REPORT

Tees Maintenance Dredging Water Environment Regulations (WER) Compliance Assessment

Renewal application for L/2015/00427/7

Client:	PD Teesport Limited
Reference:	PC6304-RHD-XX-XX-RP-X-0001
Status:	Final/1
Date:	21 May 2025

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Royal HaskoningDHV

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1 Introduction

This Water Environment Regulations (WER) Compliance Assessment has been carried out to support the marine licence application for renewal of PD Teesport Limited's maintenance dredging marine licence L/2015/00427/7. It should be read alongside the revised Tees Maintenance Dredging Protocol (MDP) Baseline Document (Royal HaskoningDHV, 2025) submitted as part of the application.

Whilst consideration of the requirements of the Environment Agency's 'Clearing the Waters for All' guidance[1] have been made, it should be noted that the activity has been ongoing for many years. Given there have been no significant changes to the dredge volumes and disposal arrangements throughout the last ten years, the ongoing dredging activity is considered to be accounted for within the baseline sampling undertaken to determine the status classification of the water bodies within which these activities occur. This is acknowledged in the older Clearing the Waters guidance[2] Stage 1 screening document which states '*If the activity was carried out during this period (classification period 2006-2008), we consider we have taken account of any significant effects or impacts on status. Assuming there are no significant changes and that no new information about impacts has become available, the continuation of the dredging or disposal activity should not cause (further) deterioration in water body status*'.

Whilst some information has been provided in previous Tees MDP baseline documents, there is no specific WER compliance assessment for the ongoing maintenance dredging activities. This document therefore provides the baseline information for assessments going forward and updates will only be required should the dredge method and volumes significantly change or if there is a pollution incident as required by the 'Clearing the Waters for All' guidance.

2 Summary of Maintenance Dredging Activities

2.1 Detail of dredging and disposal activities

As part of the 'Clearing the Water for All' guidance a template[3] is provided which covers the first two stages of the assessment. The first table requires details of the activities to be assessed. This has been reproduced below and completed to provide the information required by the Environment Agency. The maintained areas and Tees Bay A disposal site are shown in **Figure 2-1**.

[1] *Water Framework Directive assessment: estuarine and coastal waters - GOV.UK*
[2] *74_11 Clearing the waters - Marine dredging and the Water Framework Directive - Stage one: the screening stage*
[3] *wfd_scoping_template.odt*

Table 2.1 Reproduced table providing detail regarding the activities to be assessed

Information requirement	Description
Applicant name	PD Teesport Limited
Name of activity	Tees maintenance dredging and sediment disposal – 10 year marine licence renewal covering the period 1st January 2026 to 31st December 2035.
Brief description of activity	PD Teesport Limited has a statutory duty to maintain navigation within the Tees estuary and into the Hartlepool docks. As part of this responsibility, the port maintains the advertised dredge depths within the defined areas. To achieve this, maintenance dredging is carried out and disposed of to sea at the Tees Bay A designated disposal site. Activities are currently undertaken under marine licence L/2015/00427/7 (issued by the Marine Management Organisation (MMO)) but note that the marine licence only permits disposal to sea because the port, as a Statutory Harbour Authority, meets the exemption within Section 75 of the Marine and Coastal Access Act 2009 relating to dredging activities. Disposal of up to a maximum of 2,889,700 tonnes wet weight per year is permitted. The maintained area is defined as the area commencing 185m down-estuary of the Tees Barrage at Blue House Point to the seaward limit of the Port Authority Area. This area includes all river frontage and facilities within the estuary commencing near the Tees Barrage. The port facilities within Hartlepool Bay are also included. The marine licence currently permits disposal for a 10 year period ending 31st December 2025 at Tees Bay A disposal site. There are two source sites in the licence – material from the Tees and material from Hartlepool. These two areas are shown in **Figure 2-1**. Dredging is undertaken using Trailing suction hopper dredgers (TSHD) and a plough dredger. Disposal occurs at the disposal site via bottom door release and is placed in different areas of the disposal site by month to avoid mounding of material at the disposal site.
Location of activity	See **Figure 2-1.** There are two areas listed as source sites in the current marine licence – Tees and Hartlepool. Disposal is at Tees Bay A.
Footprint of activity	See **Figure 2-1.** Estuary wide with additional area covering Hartlepool.
Timings of activity	Dredging occurs almost on a daily basis, the activity is therefore considered to be continuous. There have been no significant changes to the maintenance dredging regime in the last 10 years.
Use of release of chemicals (state which ones)	The material is sampled for chemical contaminants in line with the conditions of the marine licence – condition 5.2.3 '*A regime of future sediment sampling is undertaken, of at least three yearly intervals, which must be agreed in advance with the MMO. Samples must be collected, analysed and the report of their notification signed off prior to dredging in the fourth and subsequently the seventh and tenth year of this licence*'.

2.2 In-built control and mitigation measures

PD Teesport Limited have developed an Environmental, Social and Governance (ESG) strategy[4] which sets out 17 targets to deliver three goals aligned with safeguarding the environment, supporting people and strong governance. In terms of the target relating to improving biodiversity, the port has committed to ongoing engagement with Industry Nature Conservation Association (INCA) to undertake biodiversity assessments and investigate ongoing opportunities to increase biodiversity. Examples of projects to date are the support provided to the Tees Rivers Trust to restore marine habitats (including seagrass) and improvements for spawning fish at Hartlepool Dock and the environmental DNA (eDNA) project which has been ongoing for three years now.

Vessels meet the requirements of the International Safety Management Code for the Safe Operation of Ships and for Pollution Prevention (the 'ISM' code) which is then externally audited by the Maritime and Coastguard Agency (MCA). The most recent audit by the MCA did not identify any areas of non-compliance. PD Teesport Limited's operational activities are also undertaken in compliance with an Environmental

[4] *PDPorts_ESG_Landscape_Screen.pdf*

Management System (EMS) meeting ISO14001 requirements and the PD Ports Group Environmental Policy Statement last updated in 2023.

