

REPORT

Port of Dundee Capital Dredge and Quay Improvement Works - Variation to Consented Scheme

Environmental Report

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Reference: PC6550-HAS-XX-XX-RP-X-174
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Acronyms

Acronym	Definition
CD	Chart Datum
EIA	Environmental Impact Assessment
GPP	Guidance for Pollution Prevention
JUB	Jack-Up Barge
OFFSABC	Outer Firth of Forth and St Andrew's Bay Complex
PCW	Prince Charles Wharf
PCWE	Prince Charles Wharf Extension
PPG	Pollution Prevention Guidance
SAC	Special Area of Conservation
sHRA	Shadow HRA
SPA	Special Protection Area
SSC	Suspended Sediment Concentration

1 Introduction

1.1 Background

On the 19 December 2025 the Port of Dundee Limited gained consent to undertake works at the Port of Dundee and Lady Shoal Approach Channel (the consented scheme). The consented scheme includes improvement works to Prince Charles Wharf (PCW) (Marine Licence 00011344) and capital dredging and disposal activities (Marine Licence 00011345) to:

- deepen the approaches to DunEco Quay and PCW to -6.0m Chart Datum (CD) and - 6.5m CD, respectively;
- widen the PCW berth pocket to 70m and deepen to -9m CD and extend eastwards by approximately 200m to a depth of -10m CD (called the Prince Charles Wharf Extension (PCWE));
- deepen a section of the Lady Shoal Approach channel to -6.5m CD; and,
- dispose of up to 686,000 wet tonnes of dredged material at the existing Middle Bank disposal site (FO028).

The marine licence application for the consented scheme was submitted in 2025 and was supported by an Environmental Impact Assessment (EIA) Report (Haskoning, 2025a¹) and a shadow Habitats Regulations Appraisal (sHRA) (Haskoning, 2025b²). The EIA Report concluded that, with mitigation in place, all potential impacts arising from construction and operation of the consented scheme would not result in significant effects.

The sHRA concluded that Likely Significant Effect could not be excluded for a number of designated sites in respect to their conservation objectives during the construction phase only (see Section 4.7 of the sHRA). Information provided to inform the Appropriate Assessment (AA) concluded that there would be no adverse effect on the integrity of the designated sites, either alone or in-combination with other plans and projects.

NatureScot also look a more precautionary approach to the assessment of potential impacts on blue mussel, using a worst-case scenario of 136,195m² of mussel bed feature present within the proposed capital dredge footprint, based upon its most recent analysis. This would result in losses of up to 4.205% of the total blue mussel feature (3,239,300m²) within the Firth of Tay and Eden Estuary Special Area of Conservation (SAC). Given the low density of juveniles and mature mussels found across the Lady Shoal footprint, even though this could be perceived as a

¹ Haskoning, 2025a. Port of Dundee Capital Dredge and Quay Improvement Works EIA Report. Client: Port of Dundee Limited. Reference: PC6550-RHD-XX-XX-RP-EV-0038. Status: Final/02. Date: 7 July 2025

² Haskoning, 2025b. Port of Dundee Capital Dredge and Quay Improvement Works Shadow Habitats Regulations Appraisal. Client: Port of Dundee Limited. Reference: PC6550-RHD-XX-XX-RP-EV-0010. Status: Final/02. Date: 7 July 2025

significant loss of the habitat (in terms of area), NatureScot concluded that functionally the loss would not result in an adverse effect.

1.2 Proposed variations to the consented scheme

Since the granting of the Marine Licences, further design work has identified the need to:

- Increase the size and depth of the PCW and Prince Charles Wharf Extension (henceforth referred to as PCW) berth pocket to 400m by 90m (and increase of approximately 14,000m²) and to -10m CD; and,
- Insert gravel beds to support the spud legs of Jack-Up Barges (JUBs) when berthed at the PCW, up to -13m CD.

These variations are illustrated in **Figure 1-1** and referred to as the 'proposed variations' in this document.

In light of the above, the Port of Dundee Limited intends to submit an application to vary licences MS-00011344 and MS-00011345.

