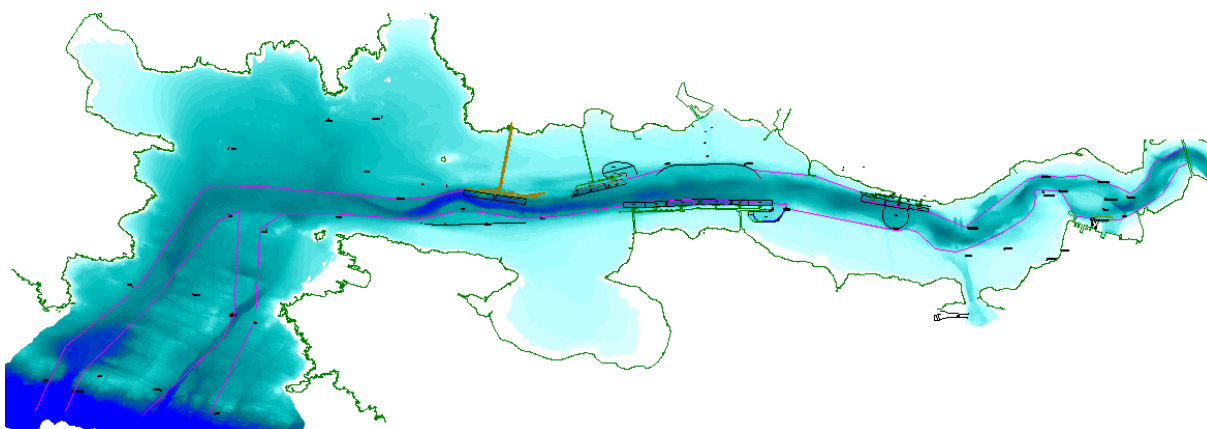




Milford Haven Port Authority

Dredging Strategy 2022-2031

Welsh National Marine Plan Compliance Assessment



December 2021



Anthony D Bates Partnership LLP
Laburnham Farm
Sparrow Hill Way
Upper Weare
Axbridge
Somerset
BS26 2LE

tel: +44 1934 732380
e-mail: info@anthonybates.co.uk
web: www.anthonybates.co.uk



**MHPA Dredging Strategy 2022-2031
WNMP Compliance Assessment Report**



Client: Milford Haven Port Authority
Project: Disposal licence application 2022-2031
Title: WNMP Compliance Assessment

Prepared by:

Reviewed by:

DRAFT	NAME	NAME
	S Challinor	M Maloney
DATE	SIGNATURE	SIGNATURE
21/12/2021		

Prepared by:

Reviewed by:

Final	NAME	NAME
	S Challinor	M Maloney
DATE	SIGNATURE	SIGNATURE
22/12/2021		

This report, and information or advice which it contains, is provided by Anthony D Bates Partnership LLP solely for internal use and reliance by its Client in performance of Anthony D Bates Partnership LLP's duties and liabilities under its contract with the Client. Any advice, opinions, or recommendations within this report should be read and relied upon only in the context of the report as a whole. The advice and opinions in this report are based upon the information made available to Anthony D Bates Partnership LLP at the date of this report and on current UK standards, codes, technology and construction practices as at the date of this report. This report has been prepared by Anthony D Bates Partnership LLP in their professional capacity as Consulting Engineers. The contents of the report do not, in any way, purport to include any manner of legal advice or opinion. This report is prepared in accordance with the terms and conditions of Anthony D Bates Partnership LLP's contract with the Client. Regard should be had to those terms and conditions when considering and/or placing any reliance on this report.

This report is copyright © Anthony D Bates Partnership LLP.



Table of Contents

1	Introduction.....	3
1.1	Water Framework Directive Compliance Assessment.....	Error! Bookmark not defined.
1.2	Dredging Strategy 2022-2031.....	Error! Bookmark not defined.
1.3	Consenting Requirements	Error! Bookmark not defined.
2	WFD Assessment.....	Error! Bookmark not defined.
2.1	Introduction	Error! Bookmark not defined.
2.2	Methodology	Error! Bookmark not defined.
2.3	Screening.....	Error! Bookmark not defined.
2.4	Scoping	Error! Bookmark not defined.
2.5	Impact Assessment – Maintenance Dredging	Error! Bookmark not defined.
2.6	Impact Assessment – Disposal of Dredged Material	Error! Bookmark not defined.
3	Conclusion.....	Error! Bookmark not defined.
4	References	13



1 Introduction

1.1 Welsh National Marine Plan Policy Compliance Assessment

- 1.1.1 This report presents the findings of an assessment of the proposed activity – the Dredging Strategy for Milford Haven from 2022 to 2031 – in relation to compliance with the relevant policies set out under the Welsh National Marine Plan (WNMP) (Welsh Government, 2019).

