WFD Compliance Assessment

OGN 72 Appendix 2 WFD Compliance Assessment template

- **In completing this template for a WFD compliance assessment, refer to OGN72 for definitions, processes and further links to useful websites.**

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Version History			
Document Version	**Date Published**	**Summary of Changes**	**Authorised by**
1	September 2020	Document created and ready for trialling	
Review Date: [Month & Year]			

Figure 1: Stage 1 Screening

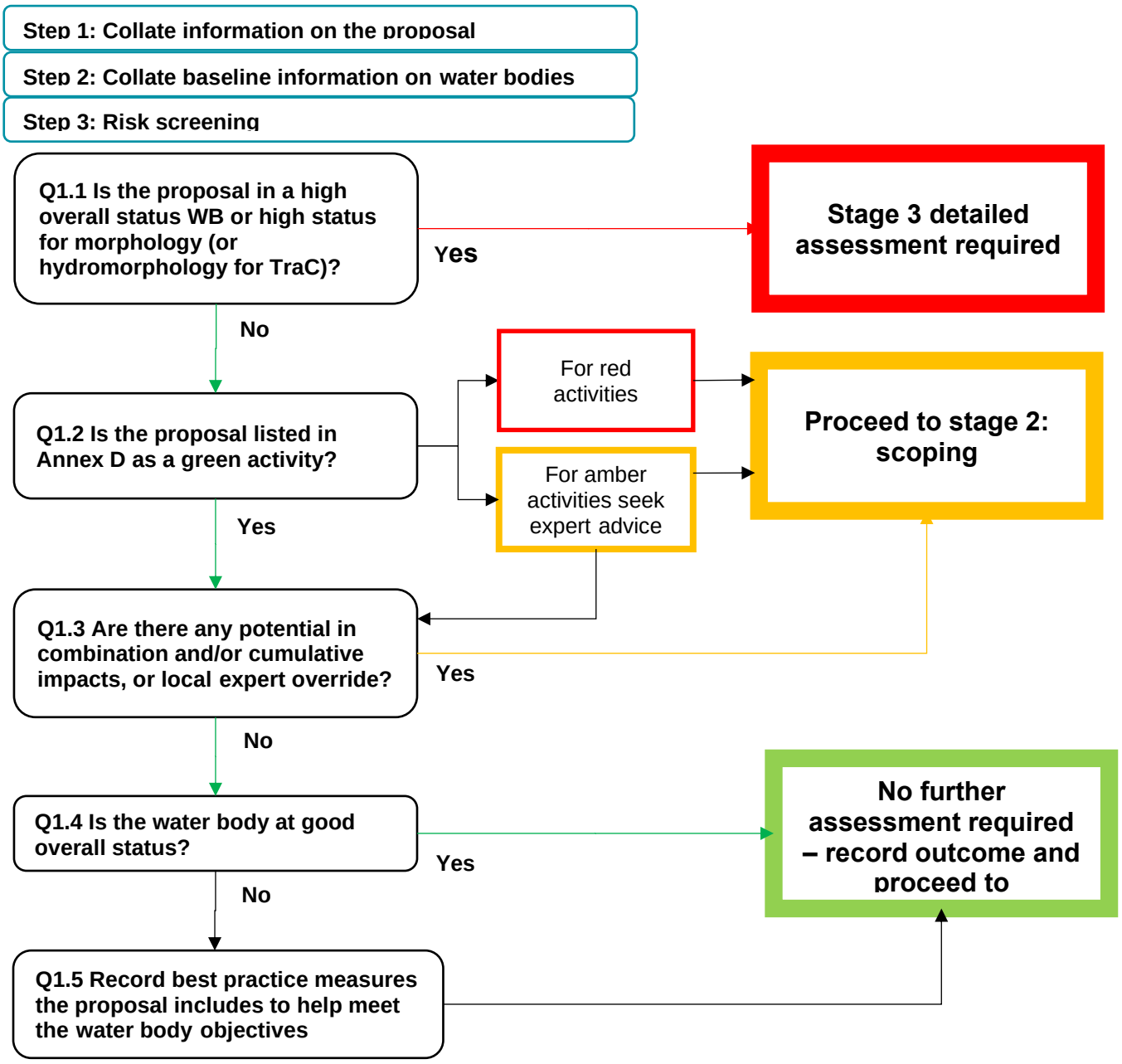
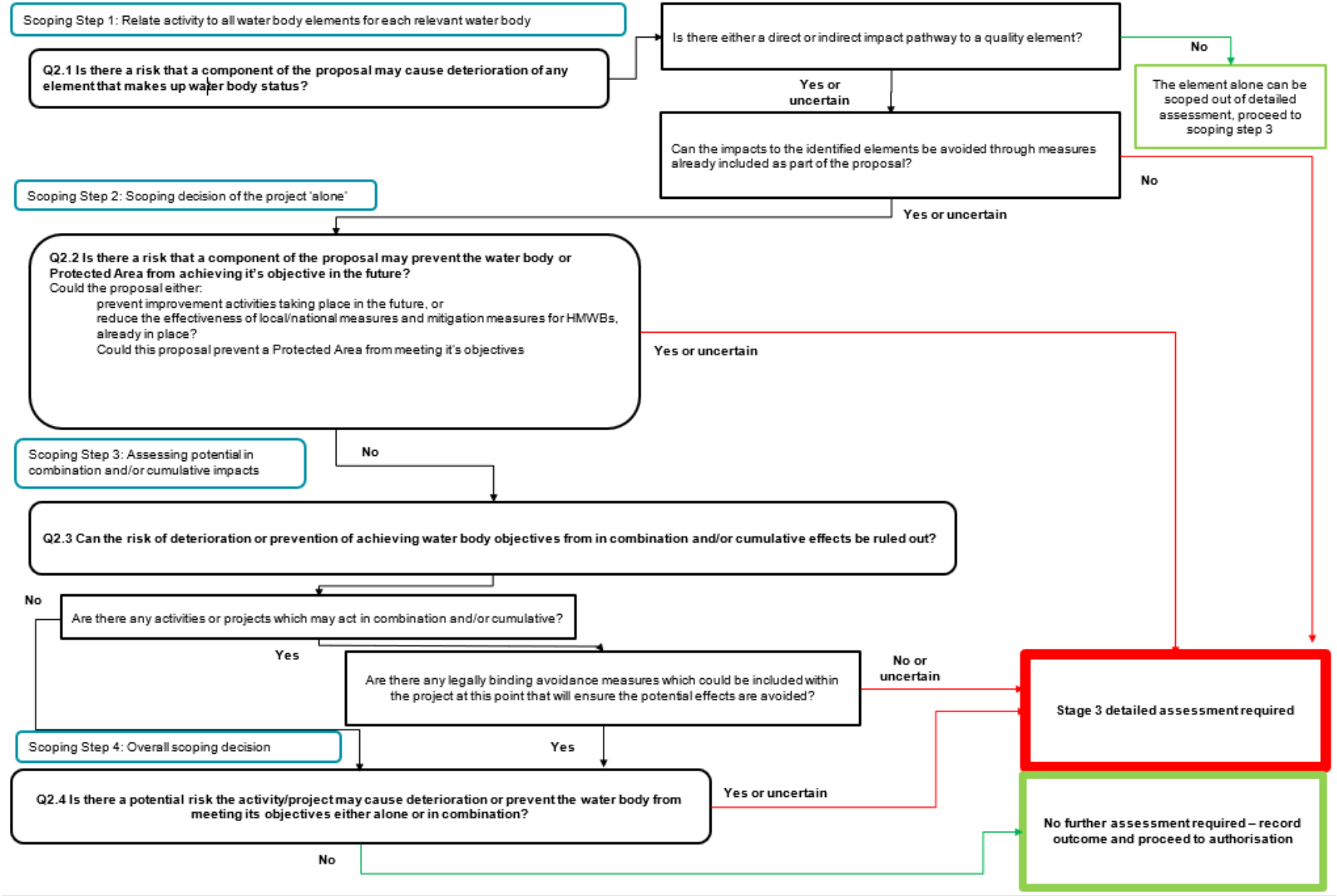