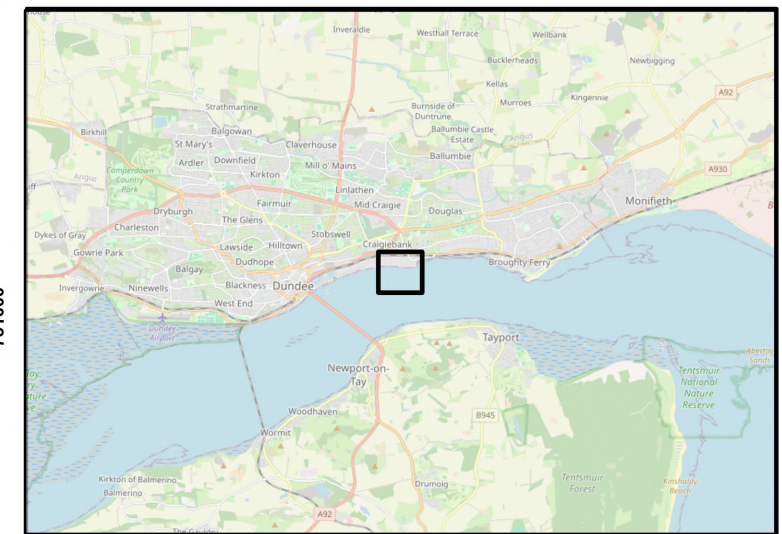
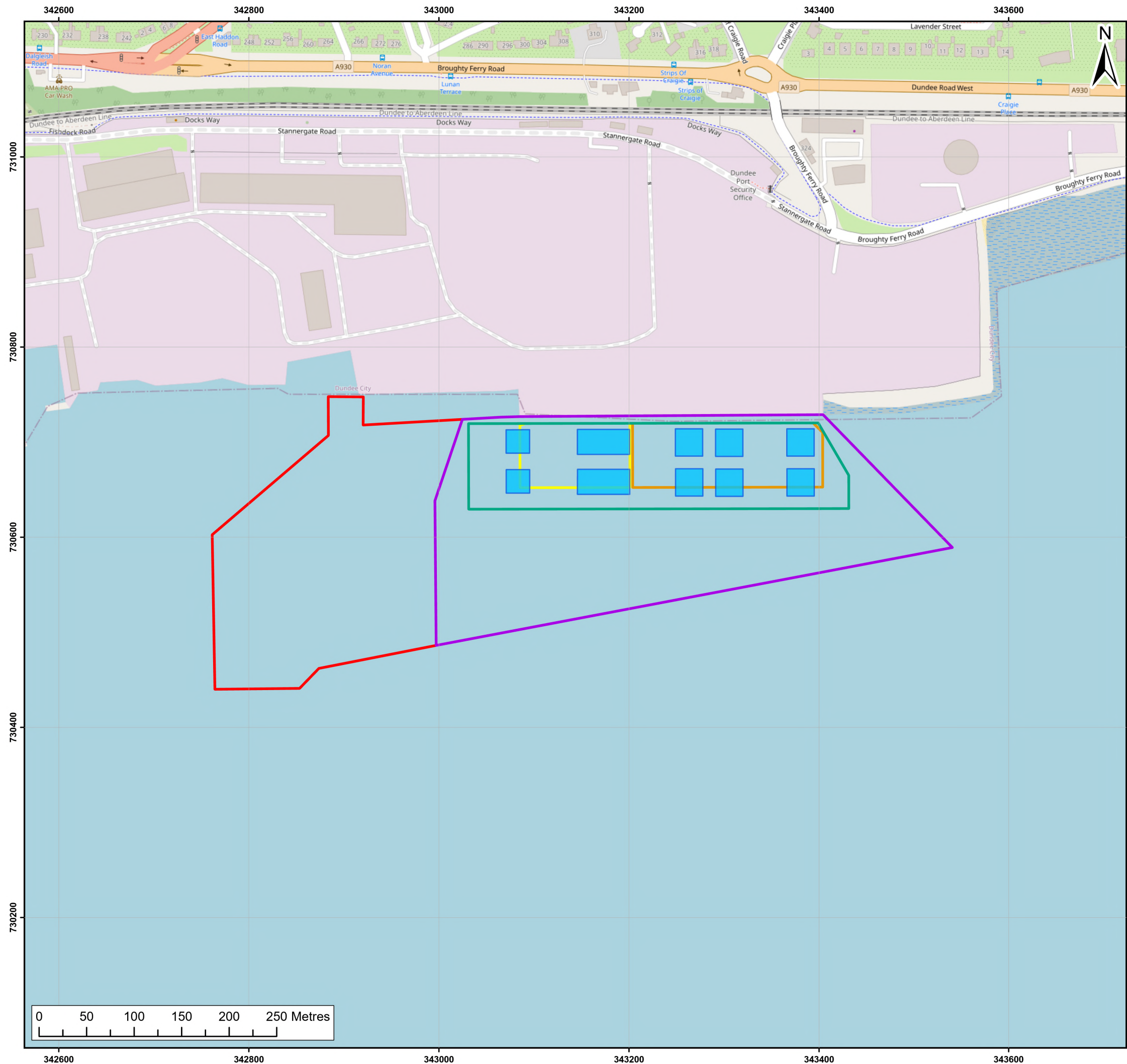
1.3 Purpose of this report

