

Deganwy Marina

Deganwy Quay, Deganwy, Conwy LL31 9DJ

Supporting Statement and WFD Assessment
for Maintenance Dredging

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1. Introduction

This document relates to maintenance dredging of Deganwy Marina. The marina has undergone maintenance dredging for several years. Initially this was using a small cutter suction vessel, discharging into the estuary on ebb tides. More recently, the Water Injection Dredging (WID) method was employed. This has not proven to be successful, and it is proposed to revert to the previous cutter suction method (with the same plant used previously (and currently at Conwy Marina)).

2. Site Location

Deganwy is a tidal gate (sill) controlled marina located on the north side of the Conwy Estuary.

The image below shows the marina outlined in blue.



3. Proposed works

The works involve the maintenance dredging of the marina using a small cutter suction dredger discharging into the estuary on ebb tides (beneficial disposal).

The marina already has a current licence to dredge, but the disposal is from WID. However, in hydrodynamic terms there is no significant difference. This is supported by the HRA undertaken for the current licence.

Drawing 10933/1 shows the dredge area.

4. Method Statement

A small cutter suction dredger (Little Orme) will be used, with discharge into the estuary on ebb tides. This is all in accordance with the existing Conwy Marina licence on the opposite side of the estuary.

The maximum depth of removal is 2.5m, again all in accordance with the current licence.

The dredger will work into the area by removing the upper 300-500mm. The dredger will then relocate and work back into the area, removing a similar layer depth each time. This has proven to be the most efficient method for this plant and prevents holes being dug.

A floating pipeline will run from the rear of the dredger to the disposal site. The pipeline will be laid through the existing marina and restrained by moorings outside the marina. The discharge will be below MLW to ensure good redistribution within the tidal flow.

Biosecurity – we have been unable to locate the relevant form on the NRW website. The previous (current) plan is attached for reference.

However, a summary follows:

There are no records or evidence of marine non-native species (commonly called Invasive Non-native Species – INNS) within the marina.

The plant to be used operates in Conwy Marina and has no ballast tanks. Transfer of INNS can only occur through hull fouling and sediment transport. The hull is regularly cleaned, and the sediment is all local to the estuary. There is therefore no likelihood of INNS being introduced.

5. Protected Areas

The proposed works are within an existing marina with disposal in the main estuary. The area has a high leisure usage and within the following protected sites –

SSSI – Aber Afon Conwy (disposal site only)

Shellfish waters – 103 Conwy.

Saltmarsh (disposal site only)

The works are nearby to the following site:

SAC – Menai Strait and Conwy Bay (800m seaward of works)

WFD Habitats – higher sensitivity – saltmarsh, data set covers the estuary, further detail unknown.

WFD Habitats – lower sensitivity – intertidal and subtidal soft sediment known to be present. However, none of this is to be dredged.

6. Background to Water Framework Directive Assessment

The purpose of a Water Framework Directive (WFD) assessment is to determine whether the proposed works will compromise the attainment of a WFD objective or result in the deterioration of the current ecological status of the relevant waterbodies.

The process consists of 3 stages –

Stage 1 – The Screening Stage

This stage is used to identify activities which need to be considered further (i.e. excludes those which do not require further assessment).

Stage 2 – The Scoping Stage

This stage identifies the potential risks to the following receptors:

- Hydromorphology
- Biology – habitats
- Biology – fish
- Water quality
- Protected areas

Stage 3 – Impact Assessment

This stage examines whether the activity will have a significant non-temporary effect on each receptor.

7. WFD Assessment

The assessment uses the online EA tables which are reproduced in the following pages.

7.1 Screening & Scoping Stage - WFD Tables for activities in estuarine and coastal waters

Activity	Description, notes or more information
Applicant name	<i>Lakeland Leisure Estates Ltd</i>
Application reference number (where applicable)	<i>n/a</i>

Name of activity	<i>Maintenance dredging at Deganwy Marina</i>
Brief description of activity	<i>Maintenance dredging using a small cutter suction dredger</i>
Location of activity (central point XY coordinates or national grid reference)	<i>278290,378758</i>
Footprint of activity (ha)	<i>1.75 ha</i>
Timings of activity (including start and finish dates)	<i>Dependent upon Marine Licence and plant availability.</i> <i>Dredging is not carried out between 15 April and 30 June to avoid impacts to migratory Salmon smolts, Sea trout smolts, Lamprey and Smelt.</i> <i>Dredging is not carried out between 1 May and 30 September to avoid impacts to the bathing water at Llandudno West Shore during bathing water season.</i>
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	<i>See footprint</i>
Use or release of chemicals (state which ones)	<i>None</i>