Figure 2: Stage 2 Scoping



WFD Compliance Assessment of Morlais Project

Stage 1: Screening

Stage 1, Step 1: Proposal details

Project details where an external party has applied to NRW for any form of authorisation		
Project details	**Application reference number (if applicable)**	ORML1938
	Date application received	Application accepted 08/11/2019
	Applicant details	Menter Môn Morlais Limited
	Activity proposed	Construction, operation, maintenance, repowering and decommissioning of up to a maximum of 620 Tidal Devices within the Morlais Demonstration Zone (MDZ) comprising: • A foundation or anchor on or within the seabed; • A supporting substructure or mooring; • Up to a maximum of 1,648 Tidal Energy Converters (TEC's) across the MDZ; and • Cable connections. In addition: • Up to 740 inter-array cables within the MDZ; • Up to nine export cables; • Up to nine export cable tails (shared with onshore components); • Navigation and environmental monitoring equipment; • Mooring and foundation structures; and • Offshore electrical infrastructure, including submerged, floating or surface emergent hubs. The exact methodology for construction is yet to be determined, as the technology proposed for installation is as yet undetermined due to the nature of the site as a demonstration facility for developers. The assessment is therefore undertaken on the project design envelope (PDE). The ES (Chapter 4 - Project Description) provides detail on the PDE applied, including potential technologies and their associated construction techniques. Examples of activities that may be required in the marine environment include: • Drilling for installation of pin / monopiles; • Installation of Gravity Bases, including potential for some clearing to level the seabed; • Installation of mooring chains (catenary / tension systems); • Installation of Tidal Devices comprising the components discussed above; • Cable laying, predominantly free laid with some burial closer to the coast. The cable will be laid to bypass the sand ridge/sand wave to the north of South Stack. • Cable tail and cable landfall installation, preferably by Horizontal Directional Drilling (HDD) or, if HDD is not feasible by, trenching or, as a last

		resort, surface laying on rock bags / concrete mattresses; • Installation of electrical hubs, either seabed mounted, floating surface emergent or seabed mounted surface emergent; • Navigation buoy and monitoring equipment installation.
	Relevant legislation	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; modified by the Floods and Water (Amendment etc.) (EU Exit) Regulations 2019
	List other permissions that may be required where known	**Marine licence** application under the Marine and Coastal Access Act (MCAA) 2009 and the Marine Works (EIA) Regulations **Transport and Works Act Order** under the Transport and Works Act (TWA) 1992
	Location (include map where appropriate)	The Project will comprise an offshore development area including the MDZ covering an area of 35 km² in the eastern Irish Sea, combined with an export cable corridor with an area of 4.75 km² with landfall near Penrhos Feilw, plus associated onshore infrastructure contained within an onshore development area of 1 km². Figure 1-1 (Volume II) and Figure 1-2 (Volume II) in the submitted Environmental Statement (ES) show the offshore and onshore development areas, respectively. The Project is wholly located within the Western Wales River Basin District.
	Application documents	*Key documents include:* • *Morlais Environmental Statement (ES Volumes 1-3)* • *Morlais Environmental Statement Non-Technical Summary* • *Information to Support a Habitats Regulations Assessment (ISHRA) MOR/RHDHV/DOC/0067(02)* • *Water Framework Directive (WFD) Compliance Assessment (MOR/RHDHV/APP/00126a)* • *HR Wallingford Coastal Processes Modelling report (MOR/HRW/DOC/0001)* • *Metocean and Physical Processes ES Supplementary Note (MOR/RHDHV/DOC/0111)* • *Metocean and Physical Processes Numerical Modelling Supplementary Note (MOR/RHDHV/DOC/0112)* *The location of the project is in the sea to the west of Holy Island on Anglesey. Shapefiles are provided in the document 'ORML1938 Morlais project location shapefile'*

	Environmental Statement	Appendix 8.1: Water Framework Directive Compliance Assessment. Addendum. Volume III.
	List ongoing maintenance requirements. All structures will require maintenance	*N/A*
	Timing of works	Start: 2020. End: Ongoing installation, operation, maintenance, re-powering and decommissioning works through until 2050.
	Pre-application correspondence	***Various as described in ES Volume 1: Chapter 6 (Consultation)*** ***This included a Scoping Report and Scoping Opinion (SC1804)***
	NRW team responsible for drafting this WFD Compliance Assessment **report, and name of lead officer**	Marine Licensing Team Peter Morrison
	Date of assessment (updated)	02/03/2021

Stage 1, Step 2: Collate baseline information on all water bodies at risk from the proposal