This report presents an environmental appraisal of the proposed variations to support the request to vary the marine licences.

1.4 Structure of this report

The following sections of this report are structured as follows:

- **Section 2** provides a description of the proposed variations to the consented scheme.
- **Section 3** presents the environmental appraisal of the proposed variations.
- **Section 4** presents the conclusions of the environmental appraisal.
- **Section 5** presents further information to inform the sHRA.



Legend:

Consented Scheme

- PCW Berth Pocket
- Extension to PCW Berth Pocket
- Prince Charles Wharf Approach Channel
- DunEco Quay Approach Channel

Proposed Variations

- Variation to PCW Berth Pocket
- Jack Up Barge Foundations

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Client: Port of Dundee Limited		Project: Port of Dundee Variation - Prince Charles Wharf			
Title: Port of Dundee Proposed Berth Pocket Variations					
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 Haskoning Enhancing Society Together					

2 Description of the Proposed Variations

2.1 Location and construction requirements

The proposed variations are located in the River Tay (see **Figure 1-1**). Whilst the proposed variations would increase the footprint of the PCW berth pocket by approximately 14,000m² (over the consented parameters), the overall scheme would remain within the consented dredge boundary (see **Figure 1-1**). The whole of the PCW berth pocket would be deepened to -10m CD, which includes small parts of the DunEco Quay approach channel (consented dredge depth of -6m CD) and the PCW approach channel (consented dredge depth of -6.5m CD). Approximately 67,400m³ of additional material would be dredged from the Port of Dundee dredge area.

In addition, up to 12 No. foundations would be installed within the berth pocket to support jacking of JUBs when berthed at the PCW. Each foundation would be approximately 23m x 23m in size and excavated up to 3m below bed level or until hard geological material or rock is encountered. The total volume removed for the foundations would be approximately 16,000m³, and approximately 32,000m³ of gravel will be required to backfill the foundations and provide a level platform.

The specification for the fill material is a clean, durable, angular rock with a grading of approximately 63-180mm with very low fines content. The gravel will be delivered to site by seagoing coaster, with discharge at PCW and transfer to the foundation locations using a split hopper barge and backhoe dredger.

All dredging works would be carried out by a back-hoe dredger supported by hopper barges, as per the consented scheme. In total, approximately 83,400m³ of material would be dredged (98,800m³ including over dredge) to enlarge and deepen the berth pocket, and to excavate the JUB foundations.

The material to be dredged and disposed of comprises intertidal/marine beach deposits (totalling approximately 81,000m³ (96,400m³ including over dredge) made up of gravelly silty fine to coarse sand and very soft to soft sandy clay / silt, and rock in the deeper areas (totalling approximately 2,400m³); however, the volume of rock dredged would likely be far less given dredging would cease once hard material has been reached. The dredged material would be disposed of at Middle Bank disposal site (as per the consented scheme).

The application of a 0.5m over dredge allowance for the consented scheme was very conservative and this depth would not be attained across all of the dredge areas. Consequently, whilst the proposed variations include additional dredging, the overall disposal volume will not exceed that currently licenced (i.e. 686,000 wet tonnes) and therefore an increase in the consented disposal volume is not being sought.