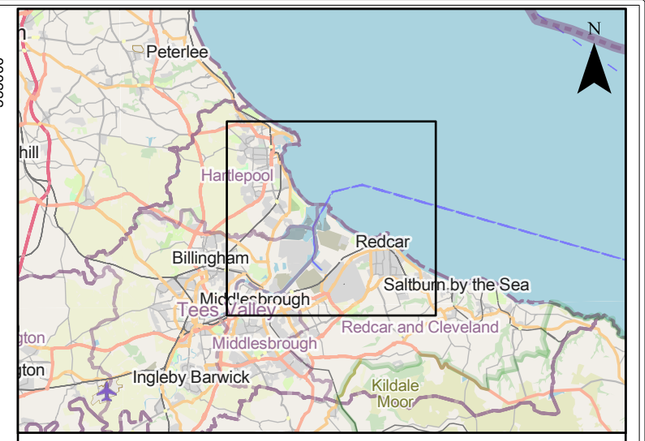
An oil spill contingency plan is also in place which has been developed for use in the event of an operational incident alongside several licence conditions that the port complies with to protect the marine environment as detailed in **Table 2.2**.

Table 2.2 Summary of current licence conditions

Condition	Description	Reason
5.2.1	The licence holder must report any oil, fuel or chemical spill within the marine environment to the MMO Marine Pollution Response Team within 12 hours. Within office hours: 0300 200 2024. Outside office hours: 07770 977 825. At all times if other numbers are unavailable: 0845 051 8486. dispersants@marinemanagement.org.uk	To ensure that any spills are appropriately recorded and managed to minimise impact to sensitive receptors and the marine environment.
5.2.2	Any man-made material must be separated from the dredged material and disposed of to land.	To exclude the disposal at sea of man-made material such as shopping trolleys, masonry, paint cans etc.
5.2.3	A regime of future sediment sampling is undertaken by PD Teesport, of at least three yearly intervals, which must be agreed in advance with the MMO. Samples must be collected, analysed and the report of their notification signed off prior to dredging in the fourth and subsequently the seventh and tenth year of this licence	To ensure only suitable material disposed of at sea.
5.2.8	Bunding and/or storage facilities must contain and prevent the release of fuel, oils, and chemicals associated with plant, refuelling and construction equipment, into the marine environment. Secondary containment must be used with a capacity of no less than 110% of the container's storage capacity.	To minimise the risk of marine pollution incidents.

The risk of spreading Invasive non-native species (INNS) is monitored by the eDNA work and by employing biosecurity measures in accordance with the following requirements:

- International Convention for the Prevention of Pollution from Ships (MARPOL). The MARPOL sets out appropriate vessel maintenance;
- The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), which provide global regulations to control the transfer of potentially invasive species;
- The Environmental Damage (Prevention and Remediation) (England) Regulations 2015, which set out a polluter pays principle where the operators who cause a risk of significant damage or cause significant damage to land, water or biodiversity will have the responsibility to prevent damage occurring, or if the damage does occur will have the duty to reinstate the environment to the original condition; and
- The Merchant Shipping (Control and Management of Ships' Ballast Water and Sediments) Regulations 2022, along with associated guidance published in Merchant Shipping Note 1908 and Marine Guidance Note 675.



Legend

- Maintained areas
- Tees Bay A disposal site

Client:	Project:
PD Teesport Limited	Tees Maintenance Dredging Water Environment Regulations (WER) Compliance Assessment

Title:

Maintained areas and Tees Bay A disposal site

Figure: 2.1

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
0	20/05/2025	TC	CP	A3	1:60,000

Co-ordinate system: British National Grid

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3 Stage 1 screening

3.1 Introduction

The screening stage in the guidance relates to the exclusion of activities that do not require a WER Compliance Assessment. These are relatively minor works that fit into the self-service licence process or under exemptions and therefore are small scale and short term. When the activities do not fit within any of these minor works groups, this stage is used to separate the scheme into activities and identify water bodies at risk.

