



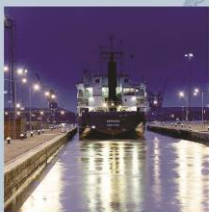
ABP Southampton

ABP Southampton: Water Framework Directive Assessment Maintenance Dredging

Report R.2264

August 2014

Creating sustainable solutions for the marine environment



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ABP Southampton: Water Framework Directive Assessment Maintenance Dredging

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1. Introduction

This document provides an assessment of maintenance dredging and disposal activities undertaken by Associate British Ports Southampton (ABP Southampton) with respect to the Water Framework Directive (WFD). This includes dredging within the berths, docks and approaches in Southampton Water, Central Solent and the tidal Rivers Test and Itchen; all of which are within the boundary of ABP Southampton's Statutory Harbour Area. In addition, future potential maintenance dredging within the approaches to the Western Solent within the main navigation 'Nab Channel' has also been considered.

The assessment follows the guidance issued by the Environment Agency in 'Clearing the Waters' documents, which sets out guidelines to comply with the requirements of the WFD in transitional (estuary) and coastal water bodies (Environment Agency, 2012a). This document should be used in conjunction with the Southampton Maintenance Dredge Protocol (Southampton MDP) Baseline Document. The Southampton MDP includes the baseline information relevant to maintenance dredging activities in the Southampton Estuary and the Rivers Test and Itchen, whilst also providing WFD baseline information to inform this assessment (i.e. relevant water bodies and water quality information). The Baseline Document is available under separate covers as ABP Southampton, 2014 (Report R.2262).

2. Water Framework Directive Assessment

2.1 Overview

The Environment Agency (2012a; 2012b) guidance for ensuring compliance with the WFD comprises a series of processes:

- Stage one - Screening;
- Stage two - Scoping;
- Stage three - Assessment; and
- Stage four - Identification of Measures.

Dredging and disposal activities in coastal and estuarine areas have the potential to either cause deterioration in the ecological or chemical status of a water body, or to compromise improvements which might otherwise lead to a water body meeting its WFD objectives. The Environment Agency (2012b) methodology clearly differentiates between maintenance dredging and disposal which was ongoing during the WFD classification period (2006 to 2008) and all other dredging and disposal activities which are considered as 'new' works (in terms of this WFD assessment only). This distinction is made as any effects of ongoing dredging or disposal on WFD status during this classification period will have been included as part of the overall assessment of status and published in the relevant River Basin Management Plan (RBMP). The continuation of the same activities will not therefore cause further deterioration in WFD terms. The same conclusion cannot be drawn in respect of dredging and disposal which was not ongoing during the WFD classification period. It is also possible in certain circumstances that any dredging or disposal (whether maintenance or capital) could prevent the water body from reaching its WFD objective.

Dredging and disposal undertaken by ABP Southampton were ongoing during the 2006 to 2008 WFD classification period, and have therefore been considered in the current classification of water body status. With respect to dredging and disposal activities undertaken by ABP Southampton, a number of coastal, transitional and fluvial water bodies are considered to have a hydromorphological link with the ABP dredging and disposal activities, which are listed in Table 1. The location of these water bodies in relation to the dredge and disposal areas are then shown in the Southampton MDP Baseline Document (ABP Southampton, 2014, Report R.2262).

Table 1. Coastal, transitional and fluvial water bodies scoped in for WFD assessment

Coastal Water Bodies	Transitional Water Bodies	Fluvial Water Bodies
Solent	Beaulieu River	Test (Lower)
Isle of Wight East	Medina	
	Southampton Water	

By referring both to the relevant RBMP and its supporting Annexes, and to the Environment Agency guidance for the application of the WFD mentioned above, it is possible to provide an early indication as to whether maintenance dredging and disposal activities could be:

- Contributing to an existing failure; or
- Preventing a water body which is not at good status from reaching its WFD objective in relation to those parameters which are currently failing in each of the WFD water bodies.