The works to enlarge and deepen the berth pocket, and to excavate the JUB foundations, would be undertaken as part of the consented scheme's dredge and disposal works, and therefore would be undertaken within the consented dredge/disposal programme.

2.2 General construction requirements

The proposed variations would be undertaken in compliance with the conditions stated in Marine Licence 00011345. In particular:

- *3.3.6 The Licensee must minimise suspension of sediment and minimise damage to the seabed when carrying on the Licensed Activity.*
- *3.3.9 The Licensee must ensure that works carried on under authority of this marine licence are not undertaken at the same time as the piling works licensed under authority of marine licence MS-00011344 during the sensitive period for Atlantic Salmon smolt migration which is the period April to May annually. During 2026 the sensitive period during which the aforementioned activities are not to be undertaken simultaneously is 11 April 2026 to 23 May 2026 inclusive.*

The Port of Dundee Limited is committed to the use of best practice techniques and due diligence regarding construction projects. The following pollution prevention guidelines would be adhered to, as per the consented scheme:

- Guidance for Pollution Prevention (GPP) 1: Understanding your environmental responsibilities - good environmental practices.
- GPP 5: Works and maintenance in or near water.
- Pollution Prevention Guidance (PPG) 6: Working at construction and demolition sites.
- PPG 7: Safe storage - The safe operation of refuelling facilities.
- GPP 8: Safe storage and disposal of used oils.
- GPP 13: Vehicle washing and cleaning (April 2017).
- GPP 21: Pollution incident response planning.
- GPP 22: Dealing with spills.

3 Environmental Appraisal of the Proposed Variations

3.1 Environmental Effects of the Proposed Variations

With the exception of the placement of gravel into the JUB foundations, the proposed variations do not introduce any new activities to that assessed for the consented scheme. Given the placement of the gravel would be contained and within a previously dredged area, this activity is not considered to have the potential result in significant environmental effects.

Whilst there would be an increase in the dredging effort at the Port of Dundee, the overall volume of material deposited at the licenced disposal site would not exceed that previously consented. This is because the application of a 0.5m over dredge allowance for the consented scheme was very conservative and would not be reached across much of the Port of Dundee and Lady Shoal Approach Channel dredge areas. The inclusion of a small volume of rock, which would be contained within the disposal site, is not considered to have the potential to result in a significant effect on the marine environment. As such, further assessment at the disposal site is not required.

Given the volume of dredged material to be disposed of would not exceed that already consented, the sediment sampling and analysis is considered to remain valid, and the proposed dredged material is considered suitable for disposal at sea.

As the proposed variations would be undertaken within the consented dredge/disposal programme and would not increase the overall volume of material being disposed of, the overall number of vessel movements would not be significantly different to that assessed for the consented scheme. Furthermore, the proposed variations are all localised to the Port of Dundee's operational area. As such, potential effects from vessel collision and disturbance (both airborne and underwater) would be the same as that assessed for the consented scheme and these potential effects on ornithology, fish, marine mammals and otter do not require further assessment.

In light of the above, the potential effects of the proposed variations are:

- Direct loss of benthic habitats as a result of the increased size of the berth pocket;
- Indirect loss of benthic habitats due to changes to coastal processes as a result of the increased size of the berth pocket;
- Increased suspended sediment concentration (SSC) and subsequent deposition of suspended sediment affecting water quality and benthic habitats as a result of the increased dredging at the Port of Dundee; and,
- Indirect effects to birds and fish as a result of changes to prey resource (*Mylius edulis*).

3.2 Environmental Appraisal

Table 3.1 presents the environmental appraisal of the potential effects that may arise as a result of the proposed variations. Given the proposed variations would be undertaken as part of the consented scheme, a combined assessment has been undertaken so the overall potential effects can be understood.