3.2 Activities for assessment

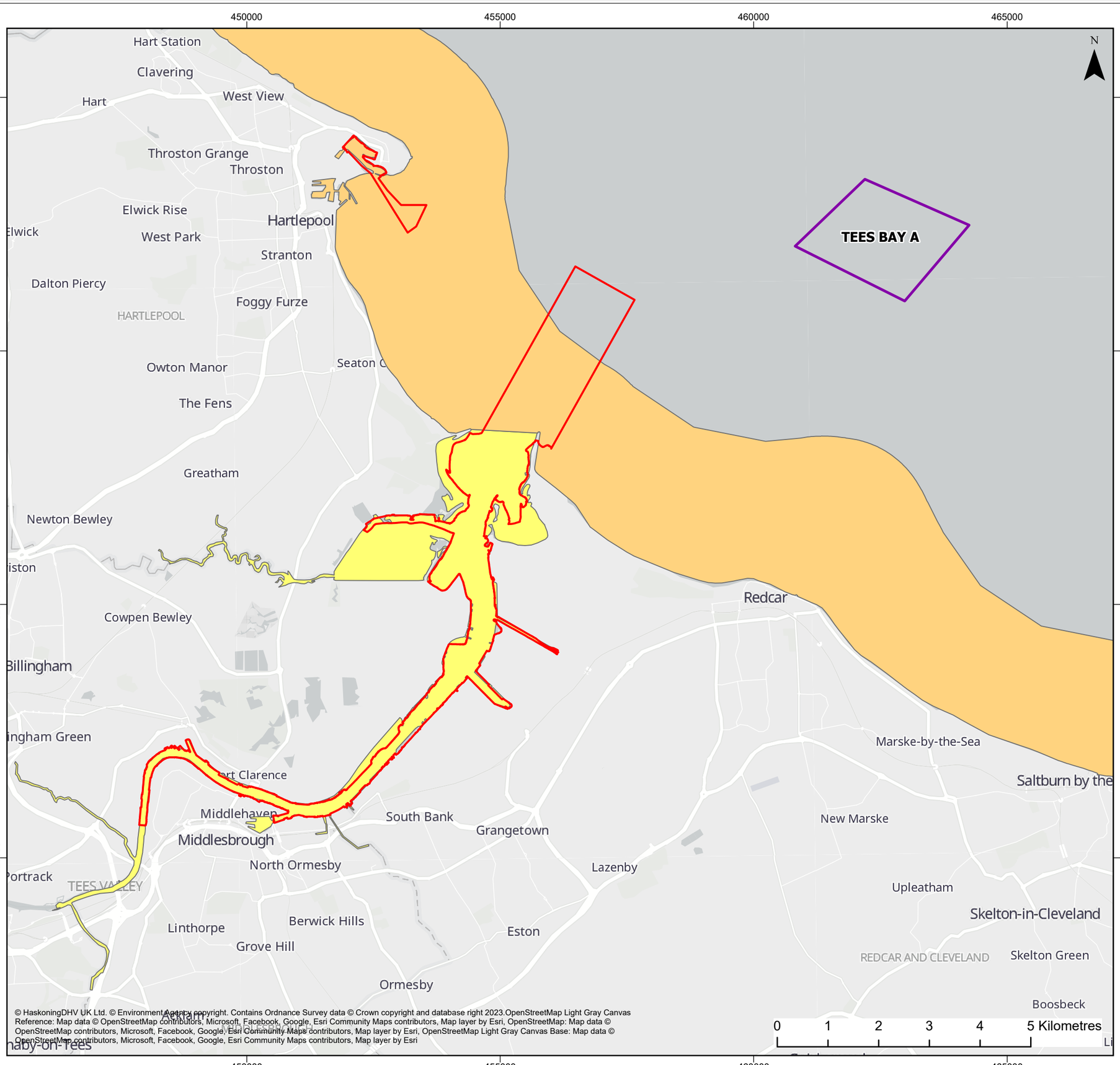
The activities to be assessed are as follows:

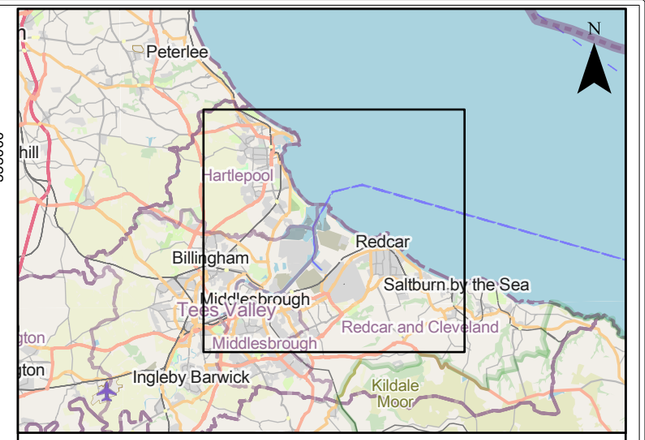
- Maintenance dredging within the Tees and Hartlepool.
- Disposal of maintenance dredged material at Tees Bay A disposal site.

3.3 Water bodies for assessment

The boundaries of the maintained areas, disposal site and water bodies are shown on **Figure 3-1**. The maintained areas are located partially within the Tees transitional water body (GB510302509900) and the Tees coastal water body (GB650301500005).

Figure 3-1 shows that the disposal site is not directly located within a water body. The pathway for effects would therefore be limited to the extent of any sediment plume and subsequent deposition. However, modelling at the disposal site undertaken to assess the potential impacts resulting from the Northern Gateway Container Terminal (NGCT) project (Royal HaskoningDHV, 2006) does not indicate that the plume would extend into the water body. **Figure 3-2** and **Figure 3-3** present the predicted suspended sediment concentrations and peak deposition resulting from fine material disposal (considered to be worst case for effects outside of the disposal site area). Given the dominant effects are limited to the boundary of the disposal site and would not reach the water body, this activity is screened out of the assessment.





Legend

- Maintained areas
- Tees Bay A disposal site
- WER Transitional Waterbody: TEES (GB510302509900)
- WER Coastal Waterbody: Tees Coastal (GB650301500005)

Client: PD Teesport Limited	Project: Tees Maintenance Dredging Water Environment Regulations (WER) Compliance Assessment

Title: Water Framework Directive Water Bodies

Figure: 3.1

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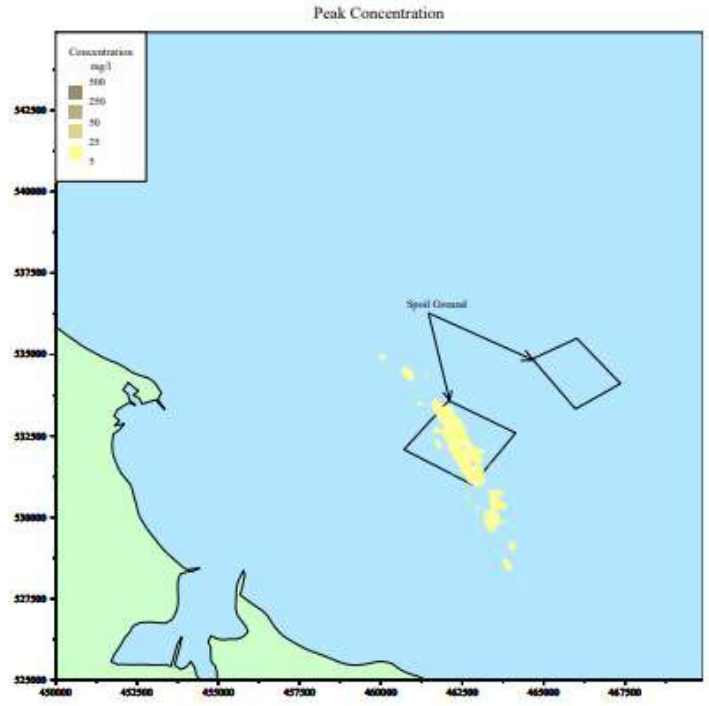