Water body¹	Description, notes or more information
WFD water body name	<i>Conwy</i>
Water body ID	<i>GB541006614800</i>
River basin district name	<i>Western Wales</i>
Water body type (estuarine or coastal)	<i>Transitional/Estuarine</i>
Water body total area (ha)	<i>1557</i>
Ecological status	<i>Moderate</i>
Chemical status	<i>unknown</i>
Target water body status and deadline	<i>Good ecological potential by 2027, Chemical unknown</i>
Hydromorphology status of water body	<i>Not high</i>
Heavily modified water body and for what use	<i>Yes – flood protection</i>
Higher sensitivity habitats present	<i>Yes – saltmarsh, details unknown</i>
Lower sensitivity habitats present	<i>Yes – intertidal and subtidal soft sediment</i>

Phytoplankton status	<i>unknown</i>
History of harmful algae	<i>unknown</i>
WFD protected areas within 2km	<i>Yes</i>

Specific risk to receptors -

Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	<i>No, waterbody is not at high status</i>
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	<i>Dredging was carried out (using the proposed method) during 2009 to 2014 when evidence was collected for the 2015 RBMPs, so impacts on hydromorphology have already been considered.</i>
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	<i>No</i>

Record the findings for hydromorphology and go to section 2: biology.

Section 2: Biology

Habitats

Consider if habitats are at risk from your activity.

Use the water body summary table and Magic maps, or other sources of information if available, to find the location and size of these habitats.

Higher sensitivity habitats ²	Lower sensitivity habitats ³
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

² Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

³ Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint ⁴ of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km ² or larger	Yes to one or more – requires impact assessment	No to all – impact assessment not required	No
1% or more of the water body's area			No
Within 500m of any higher sensitivity habitat			Yes
1% or more of any lower sensitivity habitat			No

⁴ Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	<i>Dredging was carried out during 2009 to 2014 (when evidence was collected for the 2015 RBMPs) so impacts on fish have already been considered.</i> <i>Dredging will not be carried out between 15 April and 30 June to avoid impacts to migratory Salmon smolts,</i>

			<i>Sea trout smolts, Lamprey and Smelt.</i>
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	No
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	No

Record the findings for biology habitats and fish and go to section 3: water quality.

Section 3: Water quality

Consider if water quality is at risk from your activity.

Use the water body summary table to find information on phytoplankton status and harmful algae.

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)	Requires impact assessment	Impact assessment not required	<i>The dredging was carried out during 2009 to 2014 (when evidence was collected for the 2015 RBMPs) so impacts on water quality have already been taken into account. The cutter suction dredger deposits material at a dispersive beneficial use site just outside the marina entrance.</i>
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	No
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	No

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s)

The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	Yes

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment ⁵	Impact assessment not required	No

⁵ Carry out your impact assessment using the Environment Agency's surface water pollution risk assessment guidance, part of Environmental Permitting Regulations guidance.

Record the findings for water quality go on to section 4: WFD protected areas.

Section 4: WFD protected areas

Consider if WFD protected areas are at risk from your activity. These include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive areas

Use Magic maps to find information on the location of protected areas in your water body (and adjacent water bodies) within 2km of your activity.

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area ⁶	Requires impact assessment	Impact assessment not required	Yes

⁶ Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.

Record the findings for WFD protected areas and go to section 5: invasive non-native species.

Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	No

Summary

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	
Biology: habitats	Yes	<i>Saltmarsh and subtidal sediments</i>
Biology: fish	No	
Water quality	Yes	<i>Some results just above Action level 1</i>
Protected areas	Yes	<i>SAC, Shellfish water, SSSI</i>
Invasive non-native species	No	

8. WFD Impact Assessment & Mitigation

The assessment has identified potential risks to the following:

Biology –

The intertidal and subtidal sediments will not be removed, no impact. The exact location of the saltmarsh is unknown. However, as the disposal will be diluted pumped material this is unlikely to have any impact. This is the same procedure that was previously employed at this site and is the same procedure that is licensed at Conwy Marina. No possible impact.

Water Quality –

The last sediment analysis data is attached at the end of this document. There is no practical possibility of this being any different at the current time. The basin is sill controlled and the material to be removed is that which has entered from the estuary.

Protected areas -

SAC – The HRA for the current licence refers to the cutter suction method and stated that monitoring of the intertidal silt levels showed no evidence of increased silt content and concluded that the activity had no adverse effects on the habitats.

Note that there are no significant differences between the two methods for dispersal.

SSSI – As for the SAC, there is no mechanism for the works to affect the SSSI.

Shellfish waters - The discharge of suspended material over the ebb tide is a well established and existing method. No negative impacts have been identified.

Summary

By following EA guidance, it is concluded that the proposal will not have a negative impact on the water body.