Date of classification information: 2018 Interim classification

WB ID	WB name	WB type	Management catchment	HMWB	Overall status	Ecol status	Chem status	Hydro-morphology status	Relevance to the proposal
GB621010380000	Caernarfon Bay North	Coastal	Western Wales RBD	No	Good	Good	Good	Not assessed (2018) – assume good	Proposal is: • in the water body
GB681010450000	Holyhead Strait	Coastal	Western Wales RBD	No	Moderate	Moderate	Good	Not assessed (2018) – assume good	Proposal is: • adjacent to the water body
GB681010360000	Holyhead Bay	Coastal	Western Wales RBD	Yes	Moderate	Moderate	Fail	Not assessed (2018) – assume good	Proposal is: • adjacent to the water body
GB41002G204400	Ynys Mon Secondary	Ground water	Western Wales RBD	N/A	Poor	N/A (Good quantitative status)	Poor	N/A	Proposal is: • hydrologically linked

The potential for the proposal to affect the following water bodies was also initially considered but can be ruled out without further consideration:

N/A

Stage 1, Step 3: Risk screening

Question number	Risk screening questions	Name of activity	Screening decision
Q1.1	Is the proposal in a water body at high status or high status for morphology or hydromorphology?	N/A	No – go to Q1.2
Q1.2	Is the activity listed in Annex D as a green activity?	Offshore works, in particular deployment of Tidal Energy Converters (TEC's), foundations and cables/cable protection (rock bags) plus presence of installation and support vessels	No – complete scoping assessment for each relevant water body
		Initial site preparation, earthworks and works associated with all onshore infrastructure (i.e. Landfall Substation, Switchgear Building and Grid Connection Substation, landfall and cable installation), including the stockpiling of materials and cable installation works	No – complete scoping assessment for each relevant water body
Q1.3	Are there any potential cumulative/in combination impacts? Or is there Local Expert Override*?	N/A	N/A – scoping assessment required (Q1.2)
Q1.4	Is the water body at Good overall status?	N/A	N/A – scoping assessment required (Q1.2)
Q1.5	Record best practice measures that the works include to help achieve the objectives of the water body.	N/A – scoping assessment required (Q1.2)	

Stage 2: Scoping Assessment

Stage 2, Step 1: Relate activity to all water body elements for each relevant water body

Water body name: Caernarfon Bay North
Water body ID: GB621010380000

Elements	Applicable	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
Hydromorphology Hydromorphology constitutes both 'hydrology' and 'geomorphology' and describes the physical characteristics and processes of a water body. Could the proposal lead to changes in:			
• morphological conditions, for example depth variation, the seabed and intertidal zone structure	Direct – risk of direct impact	Changes in morphology through placement of structures on seabed	**Scoped in**
• tidal patterns, for example, dominant currents	Direct – risk of direct impact	Changes in hydrodynamics through placement of structures on seabed	**Scoped in**
• freshwater flow	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• wave exposure	Direct – risk of direct impact	Changes in wave regime through placement of structures on seabed	**Scoped in**
Is the proposal in a HMWB?	No	There is no hydromorphological designation for this water body (i.e. natural).	**N/A – scoped out**
Water quality An activity can modify the flow of water, introduce artificial materials or remove sediment and/or vegetation. These can all affect the water quality – particularly physico-chemical aspects of water quality - such as levels of dissolved oxygen, nutrients and ammonia. Include water quality in the detailed assessment if the activity could affect:			
• water clarity (turbidity or suspended particulate matter concentration)	Direct – risk of direct impact	Changes in water clarity through placement of structures on seabed and cable installation (i.e. increased suspended sediment).	**Scoped in**
• thermal conditions (including shading)	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• oxygen levels – dissolved oxygen conditions	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• nutrients - dissolved inorganic nitrogen	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• microbial patterns	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• salinity/conductivity	N/A	There is no pathway for potential impacts.	**N/A – scoped out**