Figure 3-2 Simulated peak concentration for disposal operations at Tees Bay A (NGCT, 2006 ES)

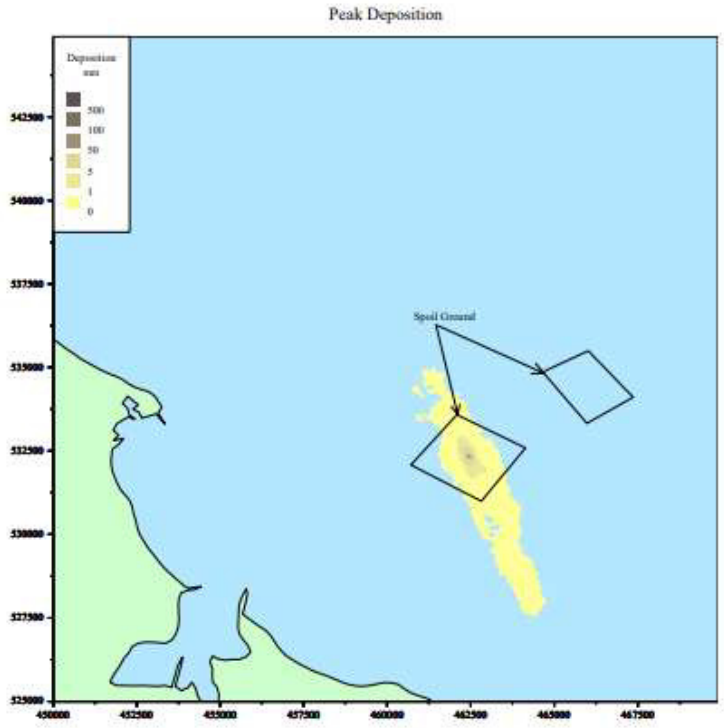


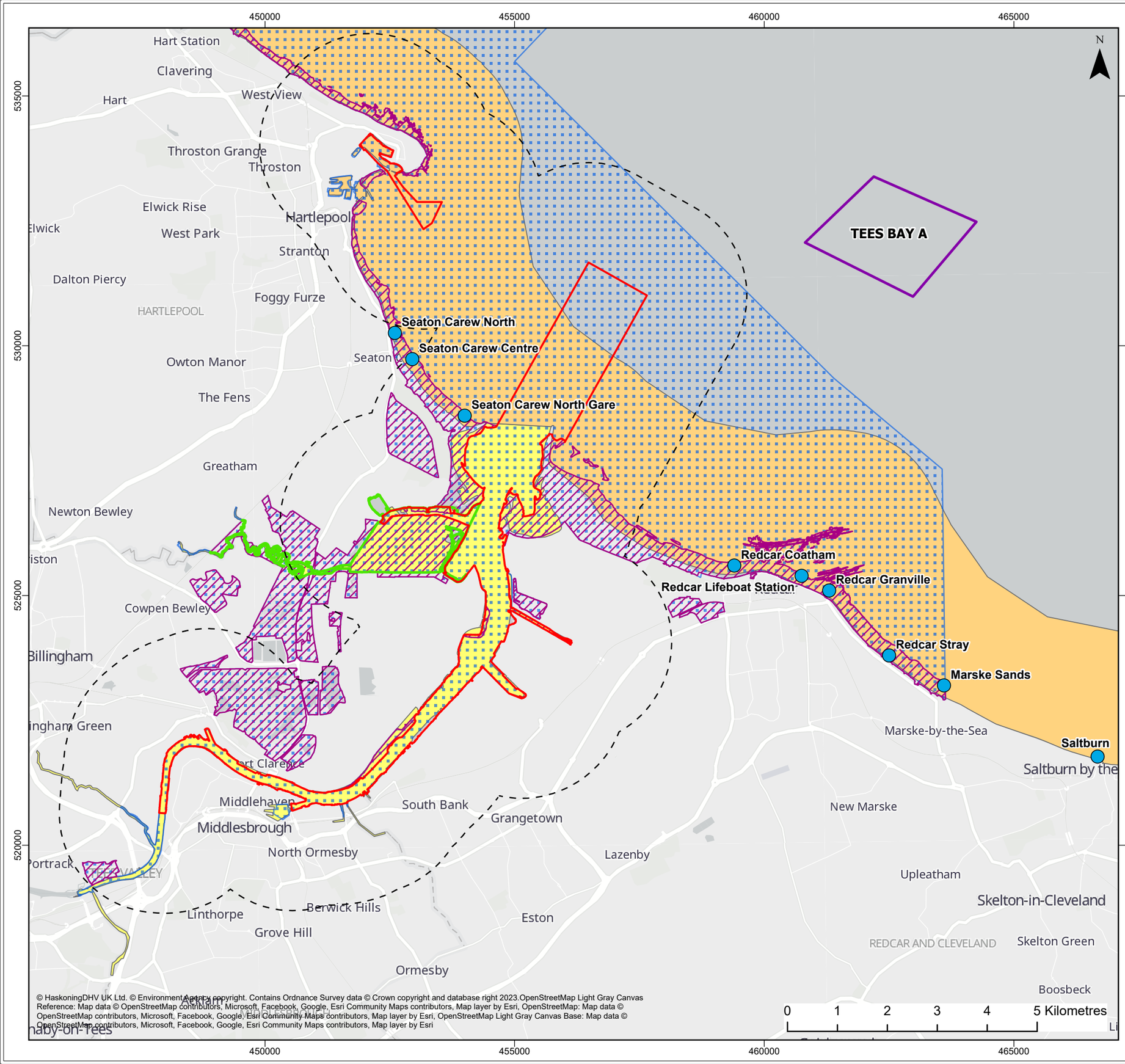
Figure 3-3 Simulated peak deposition for disposal operations at Tees Bay A (NGCT, 2006 ES)