1.2 Milford Haven Dredging Strategy 2022-2031

- 1.2.1 For many years Milford Haven Port Authority (MHPA) have undertaken capital and maintenance dredging of the channels and berths within their harbour limits in and around Milford Haven. Between 1985 and 2021, capital and maintenance dredging campaigns have been undertaken at various locations within Milford Haven between St Anne's Head to the west and the Cleddau Bridge to the east, and the resulting dredged material has been deposited at designated offshore disposal sites including Milford Haven One (LU170) until 1994, and Milford Haven Two (LU168) and Milford Haven Three (LU169) since 1994. Disposal site LU168 can receive unrestricted volumes of dredged material with particle sizes $>250\mu\text{m}$, and disposal site LU169 can receive annual volumes of $250,000\text{m}^3$ dredged material of all particle sizes. A detailed historical review of dredging activity is provided in the Dredging Strategy Document (Revision 3) (MHPA, 2021).
- 1.2.2 Under the Dredging Strategy 2022-2031, maintenance dredging will be undertaken as a series of campaigns at one or more of the following locations within Milford Haven:
- Main approach channel at Mill Bay.
 - Main approach channel at Thorn Island.
 - Valero Refinery berths and approaches.
 - Turning area at Milford Shelf.
 - Milford Docks' approach channel
 - Dragon LNG's berth.
 - VPOT's berths and turning basin.
 - Pembroke Power Station cooling water intake.
 - Pembroke Dock berths and approaches.
 - Pembroke Dock Ferry Terminal berths and approaches.
- 1.2.3 Provisionally, MHPA estimate that maintenance dredging will be undertaken in seven of the ten years from 2022 to 2031 (2022, 2023, 2025, 2026, 2027, 2030 and 2031) and will generate between approximately $2,000\text{m}^3$ and $179,350\text{m}^3$ in any one year. Maintenance dredging is likely to take place 7 days per week and 24 hours per day unless there is a restriction of working hours for a particular reason; for example, a tidal access restriction associated with shallow water, or a night-time working restriction to avoid noise nuisance at nearby properties (e.g. no dredging during the hours from 22:00 to 06:00).
- 1.2.4 Provisionally, MHPA estimate that dredged material from most maintenance dredging locations will comprise fine-grained sediment and will be disposed of at LU169, but dredged material from Mill Bay will comprise coarse-grained sand and shell, and will be disposed of at LU168. The dredged material will be disposed of because there is no identified opportunity for alternative uses of the dredged material (e.g. re-use, recycling or recovery options), including uses for construction works (e.g. as a fill material)



and/or for habitat recreation and/or restoration (e.g. recharging of mudflats).

1.3 Licensing of Maintenance Dredging and Discharge of Dredged Material

- 1.3.1 MHPA have statutory powers to undertake maintenance dredging within the harbour limits in accordance with the provisions of the Milford Haven Conservancy Act 1958. However, MHPA require a marine licence for the disposal of dredged material in accordance with the provisions of the Marine & Coastal Access Act 2009. Previously, MHPA have had marine licences in place for the disposal of dredged material including for years 2006, 2008, 2011 to 2016 and for years 2017 to 2022.
- 1.3.2 MHPA need a marine licence for the disposal of dredged material. A marine licence application has been made to the Marine Licensing Team (MLT) within Natural Resources Wales (NRW). The application will seek permission for the disposal of up to 250,000m³ of dredged material at LU168 and LU169 in any one 12-month period and, therefore, the potential disposal of up to 2,500,000m³ dredged material over the years 2022 to 2031. In reality, the actual need for maintenance dredging and the resultant volume of dredged material to be disposed of will be considerably less than the maximum volume, but MHPA wishes to retain flexibility within their dredging strategy to enable at least two large campaigns to be undertaken over the period of the marine licence (i.e. between 2022 and 2031).
- 1.3.3 The marine licence application will be subject to a number of environmental assessments to ensure compliance with relevant laws and policies, including compliance with the WNMP.