Water body name: Caernarfon Bay North **Water body ID:** GB621010380000			
Elements	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
• is in a water body with a phytoplankton or opportunistic macroalgae status of moderate, poor or bad	Indirect – risk of indirect impact	Phytoplankton and opportunistic macroalgae not assessed for this water body. However, potential for activities to lead to (short-term) increased suspended sediment concentrations which could affect phytoplankton communities and/or macroalgae habitat.	**Scoped in**
• is in a water body with a history of harmful algae.	No	There is no known history of harmful algae	**N/A – scoped out**
Chemicals - A detailed assessment will also be required if the activity uses or releases chemicals, for example, through sediment disturbance or building works. This is necessary when either the:			
• chemicals are on the Environmental Quality Standards Directive (EQSD) list	Direct – risk of direct impact	Accidental spillages during construction works, including vessel collision.	**Scoped in**
• activity disturbs sediment with contaminants (for estuarine and coastal above Cefas Action Level 1).	Direct – risk of direct impact	Physical disturbance of (potentially contaminated) sediments during placement of structures on seabed and cable installation.	**Scoped in**
• if the activity releases chemicals on the EQSD list and has a mixing zone, like a discharge pipeline or outfall, follow the Environment Agency's surface water pollution risk assessment guidance. This is part of the Environmental Permitting Regulations guidance.	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
Biology (Habitats) Could the proposal lead to:			
• changes to the composition and abundance of aquatic flora	Direct – risk of direct impact	Changes in habitat type through placement of structures on seabed and cable installation.	**Scoped in**
• changes to the composition and abundance of benthic invertebrate fauna	Direct – risk of direct impact	Changes in benthic assemblage through placement of structures on seabed and cable installation.	**Scoped in**
For TraC water bodies - scope in if the footprint (where footprint can be direct or a plume i.e. chemical or thermal; for dredging multiply the area by 1.5x) of your activity is:			

Water body name: Caernarfon Bay North **Water body ID:** GB621010380000			
Elements	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
• 0.5km^2 or larger	Direct – risk of direct impact	MDZ and export cable corridor approximately 40 km^2 in area.	**Scoped in**
• 1% or more of the water body's area	Direct – risk of direct impact	MDZ and export cable corridor >1% of the water body area	**Scoped in**
• Within 500m of any higher sensitivity habitat (see table below)	Direct – risk of direct impact	Subtidal kelp beds located within the project area	**Scoped in**
• 1% or more of any lower sensitivity habitat (see table below)	Direct – risk of direct impact	MDZ and export cable corridor >1% of lower sensitivity habitats (e.g. Subtidal rocky reef, Subtidal soft sediment)	**Scoped in**
Biology (Fish) – transitional water bodies only Could the proposal lead to:			
• changes to the composition, abundance and age structure of fish fauna	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• an 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)	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies. However, it is noted that migratory fish are likely to be present and transit through the project area and may be disturbed by the proposed (construction) activities. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**
• entrainment or impingement of fish	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• refuge/predation areas	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• is the proposal in an estuary and could affect fish in the estuary; is outside the estuary but could delay or prevent fish entering it; or, could affect fish migrating through the estuary	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**

Water body name: Holyhead Strait **Water body ID:** GB681010450000			
Elements	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
Hydromorphology Hydromorphology constitutes both 'hydrology' and 'geomorphology' and describes the physical characteristics and processes of a water body. *Could the proposal lead to changes in:*			
• morphological conditions, for example depth variation, the seabed and intertidal zone structure	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• tidal patterns, for example, dominant currents	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• freshwater flow	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• wave exposure	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
Is the proposal in a HMWB?	No	There is no hydromorphological designation for this water body (i.e. natural).	**N/A – scoped out**
Water quality An activity can modify the flow of water, introduce artificial materials or remove sediment and/or vegetation. These can all affect the water quality – particularly physico-chemical aspects of water quality - such as levels of dissolved oxygen, nutrients and ammonia. Include water quality in the detailed assessment if the activity could affect:			
• water clarity (turbidity or suspended particulate matter concentration)	Indirect – risk of indirect impact	Increased supply of sediment resulting from construction works on land entering the coastal water body via surface water runoff	**Scoped in**
• thermal conditions (including shading)	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• oxygen levels – dissolved oxygen conditions	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• nutrients - dissolved inorganic nitrogen	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• microbial patterns	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• salinity/conductivity	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• is in a water body with a phytoplankton or opportunistic	No	Phytoplankton not assessed for this water body. Macroalgae (and opportunistic	**Scoped in**