In order to identify which parameters are currently failing to meet 'Good' status/potential in the water bodies scoped in for assessment, the Environment Agency have provided Tables A1, A2 and A3 (Appendix A) to collate the dredging and disposal information required to inform the screening process. The current status of the water bodies scoped in for assessment as identified from the RBMP (Environment Agency, 2009a) and set out in the Southampton Baseline Document, are summarised in Table 2.

Table 2. Status of water bodies

Water Body Name	Map Code	Water Body Reference	Current Overall Potential	Status Objective (Overall)	WFD Parameters Currently at 'Moderate' Status Or Below
Solent	C4	GB650705150000	Moderate Potential	Good by 2027	1) Tributyltin Compounds 2) Mitigation measures for flood and coastal erosion protection
Isle of Wight East	C5	GB650705530000	Good Potential	Good by 2015	None
Beaulieu River	T2	GB520704201400	Moderate Potential	Good by 2027	1) Dissolved Inorganic Nitrogen
Medina	T4	GB520710101600	Moderate Potential	Good by 2027	1) Dissolved Inorganic Nitrogen 2) Tidal regime - Freshwater flow
Southampton Water	T17	GB520704202800	Moderate Potential	Good by 2027	1) Invertebrates 2) Dissolved Inorganic Nitrogen 3) Mitigation measures for flood and coastal erosion protection
Test (Lower)	R34	GB107042016840	Poor	Good by 2027	1) Macrophytes 2) Phytobenthos 3) Tributyltin compounds

2.2 Water Body Assessments: Coastal and Transitional Water Bodies

2.2.1 Solent – Coastal Water Body (C4)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.1. The South East River Basin District RBMP identifies that the Solent coastal water body is currently failing its WFD objectives for two parameters; Good Ecologic Potential (GEP) mitigation measures for flood and coastal erosion protection and Tributyltin Compounds (Table 2). Within this water body, there are also a number of protected areas including Bathing

Waters, Shellfish Waters and Natura 2000 designated sites. The Bathing Waters include Calshot, Lepe, Hill Head, Lee-on-Solent, Cowes and Gurnard, while the Shellfish Waters include the Southampton Water Approach, Stanswood Bay, Central Solent, Lepe Middle Bank, Beaulieu River, Southern Cowes and Medina. The identified protected areas are all within the 2 km of maintenance dredging within the Thorn Channel and Bramble Turn and there is the potential for a hydromorphological link. The Natura 2000 sites are inclusive of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), of which there are a large number within the study area as detailed in Sections 7.1 and 7.2 of ABP Southampton (2014). The SAC sites which intersect with this water body include the Solent Maritime, South Wight and Solent & Isle of Wight lagoons, while the SPA sites are Solent and Southampton Water and Chichester and Longshore Harbours.

By reference to the screening process trigger table guidance (Environment Agency, 2012c) these parameters have either been screened out or in depending on the parameter specific screening trigger criteria. The outcome of this screening process is detailed below:

- Screened out:
 - GEP mitigation measures for flood and coastal erosion protection;
 - Tributyltin compounds;
 - Natura 2000 sites;
 - Calshot, Lepe, Hill Head, Lee-on-Solent, Cowes and Gurnard Bathing Waters; and
 - Stanswood Bay, Lepe Middle Bank and Medina Shellfish Waters.

- Screened in (scoping required):
 - Ryde Bathing Water; and
 - Southampton Water Approach, Central Solent, Beaulieu River and Southern Cowes Shellfish Water.

The following sections expand on the general concerns relating to these parameters in the marine environment, indicating why they are screened out or in.

The Solent Coastal Water Body (C4) is currently failing for **GEP mitigation measures for flood and coastal erosion protection**. A range of morphological improvement measures to mitigate and reduce the biological impacts of physical modification within the water body are possible, but these are seen as technically infeasible (Environment Agency, 2009b). As such, the maintenance dredging and associated disposal activities undertaken by ABP Southampton will not change the outcome of the mitigation measure objective for this water body, and therefore this parameter is screened out.