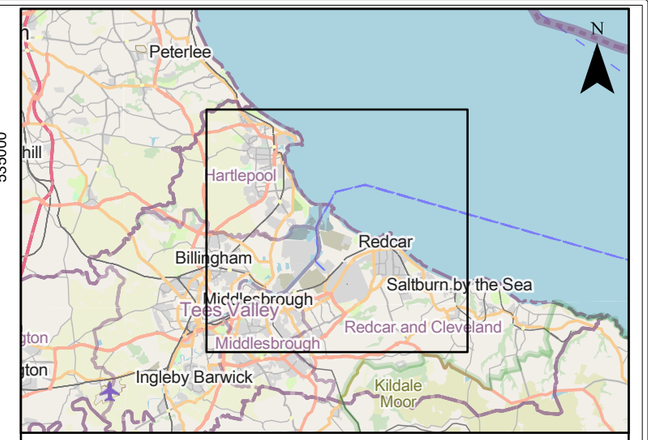
Information for the two water bodies identified as being at risk on the Environment Agency's Catchment Data Explorer[5] is provided in **Table 3.1**. Protected areas are shown in **Figure 3-4**.

Table 3.1 Data for the Tees water body and Tees coastal water body

Information	Tees coastal water body	Tees transitional water body
Water body ID	GB650301500005	GB510302509900
Water body type	Coastal	Transitional
Water body total area (km^2)	88.442	11.481
Heavily modified water body and for what use	Yes (coastal protection, flood protection and navigation, ports and harbours)	Yes (flood protection and navigation, ports and harbours)
Overall water body status (2022)	Moderate	Moderate
Ecological status	Moderate (due to fish, angiosperms (saltmarsh), dissolved inorganic nitrogen) and mitigation measures assessment	Moderate (due to mitigation measures assessment)
Chemical status	Fail (due to concentrations of polybrominated diphenyl ether) (PBDEs) and mercury)	Fail (due to concentrations of PBDEs, benzo(g,h,i)perylene, mercury, tributyl tin and Cypermethrin)
Target water body status and deadline	Good (2027)	Variable depending on parameter – PBDEs by 2063 as a result of natural conditions: chemical status recovery time
Hydromorphology status of water body	Not assessed	Supports good
Higher sensitivity[6] habitats present and area (ha)	Mussel beds, including blue and horse mussel 121.98 ha, Subtidal kelp beds 175.17ha	Saltmarsh – 46.24ha, Subtidal Kelp Beds 4.13ha
Lower sensitivity[7] habitats present and area (ha)	Cobbles, gravel and shingle 3.36ha, intertidal soft sediments 845.53ha, rocky shore 184.33ha, subtidal rocky reef 7170.93ha, subtidal soft sediments 1219.64ha	Cobbles, gravel and shingle 0.77ha, intertidal soft sediments 400.13ha, rocky shore 26.93ha, subtidal rocky reef 4.13ha, subtidal soft sediments 610.31ha
Phytoplankton status	High	Good
History of harmful algae	Not monitored	Not monitored
Protected areas within 2km	• Three designated bathing waters • Seal Sands, Tees Estuary – sensitive area (nutrients) Urban Waste Water Treatment Directive. • There are also two nitrate sensitive areas within the Tees transitional water body: 244 and 245 not shown on **Figure 3-4**.	

[5] England | Catchment Data Explorer
[6] *Higher sensitivity habitats include chalk reef; clam, cockle and oyster beds; intertidal seagrass; maerl; mussel beds, including blue and horse mussel; polychaete reef; saltmarsh; subtidal kelp beds; subtidal seagrass.*
[7] *Lower sensitivity habitats include cobbles, gravel and shingle; intertidal soft sediments like sand and mud; rocky shore; subtidal boulder fields; subtidal rocky reef; subtidal soft sediments.*





Legend

- Maintained areas
- Tees Bay A disposal site
- 2km buffer
- WER Transitional Waterbody: TEES (GB510302509900)
- WER Coastal Waterbody: Tees Coastal (GB650301500005)
- Sensitive Area Eutrophic Coastal Area: Seal Sands
- Bathing Waters Monitoring Location
- Teesmouth and Cleveland Coast Special Protection Area (SPA)
- Teesmouth and Cleveland Coast Ramsar Site

Client: PD Teesport Limited

Project: Tees Maintenance Dredging Water Environment Regulations (WER) Compliance Assessment

Title: Water Framework Directive Water Bodies and Protected Areas

Figure: 3.4

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4 Stage 2 Scoping

This stage aims to identify whether there is the potential for a pathway for an activity to cause an effect on a water body, using a set of scoping questions provided by the Environment Agency in the template. However, given the estuary wide scale and nature of the dredging which has been ongoing for many years, scoping is unlikely to present any meaningful output (i.e. the majority of parameters would be scoped in). Additionally, as outlined in **Section 1**, maintenance dredging has been ongoing since the classification system has been in place, therefore the effects of maintenance dredging are assumed to already be accounted for in the baseline monitoring data that informs these classifications. As a result, all quality elements/compliance parameters will be taken to Stage 3 Further Assessment where they will be reviewed to determine whether ongoing dredging could jeopardise the water body achieving good status in the future.