2 WNMP Compliance Assessment

- 2.1.1 This compliance assessment considers whether the proposed activity under the Dredging Strategy 2022-2031 is in accordance with the relevant general cross-cutting and sector policies of the WNMP.
- 2.1.2 The compliance assessment has been informed by the information provided online via the Welsh Marine Planning Portal (<http://lle.gov.wales/>; accessed 21 and 22 December 2021), the Dredging Strategy 2022-2031 Document (MHPA, 2021a), the Dredging Strategy 2022-2031 Water Framework Directive Compliance Assessment (MHPA, 2021b), and other publicly available documents, as identified in 'References'.
- 2.1.3 Table 1 (below) sets out the WNMP policies and identifies which policies are relevant to the marine licence application and whether they are affected by the proposed activity and, if so, how they will be addressed by the proposed activity.



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
General cross-cutting policies	
GEN_01 Planning policy	Not relevant as the proposed activity seeks to maintain existing port infrastructure (i.e. dredged navigation channels and berths) rather than develop new port infrastructure.
GEN_02 Planning policy	Not relevant as the proposed activity seeks to maintain existing port infrastructure (i.e. dredged navigation channels and berths) rather than develop new port infrastructure.
ECON_01 Sustainable economic growth	Not relevant as the proposed activity seeks to maintain existing economic activity (i.e. port activity) rather than develop new economic activity.
ECON_02 Coexistence	Not relevant as the proposed activity seeks to maintain existing economic activity (i.e. port activity) rather than develop new economic activity.
SOC_01 Access to the marine environment	Not relevant as the proposed activity will not (adversely) affect access to (the recreational and well-being benefits associated with) the marine environment.
SOC_02 Well-being of coastal communities	Not relevant as the proposed activity will not (adversely) affect the prosperity and/or well-being of coastal communities; although it will help to maintain the socio-economic future of coastal communities relying directly and/or indirectly on port activity.
SOC_03 Marine pollution incidents	Relevant as the proposed activity has the potential to cause or contribute to marine pollution incidents. As with all port activity under the jurisdiction of the MHPA, the proposed activity will have to comply with the port's existing measures that are in place to manage the risk of marine pollution incidents in accordance with relevant regulatory requirements and/or Maritime & Coastguard Agency (MCA) approvals. These measures include an Oil Spill Contingency Plan, a Port Waste Management Plan, and an Environmental Aspects and Incidents Register. On the basis the proposed activity will be subject to these measures, the proposed activity is not expected to pose a significant risk of causing marine pollution incidents.
SOC_04 Welsh language and culture	Not implementable as the proposed activity will have to be carried out by non-welsh speaking companies from either the UK or overseas
SOC_05 Historic assets	Not relevant as the proposed activity will not (adversely) affect any historic assets including Listed



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
	Buildings, Scheduled Monuments and Protected Wrecks.
SOC_06 Designated landscapes	Not relevant as the proposed activity will not (adversely) affect any designated landscapes including Areas of Outstanding Natural Beauty, Heritage Coast and Registered Historic Landscapes.
SOC_07 Seascapes	Not relevant as the proposed activity will not (adversely) affect any seascapes (i.e. landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other) and/or the characteristics of Marine Character Areas.
SOC_08 Resilience to coastal change and flooding	Not relevant as the proposed activity will not (adversely) affect resilience to coastal change and flooding.
SOC_09 Effects on coastal change and flooding	Not relevant as the proposed activity seeks to maintain existing port infrastructure (i.e. dredged navigation channels and berths) rather than develop new port infrastructure and, therefore, will maintain the bathymetry and coastal processes within Milford Haven such that it will not adversely affect coastal change or flooding.
SOC_10 Minimising climate change	Relevant as the proposed activity has potential to (adversely) affect climate change due to emissions of greenhouse gases associated with fuel consumption during dredging operations. Dredgers such as TSHDs are sea-going vessels and will have to comply with relevant regulatory requirements to reduce greenhouse gas emissions from ships; notably, the International Maritime Organisation's MARPOL Annex VI framework to enhance the energy efficiency of ships through the implementation of technical measures (e.g. more efficient engines) and operational measures (e.g. speed optimisation), which are applicable to vessels in Welsh terrestrial waters. On the basis that the proposed activity will also be subject to relevant regulatory requirements to reduce greenhouse gas emissions from ships, the proposed activity is not expected to pose a significant risk of affecting climate change through the significant emission of greenhouse gases.
SOC_11 Resilience to climate change	Not relevant as the proposed activity will not (adversely) affect resilience to climate change.
ENV_01 Resilient marine ecosystems	Relevant as the proposed activity has the potential to (adversely) affect marine ecosystems by exerting physical pressures (e.g. smothering) on sensitive habitats in Milford Haven due to the dispersion and deposition of sediment plumes during dredging and/or during the disposal of dredged material. This