Tributyltin Compounds (TBT) are man-made organic substances containing the metal tin. Releases of TBT to the environment occur primarily by gradual leaching from marine antifouling paints, wood preservatives and potentially from their manufacture, transport and storage. There are no natural sources of release to the environment. TBT is usually associated with ship yards, dry docks, marinas and boatyards where paints containing TBTs have been used. An EU ban on the presence of TBT-based antifouling on ships hulls in EU ports came into effect on 1 January 2008; hence the main source for this pollutant is now controlled. TBT is not very soluble in water, and tends to bind with particles/sediment where it will persist for a long period

of time. TBTs are toxic to fish and other marine life, with evidence of bioaccumulation in organisms. No sediment samples have been obtained within the maintenance dredge area which overlaps this coastal water body. Although the RBMP identifies this water body as failing in relation to this contaminant (Environment Agency, 2009a), it is not possible to identify if there is any occurrence in relation to the maintenance dredge areas. Despite the potential for occurrence, the employed dredge methodology limits the potential for disturbance into the water column. This is because, the dredge methodology frequently used to maintain this area is TSHD with no over spilling, therefore any potential for the disturbance of material into the water column is minimised.

With the exception of Ryde Bathing Water, all the identified Bathing Waters with the potential for a hydromorphological link with dredging and disposal activities can be screened out. This is because the Bathing Waters have all met the stringent 'higher' bathing water quality standards for a number of years (Table 7.9, in ABP Southampton, 2014). The Ryde Bathing Water has been screened in as the site achieved 'minimum' bathing water quality standards half of the time between 2006 and 2013. It should be noted however, that the site met the stringent 'higher' standards in 2013 (Environment Agency, 2014). There is considered to be a hydromorphological link between the Bathing Water and dredging activities, due to the tidal flows through the estuary. However, the Ryde Bathing Water site is approximately 12 km away from the nearest dredging activity (in the Thorn or Nab Channels) and over 20 km away from the nearest disposal activity. As a result of the large distances, it is not considered likely that dredging activity within the nearby maintenance dredge areas and disposal activities at the Nab Tower disposal site will present an unacceptable risk to the marine environment or water quality at the Ryde Bathing Water. Therefore no further assessment is required.

Compliance of the Southampton Water Approach, Stanswood Bay, Central Solent Lepe Middle Bank and Southern Cowes Shellfish Waters with guidelines has been assessed by the Environment Agency using monitoring data from 2012 (Table 7.10, ABP Southampton, 2014). All the sites passed the imperative standards, whilst only the Stanswood Bay, Lepe Middle Bank and Medina shellfish waters achieved the guideline standard; the other sites failed the guideline standard. Sites failing on coliform guideline standards usually do so because mussels accumulate bacteria from water as they filter it to feed. Human and animal waste is the source input of coliform and reducing inputs from sewage treatment and farm derived waste is the most effective way to manage the source inputs. As such, this failing cannot be attributed to the maintenance dredging and disposal activities undertaken by ABP Southampton and therefore no further assessment is required.

Properties of the Natura 2000 sites that intersect with this water body are considered in more detail in Section 7.1 and 7.2 ABP Southampton, (2014). These mostly have an unfavourable status except the South Wight SAC (Environment Agency, 2009c). The reasons for the unfavourable status of the protected areas do not principally relate to impacts from dredging activities. Instead at most of the sites, the condition mainly relate to impacts from coastal management strategies and water pollution impacts from land-based sources. It is only within the Solent and Southampton Water SPA and Solent Maritime SAC where dredging has a limited influence. However, at these sites, changes in dredging and harbour management were suggested to maintain or improve to a favourable status (Environment Agency, 2009c). As a result, no further assessment is required.

