

Port of Aberdeen: Deposit of Maintenance Dredged Material
Marine Licence Application for 2022: Continuation sheet

Question 6(h): Potential impacts the works may have (including details of areas of concern e.g designated conservation and shellfish harvesting areas) and proposed mitigation in response to potential impacts

1. Introduction

Maintenance dredging in Aberdeen North Harbour has been ongoing for many decades. From 2017-2021, capital dredging was carried out as part of the construction of the South Harbour, and in August 2022 the first maintenance dredge is due to take place in the South Harbour under a separate licence. The current application is for a three-year licence for sea deposition of dredged material from the North and South Harbours.

This document briefly describes the dredging and deposit operations, and the mitigation measures that will be in place to minimise impacts.

2. Environmental sensitivities

Part of the North Harbour dredging area is within the River Dee Special Area of Conservation (SAC), which is designated for its populations of Atlantic salmon, freshwater pearl mussel and otter. The South Harbour entrance channel is approximately 1.5 km from the River Dee SAC.

The bottlenose dolphin population from the Moray Firth SAC occur regularly in and around the Port of Aberdeen's area of jurisdiction.

Part of the North Harbour dredging area is within 2 km of the Aberdeen Bathing Water. The South Harbour dredging area and the offshore deposit site Aberdeen CR110 are greater than 2 km from the Bathing Water.

3. Description of dredging and deposit activity

As described in the Dredging Method Statement submitted with the marine licence application, the Port of Aberdeen's annual maintenance trailer suction hopper dredging (TSHD) campaign is usually carried out once a year; however, occasionally an additional campaign is required to remove excessive accretion caused by storms and/or excessive rainfall.

The annual maintenance TSHD campaign is typically carried out in spring each year, after any winter storms. The start date and duration of the TSHD campaign is dependent on several factors, including:

- Annual accretion of material within the harbour – monitored by regular bathymetric survey;
- Weather conditions – dredging vessels cannot operate or transit in poor wind/wave conditions. Operating conditions will vary by dredger size and design; and
- Availability of dredging plant – dredging equipment tends to be in high demand, particularly in the spring when many UK ports and harbours require dredging.

Since 2016, the North Harbour TSHD campaign has been moved to earlier in the year in consultation with Marine Scotland – Licensing Operations Team (MS-LOT), NatureScot and the Dee District Salmon Fishery Board (DDSF) due to concerns about the potential for dredging to affect smolt migration. This is discussed further in Section 4.

In recent years the duration of the North Harbour maintenance dredging and deposit campaign has reduced, predominantly due to an increase in the size of the dredging vessel, and more recently a reduction in dredging volume due to mild winter weather.

The port must remain operational during dredging, so the dredging programme must be reactive to berth access requirements, internal vessel movements, and vessels entering and leaving the port. TSHD is carried out 24 hours a day during the campaign.

During the annual TSHD campaign, plough dredging is undertaken to move material into areas where it is accessible to the TSHD. In addition, small-scale plough dredging is carried out on a little and often basis to level off high spots, which negates the need for more frequent dredging and sea deposit campaigns. This ‘as required’ plough dredging is carried out during the day, except in an emergency where an obstruction is identified which must be removed urgently, which may be at night-time. Most of the ploughing is, therefore, carried out during daylight hours, except for early mornings during the winter months when ploughing may commence in the ‘day shift’ but before daylight.

4. Atlantic salmon

North Harbour

Part of the North Harbour maintenance dredging area is within the River Dee SAC. Atlantic salmon migrate to and from the River Dee and surrounding east coast catchments as part of their life cycle.

In recent years, North Harbour Dredging Exemption Approvals issued by MS-LOT have prevented maintenance dredging between 12 April and 24 May (inclusive) to protect Atlantic salmon. The Port of Aberdeen recognises the need for a precautionary approach to protect Atlantic salmon, and has repeatedly brought forward its maintenance dredging operations to accommodate requests from NatureScot and the DDSFB.

Port of Aberdeen does not commence dredging any earlier than late March due to the potential for late winter storms to transport material into the outer harbour, and heavy rainfall to wash fluvial material down the river into the harbour.

Whilst the dredging has been completed by 12 April for the last four years, this has coincided with lower dredging volumes than previous years due to mild winters. In some future years, the dredging campaign is likely to take longer and so completion by 12 April could not be guaranteed, particularly with weather and operational delays. With the smolt timing restriction, Port of Aberdeen faces a highly restrictive window within which to carry out its North Harbour maintenance dredging. The prospect of having to stop dredging mid-campaign for six weeks presents a potential hazard to navigation and a significant business risk.

In 2022, the Port of Aberdeen requested that the smolt restriction was not applied to dredging in the tidal harbour/Telford Dock/Victoria Dock/Upper Dock/Albert Basin (Area C on the drawing submitted with the application). This request was based on feedback from Marine Scotland Science (MSS) in 2021 which recommended that due to uncertainties around impacts of dredging on smolts, dredging in the 'main River Dee channel' should avoid the main peak smolt run between 12 April and 24 May, but that dredging could continue in other areas of the harbour during this time.