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
	matter has been assessed under the Dredging Strategy 2022-2031 Water Framework Directive Compliance Assessment (MHPA, 2021b). In summary, MHPA's previous dredging campaigns have been subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, which has significantly reduced the creation of sediment plumes. On the basis that the proposed activity will also be subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, the proposed activity is not expected to pose a significant risk of affecting the marine ecosystems in Milford Haven including subtidal kelp beds, intertidal mussel beds, and intertidal seagrass beds.
ENV_02 Marine Protected Areas	Relevant as the proposed activity has the potential to (adversely) affect Marine Protected Areas including the Skomer, Skokholm and Seas off Pembrokeshire Special protection Area (SPA) and/or the Pembrokeshire Marine Special Area of Conservation (SAC) due to the dispersion and deposition of sediment plumes during dredging and/or during the disposal of dredged material. This matter has been assessed under the Dredging Strategy 2022-2031 Water Framework Directive Compliance Assessment (MHPA, 2021b). In summary, MHPA's previous dredging campaigns have been subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, which has significantly reduced the creation of sediment plumes. On the basis that the proposed activity will also be subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, the proposed activity is not expected to pose a significant risk of affecting the protected features associated with the Pembrokeshire Marine SAC. In addition, numerical modelling of sediment plumes by Cefas (Clarke and Rees, 2020) has shown that the disposal of dredged material at offshore disposal sites LU168 and LU169 will not cause significant sediment dispersion and/or deposition at the protected areas situated beyond the disposal sites. On the basis that the proposed activity will also not cause significant sediment dispersion and/or deposition at the protected areas situated beyond the disposal sites, the proposed activity is not expected to pose a significant risk of affecting the protected features associated with the Skomer, Skokholm and Seas off Pembrokeshire SPA and/or the Pembrokeshire Marine SAC.
ENV_03 Invasive non-native species	Relevant as the proposed activity has the potential to introduce and/or spread marine invasive non-native species (INNS) due to the mobilisation and use of dredging plant and equipment that will sail through and work at various dredging locations within Milford Haven. This matter has been assessed under the Dredging Strategy 2022-2031 Water Framework Directive Compliance Assessment (MHPA,



Table 1: WNMP Compliance Assessment

WNMP Policy	WNMP Compliance Assessment
	2021b). In summary, MHPA's previous dredging campaigns have been subject to biosecurity risk assessments approved by NRW and, for this reason, the risk pathways are well known and the mitigation measures are well established. On the basis that the proposed activity will also be subject to a biosecurity risk assessment that will be approved by NRW, the proposed activity is not expected to pose a significant risk of introducing or spreading marine INNS.
ENV_04 Marine litter	Relevant as the proposed activity has potential to release litter due to emissions of garbage overboard during dredging operations. Dredgers such as TSHDs are sea-going vessels and will have to comply with relevant regulatory requirements to prevent pollution by garbage from ships (i.e. operational waste, plastics, cargo residues, etc); notably, the International Maritime Organisation's MARPOL Annex V on the prevention of pollution by garbage from ships through the implementation of technical measures (e.g. onboard waste storage facilities), which are applicable to vessels and ports in Welsh terrestrial waters, and the provision of waste reception facilities at ports. On the basis that the proposed activity will also be subject to relevant regulatory requirements to reduce pollution by garbage from ships, and that MHPA has appropriate port waste reception facilities in place, the proposed activity is not expected to pose a significant risk of causing marine litter through the deliberate discharge of garbage.
ENV_05 Underwater noise	Relevant as the proposed activity has potential to generate artificial underwater noise due to emissions during dredging operations. Dredgers such as TSHDs are sea-going vessels that will generate non-impulsive sound during dredging operations. Numerical modelling of underwater noise (MHPA, 2019) has shown that dredging in Milford Haven (at Pembroke Dock) will not cause significant underwater noise and, therefore, will not pose a significant risk to fish and marine mammal species with regard to mortality or mortal injury, and to behavioural response to disturbance (e.g. barriers to migration). On the basis that the proposed activity will also not cause significant levels of underwater noise, the proposed activity is not expected to pose a significant risk to vulnerable species and populations within Milford Haven.
ENV_06 Air and water quality	Relevant as the proposed activity has potential to (adversely) affect air quality due to emissions of pollutants associated with the release of exhaust gases during dredging operations. Dredgers such as TSHDs are sea-going vessels and will have to comply with relevant regulatory requirements to reduce exhaust gas pollutant emissions from ships (i.e. nitrogen oxides (NO _x), sulphur dioxide (SO ₂), and particulate matter (PM)); notably, the International Maritime Organisation's MARPOL Annex VI on the