2.2.2 Isle of Wight East – Coastal Water Body (C5)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.2. The South East River Basin District RBMP identifies that the Isle of Wight East coastal water body is currently not failing any of its WFD objectives (Table 2). As such, no further assessment is required.

With respect to the potential maintenance dredging at the Nab Channel, it is important to note that ABP Southampton has not previously undertaken any maintenance dredging within the channel. However, the channel had been previously maintained by Esso Petroleum and is also subject to capital dredging as part of the Southampton Approach Channel Dredge (SACD). These works (including dredging of the Nab Channel) were subject to a full capital dredging WFD assessment (ABP Southampton, 2011), which was endorsed by the Environment Agency, and covers the ongoing maintenance dredging. In the future, ABP Southampton may undertake maintenance dredging within the Nab Channel should a navigational requirement arise. It is considered that the WFD assessment undertaken for the SACD capital works provides the necessary consideration of potential future maintenance dredging that may be undertaken by ABP Southampton in the channel. As such, no further assessment of these dredging activities is required at this time.

2.2.3 Beaulieu River – Transitional Water Body (T2)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.3. The Beaulieu River transitional water body is currently failing on one parameter namely dissolved inorganic nitrogen (Table 2). Within this water body, the Natura 2000 sites and Shellfish Waters, namely the Beaulieu River Shellfish Water, are also taken into consideration. However, as a result of the screening process, all the identified parameters can be screened out.

Reference to the screening trigger table from the Environment Agency guidance, confirms that dredging and disposal do not generally affect nutrient conditions, as a result, **dissolved inorganic nitrogen** can be screened out. There is no dredging directly occurring within this water body and the only potential for a hydromorphological link has been addressed with respect to the Solent coastal water body. Furthermore, the Natura 2000 sites and Shellfish Water is greater than 2 km from any dredging activity. Therefore no further assessment is required for the protected areas, particularly the Beaulieu River Shellfish Water, despite achieving the imperative standards, but failing the guideline standard (Table 7.10, in ABP Southampton, 2014).

2.2.4 Medina – Transitional Water Body (T4)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.4. The Medina transitional water body is currently on two parameters, which are dissolved inorganic nitrogen and tidal regime freshwater flow (Table 2). Only the Medina Shellfish Water and Natura 2000 sites within the estuary are taken into consideration. As a result of the screening process, both the dissolved inorganic nitrogen and tidal regime freshwater flow parameters and protected areas can be screened out.

Reference to the screening trigger table from the Environment Agency guidance, confirms that dredging and disposal do not generally affect nutrient conditions, as a result, **dissolved inorganic nitrogen** can be screened out. In addition, no dredging is directly occurring within this water body to influence the **freshwater flow** into the water body and the tidal exchange. As a result no further assessment is required on the above parameters. Furthermore, the protected areas (Shellfish Water and Natura 2000) within the estuary are beyond 2 km from dredging activity within the Solent, therefore no further assessment is required.

2.2.5 Southampton Water – Transitional Water Body (T17)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.5. The South East River Basin District RBMP identifies that the Southampton Water transitional water body is currently failing its WFD objectives for three parameters; Invertebrates, Dissolved Inorganic Nitrogen and Good Ecologic Potential (GEP) mitigation measures for flood and coastal erosion protection (Table 2). The RBMP identified that within this water body, there are a number of protected areas including Bathing Waters, Shellfish Waters and Natura 2000 designated sites. The protected areas within 2 km of maintenance dredging activities include the Southampton Water and Southampton Water Approach Shellfish Waters. The Natural 2000 sites which intersect with this water body include the Solent Maritime and River Itchen SACs and the Solent and Southampton Water SPA. There are no Bathing Waters identified within this water body.

By reference to the screening process trigger table guidance (Environment Agency, 2012c), these parameters have either been screened out or in depending on the parameter specific screening trigger criteria, with the outcome of this screening process detailed below:

- Screened out:
 - Dissolved Inorganic Nitrogen;
 - GEP mitigation measures for flood and coastal erosion protection;
 - Invertebrates;
 - Natura 2000 sites;
 - Bathing Waters; and
 - Southampton Water Approach Shellfish Water.
- Screened in (scoping required):
 - Southampton Water Shellfish Water.