Table 3.1 Environmental appraisal of the proposed variations

Potential effect	Environmental Appraisal
Direct loss of benthic habitats as a result of the increased size of the berth pocket	The additional habitat loss as a result of proposed variations would be approximately 7,175m², made up of (see Figure 3.1): • Atlantic circalittoral coarse sediment – 448 m² • Atlantic circalittoral mixed sediment – 23m² • <i>Mytilus edulis</i> beds on Atlantic circalittoral sediment – 252m² • Infralittoral/Circalittoral sand – 6,452m² In the context of the wider Firth of Tay, this additional loss is considered negligible. The consented scheme would result in the loss of 12,042m² of <i>M. edulis</i> beds, representing 0.372% of the estimated <i>M. edulis</i> beds in the Forth of Tay (3,239,300m²). The combined loss of <i>M. edulis</i> beds would therefore be 12,294m², representing 0.380% of the <i>M. edulis</i> beds within the Forth of Tay; an increase of just 0.008%. Using NatureScot's more precautionary approach to the predicted area of blue mussel within the footprint of the consented scheme, the combined loss would be 136,335m², representing 4.212%, an increase of 0.007%. This additional loss is not considered to be significant. In light of the above, the direct loss of benthic habitat as a result of the increased size of the berth pocket is not considered to be significantly different to that of the consented scheme.
Indirect loss of benthic habitats due to changes to coastal processes as a result of the increased size of the berth pocket	Changes in tidal current velocities and bed shear stress may occur as a result of the increased size of the berth pocket. Modelling of the consented scheme indicated that these changes would be typically confined to the margins of the dredge footprint (see Figures 7-33 and 7-37 in the EIA Report). While no increase in the magnitude or extent of these changes is anticipated, given the small scale of the proposed variations, their location is expected to shift to align with the margins of the revised berth pocket, which is within the consented dredge area. In light of the above, the indirect loss of benthic habitat as a result of changes in coastal processes as a result of the increased size of the berth pocket is not considered to be significantly different to that of the consented scheme.

Project related

Potential effect	Environmental Appraisal
Increased SSC and subsequent deposition of suspended sediment affecting water quality and benthic habitats as a result of the increased dredging at the Port of Dundee	Whilst the overall dredge volume at the Port of Dundee would increase, the dredging method would remain the same and the rate of production would be the same or less, as harder material is dredged. As such, the maximum SSC will not exceed that modelled for the consented scheme. As the dredging activity at the Port of Dundee would take longer than that for the consented scheme, there is the potential for additional suspended sediment to be deposited onto the seabed. Sediment deposition as a result of dredging at the Port of Dundee was predicted to remain very localised to the dredging activity (see Figure 7-29 in the EIA Report). Given this and the fact that the proposed dredging would be limited to the berth pocket area, any effects of smothering would remain not significant. In light of the above, the potential effects from increased SSC and subsequent deposition of suspended sediment as a result of the increased dredging at the Port of Dundee are not considered to be significantly different to those of the consented scheme.
Indirect effects to birds and fish as a result of changes to prey resource (<i>M. edulis</i>)	As explained above, the additional loss of <i>M. edulis</i> is not considered to be significant. In light of the above, potential effects to birds and fish as a result of changes to prey resource (<i>M. edulis</i>) is not considered to be significantly different to those of the consented scheme.

3.3 Cumulative Effects

Other plans and projects that have the potential to result in cumulative effects with the consented scheme can be seen in Chapter 13 of the EIA Report. All identified cumulative effects relate to disturbance, vessel collision and impact piling. As there would be no significant change in the overall number of vessels used as a result of the proposed variations, and the proposed variations do not introduce additional impact piling, no further cumulative effects would arise.

4 Conclusions

The potential effects of the proposed variations are not considered to be significantly different to those of the consented scheme (**Table 3.2**). With the implementation of the construction requirements provided in **Section 2.2**, no significant effects would occur and the conclusions of the EIA Report remain valid.

5 Addendum to the sHRA

Taking into account the conclusions of the environmental appraisal provided in **Table 3.2**, and the implementation of the construction requirements provided in **Section 2.2**, the conclusions of the sHRA remain valid. The proposed variations therefore would not result in an adverse effect on the integrity of the Firth of Tay and Eden Estuary SAC, Moray Firth SAC, River Tay SAC and OFFSABC SPA, either alone or in-combination with other plans for projects.