Table 1: WNMP Compliance Assessment

WNMP Policy	WNMP Compliance Assessment
	prevention of air pollution from ships through the implementation of technical measures (e.g. more efficient engines, emission limit, fuel standards), which is applicable to vessels in Welsh terrestrial waters in accordance with the Merchant Shipping (Prevention of Air Pollution from Ships) Regulations 2008 (as amended). On the basis that the proposed activity will also be subject to relevant regulatory requirements to reduce exhaust gas pollutant emissions from ships, the proposed activity is not expected to pose a significant risk of affecting air quality through the significant emission of air pollutants. Also relevant as the proposed activity has the potential to (adversely) affect water quality due to the dispersion and deposition of contaminants associated with sediment plumes during dredging and/or during the disposal of dredged material. This matter has been assessed under the Dredging Strategy 2022-2031 Water Framework Directive Compliance Assessment (MHPA, 2021b). In summary, sediment sample analysis found that the sediment to be dredged and disposed of is characterised by contaminants (i.e. metals and hydrocarbon compounds) present at low concentrations that are generally suitable for disposal at sea and generally pose an acceptable risk regarding toxic effects in the affected environment. On the basis that the proposed activity will disturb, disperse and deposit sediment with low concentrations of contaminants, and will be subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, the proposed activity is not expected to pose a significant risk of affecting (i.e. deteriorating) water quality and the objectives of the Water Framework Directive, as transposed into national legislation.
ENV_07 Fish species and habitats	Relevant as the proposed activity has the potential to (adversely) affect shellfish habitats including the Milford Haven Cleddau shellfish water (an area designated to protect the growth and production of shellfish; in particular, native oysters) due to the dispersion and deposition of sediment plumes during dredging. In summary, MHPA's previous dredging campaigns have been subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, which has significantly reduced the creation of sediment plumes. On the basis the proposed activity will also be subject to a restriction on the overflowing of excess water (and fine sediment) during dredging, the proposed activity is not expected to pose a significant risk of affecting the shellfish associated with the Milford Haven Cleddau shellfish water.
GOV_01 Cumulative effects	Not relevant as the proposed activity seeks to maintain existing port infrastructure (i.e. dredged



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
	navigation channels and berths) rather than develop new port infrastructure.
GOV_02 Cross-border and plan compatibility	Not relevant as the proposed activity will not extend beyond the WNMP area.
SCI_01 Using sound science responsibly	Not relevant as the proposed activity seeks to maintain existing port infrastructure (i.e. dredged navigation channels and berths) rather than develop new port infrastructure, and incorporates the lessons learnt from previous dredging campaigns (e.g. see ENV_01 Resilient marine ecosystems, and ENV_03 Invasive non-native species)
Sector policies	
DEF_01 Defence (safeguarding)	Relevant as the proposed activity has the potential to take place within a military practice area since the Milford Haven Two (LU168) disposal site is situated within the boundary of the Castlemartin (D113A) area. On the basis that LU168 is a licensed disposal site and disposal of dredged material at LU168 is an established activity subject to marine licensing provisions, and given that MHPA has disposed of dredged material at LU168 since 1994, the proposed activity should be compatible with the safeguarding of the defence interests of the Ministry of Defence (MoD).
SAF_01 Safeguarding existing activity	Not relevant as the proposed activity will not affect established activity such that it will be compatible with existing activity in relation to aggregates, aquaculture, low carbon energy, oil and gas, fisheries, subsea cabling, and tourism and recreation.
SAF_02 Safeguarding strategic resources	Relevant as the proposed activity may affect strategic resources in relation to aggregates, aquaculture, low carbon energy (wave energy), fisheries (fish resources and fishing), and tourism and recreation (sailing). On the basis that maintenance dredging for maintaining navigable channels and berths at Milford Haven is an established activity, and supports another established activity (i.e. port and shipping activity), and given that MHPA has undertaken maintenance dredging in Milford Haven since (at least) 1985 and has statutory powers to undertake this activity, the proposed activity should be compatible with the safeguarding of strategic resources. Also, on the basis that LU168 and LU169 are licensed disposal sites and disposal of dredged material at LU168 and LU169 is an established activity subject to marine licensing provisions, and given that MHPA has disposed of dredged material at LU168 and LU169 since 1994, the proposed activity should be compatible with the safeguarding of strategic resources.