As confirmed by reference to the screening trigger table from the Environment Agency guidance, **dissolved inorganic nitrogen** can be screened out, as dredging and disposal do not generally affect nutrient conditions.

The Southampton Water Transitional Water Body (T17) is currently failing for **GEP mitigation measures for flood and coastal erosion protection**, in which there are a range of morphological improvement measures to mitigate and reduce the biological impacts of physical modification within the water body, but these are seen as technically infeasible (Environment Agency, 2009b). As such, the maintenance dredging and associated disposal activities

undertaken are not likely to change the outcome of the mitigation measure objective for this water body, and therefore this parameter is screened out.

Dredging and disposal activities affect benthic **invertebrate** fauna by the direct removal, smothering or disturbance to species living within the dredge site or their surroundings, or from settlement over a wider area of sediment suspended in the water column. However, ABP Southampton maintenance dredging activities are all sub-tidal and are not within 10 m of the mean low water spring (MLWS) level. Therefore, there is no affect to benthic invertebrate fauna, this parameter is screened out and no further assessment is required.

The RBMP indicated Bathing Waters designations apply within this water body. However assessment of such protected areas did not identify any Bathing Waters within this water body and for this reason this parameter is screened out.

Compliance of the Southampton Water and Southampton Water Approach Shellfish Waters has been assessed by the Environment Agency using monitoring data from 2008 (Environment Agency, 2009a). The Southampton Water Approach Shellfish Water passed both the guideline and imperative standards and is therefore screened out, whilst the Southampton Water Shellfish Water failed the guideline standard. Although the Southampton Water Shellfish Water is screened in for assessment due to the failing guideline standard, this failing cannot be attributed to maintenance dredging and disposal activities undertaken by ABP Southampton. For this reason no further assessment is required.

Properties of the Natura 2000 sites are considered in more detail in Section 7.1 and 7.2 ABP Southampton, (2014), which all have an unfavourably status (Environment Agency, 2009c). The reasons for the unfavourable status of the protected areas do not principally relate to impacts from dredging activities, but occur as a result of impacts from coastal management strategies and water pollution from land-based sources. It is only within the Solent and Southampton Water SPA and Solent Maritime SAC where dredging has a limited influence. However, at these sites, changes in dredging and harbour management were suggested to maintain or improve to a favourable status (Environment Agency, 2009c). As a result, no further assessment is required.

2.3 Water Body Assessments: Fluvial Water Bodies

2.3.1 Test and Itchen Catchment: Test (Lower) (R34)

A review of the WFD scoping exercise with respect to this water body is presented in Tables A2 and A3.6. The South East River Basin District RBMP identifies that the Test (lower) fluvial water body is currently failing its WFD objectives for three parameters, which include Macrophytes, Phytobenthos and Tributyltin Compounds (Table 2). The protected areas within this water body include Drinking Water and Freshwater Fish protected areas, Nitrates and Urban Waste Water Treatment Directive (UWWTD) sensitive areas and Natura 2000 sites. Reference to the screening trigger table from the Environment Agency guidance indicates all of the above parameters can be screened out as discussed below.

Macrophytes are vascular plants that live in a (freshwater) aquatic environment and grow either completely submerged or with floating leaves and/or with the flowers. Dredging may affect this biological parameter, through the direct removal or disturbance to species living within the dredge site or its surroundings, or from settlement over a wider area of sediment suspended in the water column. However, macrophytes are found in the Test (Lower) water body, where no direct maintenance dredging occurs. The closest maintenance dredging is within the River Test berths and the main navigation channel, which is over three kilometres from this water body. There is little potential for the movement of suspended sediment (from the dredge area) into the water body, especially as the Eling marshes are located immediately north from the dredge area, which is a sediment sink. For this reason, the failing of this biological parameter is not considered to relate to ABP Southampton maintenance dredging in the River Test berths or main navigation channel.