5 Stage 3 Further Assessment

5.1 Quality elements

5.1.1 Hydromorphology

The hydromorphology of the Tees estuary is detailed in the Tees MDP Baseline Document (Royal HaskoningDHV, 2025) but can be summarised as almost entirely man-made due to channel and entrance training works, reclamation and dredging. The most recent major anthropogenic influence on the Tees has been the construction of the Tees Barrage in the mid-1990s which impounded 18km of formerly tidal estuary. Coastal squeeze is referenced in the 'reasons for not achieving good' (RNAG) and 'reasons for deterioration' (RFD) by the Environment Agency for the transitional water body in relation to the classification status of saltmarsh and macroalgae. As a result, the current industrial use of the estuary is acknowledged throughout the objectives for the water body alongside recognition that action to get to good ecological status would have a significant adverse impact on current use of the water body.

However, there are a number of initiatives that aim to work within the confines of the current use of the water body but identify options for ecological enhancement. For example, the Tees Tidelands programme[8] which is seeking to realign flood defences, restore mudflat and saltmarsh habitat and remove tidal barriers. This project stands alongside partner-led projects such as the Tees Rivers Trust's work to grow and reintroduce seagrass and oysters into coastal and estuarine habitats and the Canal and River Trust working to enhance fish passage at the Tees Barrage. There is the possibility that dredged sediment resulting from maintenance dredging could be used to support some of these initiatives and the Tees River Trust have relatively recently used maintenance dredged material in geotubes to construct a green wall[9]. Whilst ongoing maintenance dredging has contributed to the hydromorphological status of both water bodies and is acknowledged within the designation of both water bodies as heavily modified for 'navigation, ports and harbours', it is likely that the physical structures such as the training walls, reclamation and tidal barrier are the more significant contributing factors to the way in which estuary hydromorphology has developed.

Regarding the Tees coastal water body, a site walkover undertaken to inform the Net Zero Teesside project (AECOM, 2021), describes the water body being backed by a wide sandy beach and sand dunes, popular for recreation. Coatham Sands has, in places along its length, been strongly influenced by historical deposition of slag from local ironworks meaning large parts of the dunes are a mix of slag deposits and natural marine-deposited and subsequently wind-blown sand. In 2011, PD Teesport Limited commissioned a coastal processes overview study to look at the potential for maintenance dredging to affect beach

[8] *Tees programme launched to reduce flood risk and boost nature - GOV.UK*
[9] *Microsoft Word - 4.1_TRT_habitatcreation pilot.docx*

processes in the vicinity of Coatham Sands and Redcar Sands. The study concluded that maintenance dredging could feed adjacent beaches but only if two physical conditions are met:

- That the sediment was of an appropriate grain size; and
- That a mechanism existed for the mobilisation and transport of this sediment to the adjacent beaches.

However, it was also concluded that given the flood dominance of the River Tees estuary encouraging the estuary to act as a sink and local tidal conditions which can reverse the predominant sediment transport direction, material is unlikely to be a significant factor in variations experienced naturally in beach volumes. This was further confirmed in subsequent studies as detailed in the Tees MDP Baseline Document (RHDHV, 2025).

5.1.2 Water quality

Table 5.1 summarises the information available regarding water quality parameters on Catchment Data Explorer for the two water bodies.

Table 5.1 Summary of water quality information available

Water body parameter	Tees coastal	Tees transitional
Ecological status (focus on water quality parameters contributing to ecological status)	Moderate – no specific water quality issues identified.	Moderate - with respect to water quality parameters - dissolved inorganic nitrogen (DIN)
Chemical status (2019)	Fail due to concentrations of polybrominated diphenyl ether (PBDEs) and mercury	Fail due to concentrations of PBDEs, benzo(g,h,i)perylene, mercury, tributyl tin (TBT) and cypermethrin
Target water body status and deadline	Good (2027)	Variable depending on parameter – PBDEs by 2063 as a result of natural conditions: chemical status recovery time
Reasons for not achieving good (RNAG) with respect to water quality parameters	None specifically identified in relation to water quality parameters	Poor nutrient management – rural and agricultural land management (DIN), contaminated water body bed sediments (TBT), sewage and trade discharges (DIN)

5.1.2.1 Physico-chemistry water quality parameters

Dissolved inorganic nutrient (DIN) concentrations are contributing to the classification status of ‘moderate’ within the transitional water body. These effects are linked to diffuse sources of nutrients from agriculture and rural land management. Additionally, water industry discharges are identified as being a source, specifically continuous sewage discharges to the estuary. Evidence collated to date (such as that reported in Cefas 2012) indicates that dredging can increase concentrations of nutrients, but these are usually within the context of natural baseline variations. A significant effect on DIN concentrations within the water bodies resulting from maintenance dredging is therefore unlikely.

Maintenance dredging releases suspended sediment into the water column and therefore sediment levels in the water column are likely to be elevated during dredging activities given the relatively low background concentrations in the estuary outside of storm conditions (RHDHV, 2025). There have been several assessments which model dredging effects in the estuary although these are predominantly focussed on capital projects so dredge requirements are of older, more consolidated material, sometimes with a significant geological component such as mudstone (see Royal HaskoningDHV, 2020). However, modelled output can provide an indication regarding the potential effects maintenance dredging might be having.

Sediment plume modelling undertaken to inform the NGCT project (Royal HaskoningDHV, 2006 and 2020) presents predicted outputs for dredging a much greater amount of material – 4.8million m^3. For this much larger amount of material, the modelling indicated that the largest rise in peak suspended sediment concentrations (up to 1,000mg/l above background) occurs within the immediate vicinity of the dredger. Immediately outside, concentrations of suspended solids are noted to be significantly less - approximately 25mg/l above background. Given the significantly less volume of material to be dredged during maintenance dredging, any resulting plume is also likely to be significantly less and restricted to the near vicinity of the dredger, particularly when dredging coarser sediments such as sand at the estuary mouth.