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
AGG_01a Aggregates (supporting)	Not relevant as the proposed activity does not include proposals for new aggregate extraction.
AGG_01b Aggregates (supporting)	
AQU_01a Aquaculture (supporting)	Not relevant as the proposed activity does not include proposals for new aquaculture developments.
AQU_01b Aquaculture (supporting)	
D&D_01 Dredging and disposal (supporting)	Relevant as the proposed activity includes proposals for maintaining navigable channels and long-term access to open at-sea disposal sites for appropriate material. On the basis of the information provided in this report and other supporting documentation accompanying MHPA's application to NRW for a marine licence, the proposed activity should comply with the relevant general policies and sector safeguarding policies of the WNMP and any other relevant considerations (e.g. provisions in relation to the Water Framework Directive).
ELC_01a Low carbon energy (supporting) wind	Not relevant as the proposed activity does not include proposals for offshore wind energy production.
ELC_01b Low carbon energy (supporting) wind	
ELC_02a Low carbon energy (supporting) wave	Not relevant as the proposed activity does not include proposals for wave energy production.
ELC_02b Low carbon energy (supporting) wave	
ELC_03a Low carbon energy (supporting) tidal stream	Not relevant as the proposed activity does not include proposals for tidal stream energy production.
ELC_03b Low carbon energy (supporting) tidal stream	
ELC_04 Low carbon energy (supporting) tidal range	Not relevant as the proposed activity does not include proposals for tidal range energy production.
O&G_01a Oil and gas (supporting)	Not relevant as the proposed activity does not include proposals for the recovery of oil and gas.



Table 1: WNMP Compliance Assessment	
WNMP Policy	WNMP Compliance Assessment
O&G_01b Oil and gas (supporting)	
O&G_02 Oil and gas (supporting)	
FIS_01a Fisheries (supporting)	Not relevant as the proposed activity does not include proposals for sustainable fishing activities.
FIS_01b Fisheries (supporting)	
P&S_01a Ports and shipping (supporting)	Relevant as the proposed activity includes proposals for maintaining navigable channels and berths and, therefore, for maintaining ports, harbours and shipping activities associated with the Port of Milford Haven. On the basis of the information provided in this report and other supporting documentation accompanying MHPA's application to NRW for a marine licence, the proposed activity should comply with the relevant general policies and sector safeguarding policies of the WNMP and any other relevant considerations (e.g. provisions in relation to the Water Framework Directive).
P&S_01b Ports and shipping (supporting)	
P&S_02 Ports and shipping (supporting)	
CAB_01 Subsea cabling (supporting)	Not relevant as the proposed activity does not include proposals for the growth of digital communications networks and/or the optimal distribution of electricity.
T&R_01a Tourism and recreation (supporting)	Not relevant as the proposed activity does not include proposals for tourism and recreation opportunities.
T&R_01b Tourism and recreation (supporting)	



3 References

Clarke, C. and Rees, J. (2020). Welsh Disposal Site Review. Published by Cefas, March 2020.

Milford Haven Port Authority (2019). Pembroke Dock Infrastructure Project. Water Framework Directive Assessment Report. Prepared by RPS, November 2019.

Milford Haven Port Authority (2021a). Dredging Strategy 2022-2031. Dredging Strategy Document. Revision 3. Prepared by Anthony D Bates Partnership, October 2021.

Milford Haven Port Authority (2021b). Dredging Strategy 2022-2031. Water Framework Directive Compliance Assessment. Prepared by Anthony D Bates Partnership, November 2021.

Welsh Government (2019). Welsh National Marine Plan. November 2019.