Phytobenthos are phototrophic algae and cyanobacteria that live on, or attached to the seabed or other organisms on the seabed, rather than suspended in the water column. As with the macrophytes biological parameter, dredging can affect this parameter through the same processes. However as stated above, dredging does not occur in the fluvial water body and it is located over three kilometres away with little potential for the transfer of suspended sediment. For this reason the failing of the phytobenthos biological parameter is not related to ABP Southampton maintenance dredging in the Test berths and channel.

As previously explained in in Section 2.2.1, **Tributyltin Compounds (TBT)** are man-made substances which are toxic to fish and other marine life and are usually associated with ship yards, dry docks, marinas and boatyards where paints containing TBTs have been used. Sediment samples taken and analysed in 2011 indicated that TBT levels exceeded Action Level 2 in three samples from the Southampton Container Terminals, within the River Test Berths and main navigation channel dredge area. TBT is screened in as there is the potential for a hydromorphological link with the dredge area. In terms of this parameter, assessments by Environment Agency (2009b) indicate it is 'technical infeasible' to improve the status of this priority substance by 2015 beyond moderate status. Also the potential sources of this substance are considered to be historic and vary locally. Although there is the potential for a hydromorphological link with dredging activity with this water body, assessment of the same parameter within the Southampton Water (where dredging actually occurs) did not identify any failures. It is therefore most likely that an alternative source is the cause of the failing TBT parameter within the fluvial water body. For this reason, no further assessment is required in relation to ABP Southampton dredging activity.

There is no dredging directly occurring within this water body and the only potential for a hydromorphological link has been addressed with respect to the Southampton Water transitional water body. Furthermore, all the protected areas that occur within this water body are greater than 2 km from any dredging activity. Therefore no further assessment is required for these protected areas.

3. Summary

In summary, the current dredging and disposal activity undertaken by ABP Southampton as detailed within the Southampton MDP Baseline Document (ABP Southampton, 2014) complies with WFD and Environmental Quality Standards Directive (EQSD) objectives. Although a number of water bodies are presently failing to meet 'good' status/potential across some parameters, this failing cannot be attributed (directly or indirectly) to ongoing established maintenance dredging activities of ABP Southampton. Furthermore, the continuation of maintenance dredging and the subsequent disposal of material at licensed sea disposal sites are unlikely to prevent the water body from reaching its WFD objective in relation to those parameters which are currently failing.

4. References

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5. Abbreviations

ABP	Associated British Ports
ABPmer	ABP Marine Environmental Research Ltd
Cefas	Centre for Environment, Fisheries and Aquaculture Science
EQSD	Environmental Quality Standards Directive
EU	European Union
GEP	Good Ecological Potential
HMWB	Heavily Modified Water Body
MDP	Maintenance Dredge Protocol
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
RBMP	River Basin Management Plan
SAC	Special Areas of Conservation
SACD	Southampton Approach Channel Dredge
SPA	Special Protection Area
TBT	Tributyltin (or Tributyltin Compounds)
TSHD	Trailer Suction Hopper Dredger
UWWTD	The Urban Waste Water Treatment Directive
WFD	Water Framework Directive

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.