5.1.2.2 Chemistry

Both water bodies are failing chemical status. This is due to levels of flame retardant compounds polybrominated diphenyl ethers (PBDEs) and mercury and its compounds. The Tees transitional water body also fails for a polyaromatic hydrocarbon (PAH) benzo(g,h,i) perylene, organotin compounds and an insecticide; cypermethrin.

Sediments for disposal are sampled as required by condition 5.2.3 of the marine licence i.e. *A regime of future sediment sampling is undertaken by PD Teesport, of at least three yearly intervals, which must be agreed in advance with the MMO. Samples must be collected, analysed and the report of their notification signed off prior to dredging in the fourth and subsequently the seventh and tenth year of this licence*. This ensures only material is placed at the disposal site that has contaminant levels within the ranges that are considered acceptable by the MMO. A complete dataset for sampling undertaken during the 10 years is provided in the Tees MDP Baseline Document (RHDHV, 2025) that accompanies the marine licence application. Based on sediment data, it should be noted that there are currently several areas excluded from disposal to sea as follows:

- Cochrane's/Tees wharf;
- Normanby Wharf Graving Dock;
- Tees Offshore Base;
- Teesport Commerce Wharf (TPC) Dry Dock;
- Wharf Britannia; and
- Enterprise Zone.

PBDEs are an emerging contaminant of concern for which information on concentration levels around the UK is poor. It should be noted that the majority of UK water bodies are failing for this parameter and therefore this issue is not specific to the Tees. Information provided by the Environment Agency indicates that PBDEs in wastewater treatment works partition to the sewage sludge; however, there are continuing widespread low level emissions of PBDEs to surface waters via wastewater treatment works effluent (Environment Agency, 2021). PBDEs are also present in soil resulting from the spreading of sludge to land which are then washed into the water environment by rainfall. PBDEs may also be released into the water column by the re-suspension of contaminated sediment or the transformation of BDE209, which is still in use in industrial products, to smaller congeners (Environment Agency, 2021). However significant reductions in release of these parameters have been reported over the last 10 years.

In terms of PBDE concentrations in the sediments, the MMO now require PBDE analysis in mid-year sampling and therefore PBDEs were sampled for in the year 9 2024 samples alongside total organic carbon to allow normalisation of the data. Assessment by the MMO indicated that concentrations were acceptable for sea disposal but it is acknowledged that further data is required in the future to ensure concentrations are generally decreasing. Looking for decreasing trends between sampling campaigns also assists in ensuring any effects of sediment release on water quality are also decreasing. As a result, ongoing sediment

sampling to ensure concentrations are decreasing is in line with the water body objective of PBDE recovery by 2063 associated with chemical status recovery time (see **Table 5.1**).

With respect to mercury, earlier classifications in both water bodies previously passed the Environmental Quality Standard (EQS) for mercury. As for PBDEs, failure of mercury and its compounds is a wide scale issue across the UK. This is thought to be due to the replacement of a water based EQS with a biota based EQS considered to be more sensitive. There is a growing body of evidence to suggest that atmospheric sources from non-OSPAR assessment countries contribute significantly to the total load of mercury entering surface waters, together with re-suspension and release of mercury from historically contaminated sediment (OSPAR, 2017). Sediment data collected in the year 9 mid sampling campaign does not indicate elevated levels of mercury in the sediments - only minor exceedances of Cefas action level 1 only, and therefore it is considered unlikely that maintenance dredging is contributing to this EQS failure.

Regarding PAHs, the Tees transitional water body fails for the PAH benzo(g-h-i) perylene but all other PAHs achieve their respective EQS'. PAHs are ubiquitous in the environment, with natural background levels resulting from organic material, diagenesis and biosynthesis. A significant fraction of PAHs is also due to anthropogenic sources and widespread occurrence largely result from formation and release during the incomplete combustion of coal, oil, petrol and wood. PAHs are also components of petroleum and its products and therefore reach the marine environment via sewage discharges, surface run-off, industrial discharges, oil spillages and deposition from the atmosphere (Environment Agency, 2019). It is therefore considered likely that more persistent sources of these contaminants are the main contributors to the EQS failure.

Levels of organotins in the year 9 mid-year sampling were below Cefas Action Level 1 for all samples therefore concentrations are low. Maintenance dredging is therefore considered unlikely to be contributing to this EQS failure.

5.1.3 Biology (habitats)

The Tees water body is at moderate status for saltmarsh and this considered to be caused by physical modifications which are exacerbating coastal squeeze. Saltmarsh is mapped as being present at an isolated location at the eastern end of Seal Sands, in the sheltered location in the lee of the peninsula that extends along the eastern margin of Seal Sands.

As has been observed in previous surveys within the Tees (see RHDHV, 2025), annelid taxa, particularly polychaetes, dominate the assemblages in terms of abundance and diversity across the maintenance dredge area and mollusc taxa generally contribute most to biomass. Species in the areas subject to maintenance dredging are largely made up of opportunistic species which colonise the area in between dredging activity. This is supported in the marine ecology survey work undertaken to inform the NGCT capital works (Royal HaskoningDHV, 2006 and 2020).

Whilst maintenance dredging removes material from the seabed it would not alter the habitat type available or the exposure conditions. Additionally, the species present are typical of a highly disturbed environment (MarLIN[10]) and are dominated by fast growing opportunistic polychaetes. However, MarLIN notes that removal of the substratum to 30cm would result in the loss of the characterising species but that recovery of the biological assemblage may take place before the original topography is restored, if the exposed, underlying sediments are similar to those that were removed. Therefore, whilst there may be a temporary deterioration in species composition and numbers following maintenance dredging, sediment communities would be expected to recover relatively quickly.