The North Harbour Dredging Exemption Approval from MS-LOT allowed dredging to continue in Area C until 18 April (i.e. one additional week). Considering the advice from MSS, we request that Area C is excluded from the restricted period altogether, as there appears to be minimal risk to smolt migration from dredging in this area. This will allow early dredging to focus on the River Dee, providing some flexibility if the North Harbour campaign cannot be completed by 12 April.

In previous years, the DDSFB have claimed that there is a clear link between smolt mortality and maintenance dredging because more tagged smolts were lost in the harbour in 2018 than in other years, and in 2018 maintenance dredging was ongoing at the same time tagged smolts were moving through the harbour (which was not the case in the other three years). In 2022, the Port of Aberdeen reviewed the 2018 smolt tracking data and found that of the 24 smolts classed as 'lost' in the harbour, 15 were lost before the dredger had arrived in the harbour. When this is factored in, there is no difference in smolt harbour losses across the four years of tracking studies whether maintenance dredging was occurring or not. This has been accepted by DDSFB in recent discussions.

South Harbour

The South Harbour entrance channel is approximately 1.5 km from the River Dee SAC.

Suspended sediment concentration (SSC) monitoring during the South Harbour capital dredging (2017-2021) revealed minimal exceedences of agreed thresholds, and no significant concerns were raised by stakeholders about the capital dredging activities. Maintenance dredging may disperse sediments outside the South Harbour boundary, but in this open coastal environment any increase in SSCs will be localised and short-lived, and significantly less than during the extensive capital dredging campaign.

Adverse impacts on Atlantic salmon are not predicted. It is not considered appropriate to apply the same seasonal restriction to South Harbour dredging as is in place for North Harbour dredging, which occurs within the River Dee SAC.

5. Marine mammals

Bottlenose dolphins of the Moray Firth SAC occur regularly in and around the Port of Aberdeen. As in previous years, the following conditions will be in place to protect marine mammals during sea deposition from North and South Harbour dredging:

- A dedicated watch will be kept by a trained Marine Mammal Observer (MMO) or someone else following the general guidance for and acting in the role of a MMO. No offshore deposit should take place if marine mammals are observed within 200 m of the deposit site in the 20 minutes prior to deposition. If marine mammals are observed

within this area then deposition will be stopped until the area has been clear for at least 20 minutes.

- A formal log will be maintained whether or not marine mammals are sighted and the completed logs will be returned to MS-LOT.

6. Bathing Waters

Part of the North Harbour dredging area is within 2 km of the Aberdeen Bathing Water. The South Harbour dredging area and the sea deposit site are outwith 2 km of the Bathing Water.

The Scottish Environment Protection Agency's (SEPA) standing advice for the Department for Business, Energy and Industrial Strategy and Marine Scotland on marine consultations¹ states: *'Any dredging/sea disposal operations should be cross checked to see if the proposed site is located in or adjacent to a designated bathing water (within 2 km). If so, ideally all physical operations should be done outwith the Bathing Water Season (1 June to 15 September)... Unless a strong case can be made as to why a particular operation would not present a risk to Bathing waters, all physical operations should be carried out outwith the Bathing Water Season (1 June to 15 September).'*

Due to smolt migration restrictions imposed on North Harbour maintenance dredging in recent years (see Section 4), the Port of Aberdeen is in discussions with MS-LOT and SEPA about delaying its annual North Harbour dredging campaign until after 24 May, which will require dredging during the Bathing Water season. This could only be achieved during years when accretion in the North Harbour over the winter is relatively low and navigable depths have not been compromised earlier in the year.

Aberdeen Beach Bathing Water quality is currently good². Pollution risks at this site are from surface water urban drainage, agricultural run-off, combined sewer overflows and treated sewage effluent³. Maintenance dredging within Aberdeen Harbour has not been identified as a risk to the site, and there is no known evidence of dredging activities affecting bathing water quality at the site.

The material to be dredged is sampled every 3 years and is deemed by MS-LOT to be suitable for deposition at sea. The risk of maintenance dredging adversely affecting bathing water quality at Aberdeen Beach is considered to be negligible.

7. Conclusion

There are no significant impacts predicted during maintenance dredging in the North and South Harbours and associated sea deposition, subject to the mitigation measures proposed in this document.

¹ Land Use Planning System SEPA Guidance Note 13: SEPA standing advice for the Department for Business, Energy and Industrial Strategy and Marine Scotland on marine consultations. Issue No. 7 08/06/2017.

² <https://www2.sepa.org.uk/BathingWaters/Classifications.aspx> [accessed 14 July 2022]

³ <https://www2.sepa.org.uk/bathingwaters/Profiles.aspx> [accessed 14 July 2022]