².

I thought World Fuels had dredged the seafloor beside the Eastern fuel berth?

In 2014 a berthing pocket was dredged to a depth of 8m to facilitate bunker vessels coming alongside the Eastern jetty within the docks basin to refuel. The Marine Management Organisation (MMO) granted a licence on the condition that the following conditions were adhered to:

- The dredge depth did not exceed 8m below chart datum in order to ensure that only the area of seabed specified in this licence is dredged.
- Dredging was restricted to a time period of 3 hours either side of low water in order to ensure that any sediment resuspended in the water column as a result of these works, is not transported into the surrounding marine environment.
- A turbidity monitoring system was put in place to measure turbidity and a limit set. If three consecutive readings measured over the limit, then the MMO advised the dredging should be stopped in order to keep suspended material to a minimum.
- Use of a silt curtain to keep suspended sediments as contained as possible around the works.
- Use of an eco-bucket to minimise the amount of sediment released during the dredging process.
- The dredged material recovered to the shore and not disposed of at sea. The dredged material was road freighted to Wheal Jane, treated and then used in site restoration.

The full marine licence can be viewed on the MMO website - <https://marinelicensing.marinemanagement.org.uk/mmofox5/fox/live/>

What happens with the dredged material?

Increasingly, there are more options available for disposal of dredged material.

The preferred option in The Waste (England and Wales) Regulations 2011 waste hierarchy is prevention, for example, not carrying out dredging activities. Dredging is expensive and disruptive so harbour authorities will only undertake this activity if it is necessary, so generally this option has already been explored.

² <https://www.britishports.org.uk/crustacean-mortality-report/>

The next option is preparing for re-use or alternative uses for the dredged material. This will depend on the material dredged i.e., mud, sand or larger aggregate like gravel and also on the levels of any contaminants. This process is likely to add significant costs to the dredging activity and this needs to be assessed in a costs vs benefits analysis to take into account all of the factors associated with this activity. Examples of re-use include:

- Engineering uses, such as for construction materials, flood defence, land reclamation, and beach nourishment
- Environmental enhancement, including habitat creation and enhancement, and recreation
- Sustainable relocation involves relocating the dredged material back into the system that it was removed from to maintain the sediment budget of a system, which can be done if the material is in an appropriate condition and it is the best option for the system.

The next two options are recycling, and other recovery. Direct disposal of the material is considered last resort. Any material disposed of at a disposal site is rigorously analysed by CEFAS to ensure it is appropriate for disposal and impacts will be assessed as part of any application to dredge.

What would be the reasons Falmouth Harbour would have to dredge?

We may have the requirement to maintain safe navigable depth around our infrastructure such as pontoons (still considered a capital dredge). As a harbour authority we are legally required to survey depths in the harbour on a regular basis and provide this information to the UK Hydrographic office.

There are some areas where depth is decreasing and therefore sometime in the future a dredge may be required to maintain a safe navigable depth. The business case or operational need would need to be compelling for us to dredge due to cost and environmental impacts but sometimes they are necessary.

It is surprising how little water there can be in areas around pontoons, at spring low water we have to move our Pilot vessels from berth due to restricted depths and leisure vessels regularly go aground close to Custom House Quay. Leisure yachts also regularly go aground when entering and leaving marinas, the Inner Harbour anchorage and moorings within the Inner harbour. A relatively low volume dredge around our marina adjacent to Custom House Quay may well become necessary in next 2-5 years so we can maintain operations and safe navigation.