[10] *Home - MarLIN - The Marine Life Information Network*

5.1.4 Biology (fish)

Within the Tees water body fish are deemed to be at moderate status, however reasons for this classification are not described, apart from to say the source is unknown and pending investigation. Whilst dredging is likely to release sediment into the water column (see **Section 5.1.2**), only localised, short-term effects are anticipated in the near vicinity of the dredger. A combination of factors including physical restrictions to fish movement are likely to be contributing to this classification and PD Teesport Limited are seeking to support projects where possible to encourage recovery of fish species as outlined in **Section 2.2**.

5.2 Protected areas

There are a number of protected areas within 2km, however not all require assessment. For example, sites designated under the Nitrates Directive relate to actions associated with farming and land use and as such, are protected by the defining of Nitrate Vulnerable Zones (NVZ). The objective of the Nitrates Directive is to reduce water pollution caused by nitrates from agricultural sources therefore effects on these protected areas are managed via land-based actions.

There are three bathing waters within 2km of the dredge boundary. Although designated bathing waters come under the umbrella of protected areas, they are protected by their own legislation 'The Bathing Water Regulations 2013'. Parameters assessed are Escherichia coli and Intestinal enterococci and there are four compliance categories – excellent, good, sufficient and poor. Compliance information for the bathing waters in the study area is presented in **Table 5.2**.

Table 5.2 Bathing water information for those within 2km of the maintained area[11]

Bathing water	Description	Compliance category (2024)	Notes
Seaton Carew North Gare	Southern end of an extensive sandy beach close to the mouth of the Tees.	Excellent	These bathing waters are all subject to short term pollution procedures associated with bacteria that get washed into the sea from livestock, sewage and urban drainage via rivers and streams. There is no mention of maintenance dredging practices impacting on this bathing water. Significant investment in water company discharges has occurred including the construction of a long sea outfall which diverted flows 4km offshore to improve and protect bathing water quality at the Seaton Carew beaches. In 2000, a treatment works was built at Seaton Carew and the sewage flowing to the long sea outfall has since received full treatment and disinfection using ultraviolet light. In 2007, the discharge from Billingham Sewage Treatment Works was diverted from its previous location to this long outfall to ensure that it had no adverse effect on Seal Sands. The location of the outfall and the level of treatment mean that these discharges have no perceptible impact on bathing water quality.
Seaton Carew Centre	Southern end of an extensive sandy beach fronting the town of Seaton Carew, approximately 1.5km north of the mouth of the Tees estuary.	Good	
Seaton Carew North	Northern end of an extensive sandy beach fronting the town of Seaton Carew, approximately 2.5km north of the estuary mouth.	Excellent	

The bathing water profiles for these beaches do not identify maintenance dredging as a potential source for bathing water non-compliance, with discharge of sewage and other run-off considered to be the most likely triggers of water quality degradation historically. It is recognised that maintenance dredging could temporarily affect the bathing water due to the presence of a transient sediment plume (i.e. through visual effects), however maintenance dredging activities within the Tees have been ongoing for many decades and recent studies (see **Section 5.1.1**) have not identified that sediment volumes from dredging are significantly impacting beach sand volumes.

[11] Bathing water profile

Areas designated under the Urban Wastewater Treatment Directive such as Seal Sands are defined to protect water quality from the adverse effects of wastewater discharges. Seal Sands is designated a sensitive area because it is affected by eutrophication. Reductions or emission standards for nutrients in sewage effluent must therefore be met to reduce nutrient pollution. Whilst dredging may release sediment which could deposit in Seal Sands, nutrient concentrations within the sediments are unlikely to be significant (see **Section 5.1.2**). In terms of nutrient concentrations therefore, effects from dredging are considered unlikely.

The Teesmouth and Cleveland Coast Special Protection Area (SPA)/Ramsar is located within the boundary of the maintained areas. Effects of maintenance dredging are the focus of the Tees MDP Baseline Document (RHDHV, 2025) submitted alongside this compliance assessment and therefore the detail is not repeated here. To summarise, the consideration of the potential pressures on the SPA associated with maintenance dredging (identified by Natural England in their Advice for Operations) did not identify any risks to SPA qualifying features or supporting habitats from maintenance dredging activities.

5.3 RBMP measures

The RBMP mitigation measures identified for the Tees transitional water body (GB510302509900) and the potential effects of the proposed scheme on these measures are outlined in **Table 5.3**. No mitigation measures are listed for the Tees coastal water body (GB650301500005).

Table 5.3 Summary of RBMP mitigation measures and assessment

Mitigation measure	Assessment
Vessel management	Presence of the dredgers is ongoing and part of the baseline within the two areas being maintained (Tees estuary and Hartlepool).
Dredging disposal strategy	Dredging and disposal is managed as efficiently as possible and only carried out when and where required. Disposal is managed to avoid build up of sediment at the disposal site through zoning, although noting this activity is not located within this water body
Reduce impact of dredging	
Reduce sediment resuspension	
Retime dredging or disposal	
Sediment management	
Dredge and disposal site selection	
Manage disturbance	
Modify channel	There are no proposals to alter the current maintenance dredging regime therefore there are limited options to assist in meeting these measures although note there are no proposed changes to the channel, banks or current habitat disturbance. PD Teesport Limited seek to support ecological enhancement schemes where possible as outlined in **Section 2.2**.
Enhance ecology	
Bank rehabilitation	
Remove or soften hard bank	
Preserve or restore habitats.	

5.4 Impacts of activity on Invasive Non-native species (INNS)

Measures are already in place to control the introduction or spread of INNS as far as possible, as outlined in **Section 2.2**.

5.5 Ability of water bodies to achieve objectives

The objective for both the Tees transitional water body (GB510302509900) and the Tees coastal water body (GB650301500005) is to achieve ‘good’ ecological potential. Continual review of the current maintenance

dredging regime alongside ongoing sediment sampling and baseline document updates will seek to identify opportunities where possible for assisting in the meeting of future objectives.

6 References

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