Appendix A

Water Framework Directive - Tables



A. Water Framework Directive - Tables

Table A1: Dredging and disposal information required to inform screening process

	Dredging	Disposal
Location of proposed dredging or disposal activity: • Describe location(s) or provide grid reference or other coordinates. • Dredge footprint. • Dredge depth. • Dredge timing and duration (proposed). • Dredge methodology. • Dredge/disposal volume.	Section 1.3 Section 4.2 Section 4.4.1	Section 4.3
Above information relating to any previous dredging and disposal activities at that location.	Section 4.1	Section 4.1
Sediment quality data (available from MMO or CEFAS if a marine licence application has previously been made).	Section 5	None available
Protected areas in or close by the activity	Section 7	Section 7
Was this dredging and/or disposal activity carried out during the period 2006–2008? – if no, go to New Project process – if yes, continue.	YES	Not Applicable
Do one or more of the following (area, volume, method and timing of the dredging or disposal activity) differ significantly from that carried out during 2006–2008? – if yes, go to New Project process – if no, continue.	NO	Not Applicable
Is there any evidence that indicates that maintenance dredging or disposal activities could lead to deterioration in the status of the water body or delay or otherwise affect the future ability of the water body to meet good status?	NO	Not Applicable
Is the water body (or are the water bodies) already at good status (see Table 2)? – if yes, go to step 5 – if no, continue.	NO	Not Applicable
Could dredging or disposal activities affect or have affected the status of the water body (or water bodies)? – if yes, go to Part B – if no, continue.	NO	Not Applicable
Are there any (additional) cost-effective, technically feasible and not disproportionately costly dredging- or disposal-related measures that would contribute to a meaningful improvement in the status of the failing parameters at water body level?	NO	Not Applicable
Activity currently complies with WFD objectives?	YES	Not Applicable

Table A2: Water body information required to inform screening process

Water Body Name and Reference	Water Body Size	Current Status	If Not at “Good Status”, Record 2015 Objective	If Not at “Good Status”, Record All WFD Parameters at Moderate Status or Below	Is the Waterbody Designated as Heavily Modified or Artificial?
Solent GB650705150000	259.59km ²	Moderate Potential	Moderate	1) Tributyltin Compounds 2) Mitigation measures for flood and coastal erosion protection	Heavily Modified Water Body (HMWB)
Isle of Wight East GB650705530000	262.74km ²	Good Potential	Not Applicable	None	Heavily Modified Water Body (HMWB)
Beaulieu River GB520704201400	3.07km ²	Moderate Potential	Moderate	1) Dissolved Inorganic Nitrogen	Heavily Modified Water Body (HMWB)
Medina GB520710101600	1.63km ²	Moderate Potential	Moderate	1) Dissolved Inorganic Nitrogen 2) Tidal regime – Freshwater flow	Heavily Modified Water Body (HMWB)
Southampton Water GB520704202800	30.91km ²	Moderate Potential	Moderate	1) Invertebrates 2) Dissolved Inorganic Nitrogen 3) Mitigation measures for flood and coastal erosion protection	Heavily Modified Water Body (HMWB)
Test (Lower) GB107042016840	Not Applicable	Poor	Poor	1) Macrophytes 2) Phytobenthos 3) Tributyltin compounds	Not Designated

Table A3.1: Solent (C4) - Information on water body ecological, chemical and protected area status

Information Required on WFD ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	Moderate
WFD biological quality elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
WFD hydromorphological elements supporting biological elements	GEP mitigation measures for flood and coastal erosion protection
Activities, etc. causing failure(s)	None provided in RBMP
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	None
WFD physico-chemical supporting elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	Fail (uncertain)
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	Tributyltin Compounds
Activities, etc. causing failure(s)	None provided in RBMP
Any links to dredging and disposal?	Yes
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	Bathing Waters, Natura 2000, Nitrates Directive, Shellfish Waters, Urban Waste Water Treatment Directive
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Assessment Conclusion	
Assessment conclusion	Tributyltin Compounds, Bathing Waters, Shellfish Waters and Natura 2000 sites

Table A3.2: Isle of Wight East (C5) - Information on water body ecological, chemical and protected area status

Information Required on WFD Ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	Good
WFD biological quality elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
WFD hydromorphological elements supporting biological elements	
Activities, etc. causing failure(s)	
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	
WFD physico-chemical supporting elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	Good
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	Bathing Waters, Natura 2000, Nitrates Directive, Shellfish Waters, Urban Waste Water Treatment Directive
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	None, greater than 2 km
Assessment Conclusion	
Assessment conclusion	No assessment required

Table A3.3: Beaulieu River (T2) - Information on water body ecological, chemical and protected area status

Information Required on WFD Ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	Moderate (uncertain)
WFD biological quality elements not meeting WFD objectives	Dissolved inorganic nitrogen
Activities, etc. causing failure(s)	None provided in RBMP
Any links to dredging and disposal?	None
WFD hydromorphological elements supporting biological elements	
Activities, etc. causing failure(s)	
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	
WFD physico-chemical supporting elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	Not applicable
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	Natura 2000, Shellfish Waters
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	None, greater than 2 km
Assessment Conclusion	
Assessment conclusion	No assessment required

Table A3.4: Medina (T4) - Information on water body ecological, chemical and protected area status

Information Required on WFD Ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	<i>Moderate (uncertain)</i>
WFD biological quality elements not meeting WFD objectives	<i>Dissolved inorganic nitrogen</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal?	<i>None</i>
WFD hydromorphological elements supporting biological elements	<i>Tidal regime-freshwater flow</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	
WFD physico-chemical supporting elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	<i>Good</i>
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	<i>Freshwater Fish Waters, Natura 2000 , Nitrates Directive, Shellfish Waters, Urban Waste Water Treatment Directive</i>
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	<i>None, greater than 2 km</i>
Assessment Conclusion	
Assessment conclusion	<i>No assessment required</i>

Table A3.5: Southampton Water (T17) - Information on water body ecological, chemical and protected area status

Information Required on WFD Ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	<i>Moderate (uncertain)</i>
WFD biological quality elements not meeting WFD objectives	<i>Invertebrates, Dissolved inorganic nitrogen</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal?	<i>None</i>
WFD hydromorphological elements supporting biological elements	<i>GEP mitigation measures for flood and coastal erosion protection</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	<i>None</i>
WFD physico-chemical supporting elements not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	<i>Good</i>
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	<i>Freshwater Fish Waters, Natura 2000, Nitrates Directive, Shellfish Waters, Urban Waste Water Treatment Directive</i>
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Assessment Conclusion	
Assessment conclusion	<i>Bathing Waters, Shellfish Waters and Natura 2000 sites</i>

Table A3.6: Test Lower (R34) - Information on water body ecological, chemical and protected area status

Information Required on WFD Ecological Status	River Basin Management Plan or "What's in Your Backyard"
Current ecological status or potential (from Table 2)	<i>Poor (quite certain)</i>
WFD biological quality elements not meeting WFD objectives	<i>Macrophytes, Phytobenthos</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal?	<i>Yes</i>
WFD hydromorphological elements supporting biological elements	
Activities, etc. causing failure(s)	
Any links to dredging and disposal including navigation-related GEP measures which are not in place?	
WFD physico-chemical supporting elements not meeting WFD objectives	<i>Quantity and dynamics of flow</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal?	<i>None</i>
Specific pollutants not meeting WFD objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	
Any opportunities for dredging to contribute to improvement of failing parameters?	
Information Required on WFD Chemical Status	Source or Link
Current chemical status	<i>Fail (quite certain)</i>
2015 chemical status objective	
Priority and priority hazardous substances not meeting WFD objectives	<i>Tributyltin Compounds</i>
Activities, etc. causing failure(s)	<i>None provided in RBMP</i>
Any links to dredging and disposal?	<i>Yes</i>
Information Required on Protected Area Status	Source or Link
Name of and type of protected area	<i>Drinking Water Protected Area, Freshwater Fish Waters, Natura 2000, Nitrates Directive, Urban Waste Water Treatment Directive</i>
Current status	
Objective and date for achievement	
Features of interest not meeting protected area objectives	
Activities, etc. causing failure(s)	
Any links to dredging and disposal?	<i>None, greater than 2 km</i>
Assessment Conclusion	
Assessment conclusion	<i>Tributyltin Compounds</i>



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