Water body name: Holyhead Strait **Water body ID:** GB681010450000 **Elements**	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
macroalgae status of moderate, poor or bad		macroalgae sub-element) at high status. However, potential impacts to phytoplankton and/or macroalgae due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	
• is in a water body with a history of harmful algae.	No	There is no known history of harmful algae	**N/A – scoped out**
Chemicals - A detailed assessment will also be required if the activity uses or releases chemicals, for example, through sediment disturbance or building works. This is necessary when either the:			
• chemicals are on the Environmental Quality Standards Directive (EQSD) list	Indirect – risk of indirect impact	Increased supply of contaminants resulting from construction works on land entering the coastal water body via surface water runoff.	**Scoped in**
	Indirect – risk of indirect impact	Accidental spillages during construction works on land entering the coastal water body via surface water runoff.	**Scoped in**
• activity disturbs sediment with contaminants (for estuarine and coastal above Cefas Action Level 1).	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• if the activity releases chemicals on the EQSD list and has a mixing zone, like a discharge pipeline or outfall, follow the Environment Agency's surface water pollution risk assessment guidance. This is part of the Environmental Permitting Regulations guidance.	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
Biology (Habitats) Could the proposal lead to:			
• changes to the composition and abundance of aquatic flora	Indirect – risk of indirect impact	Potential impacts to aquatic flora (e.g. saltmarsh, seagrass) due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**

Water body name: Holyhead Strait **Water body ID:** GB681010450000 **Elements**	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
• changes to the composition and abundance of benthic invertebrate fauna	Indirect – risk of indirect impact	Potential impacts to benthic invertebrates due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**
For TraC water bodies - scope in if the footprint (where footprint can be direct or a plume i.e. chemical or thermal; for dredging multiply the area by 1.5x) of your activity is:			
• 0.5km^2 or larger	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• 1% or more of the water body's area	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• Within 500m of any higher sensitivity habitat (see table below)	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• 1% or more of any lower sensitivity habitat (see table below)	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
Biology (Fish) – transitional water bodies only Could the proposal lead to:			
• changes to the composition, abundance and age structure of fish fauna	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• an 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)	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• entrainment or impingement of fish	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• refuge/predation areas	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• is the proposal in an estuary and could affect fish in the estuary; is outside the estuary but could delay or prevent fish entering it; or, could	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**

Water body name: Holyhead Strait **Water body ID:** GB681010450000 **Elements**	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
affect fish migrating through the estuary			

Water body name: Holyhead Bay **Water body ID:** GB681010360000 **Elements**	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
Hydromorphology Hydromorphology constitutes both 'hydrology' and 'geomorphology' and describes the physical characteristics and processes of a water body. Could the proposal lead to changes in:			
• morphological conditions, for example depth variation, the seabed and intertidal zone structure	N/A – no impact pathway	There are no works being undertaken within the water body and, therefore, there is no pathway for potential impacts	**N/A – scoped out**
• tidal patterns, for example, dominant currents	N/A – no impact pathway	There are no works being undertaken within the water body and, therefore, there is no pathway for potential impacts	**N/A – scoped out**
• freshwater flow	N/A – no impact pathway	There are no works being undertaken within the water body and, therefore, there is no pathway for potential impacts	**N/A – scoped out**
• wave exposure	N/A – no impact pathway	There are no works being undertaken within the water body and, therefore, there is no pathway for potential impacts	**N/A – scoped out**
Is the proposal in a HMWB?	Yes (although, no works being undertaken within the water body)	Water body designated as a HMWB for Navigation, ports and harbours; and Coast protection.	**Project activities do not relate to the reasons for hydromorphological designation of this water body; however, detailed assessment is required to consider potential implications for mitigation measures – scoped in**

Water body name: Holyhead Bay **Water body ID:** GB681010360000			
Elements	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
Water quality An activity can modify the flow of water, introduce artificial materials or remove sediment and/or vegetation. These can all affect the water quality – particularly physico-chemical aspects of water quality - such as levels of dissolved oxygen, nutrients and ammonia. Include water quality in the detailed assessment if the activity could affect:			
• water clarity (turbidity or suspended particulate matter concentration)	Indirect – risk of indirect impact	Increased supply of sediment resulting from construction works on land entering the coastal water body via surface water runoff	**Scoped in**
• thermal conditions (including shading)	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• oxygen levels – dissolved oxygen conditions	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• nutrients - dissolved inorganic nitrogen	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• microbial patterns	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• salinity/conductivity	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
• is in a water body with a phytoplankton or opportunistic macroalgae status of moderate, poor or bad	No	Phytoplankton and macroalgae (and opportunistic macroalgae sub-element) at high status. However, potential impacts to phytoplankton and/or macroalgae due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**
• is in a water body with a history of harmful algae.	No	There is no known history of harmful algae	**N/A – scoped out**
Chemicals - A detailed assessment will also be required if the activity uses or releases chemicals, for example, through sediment disturbance or building works. This is necessary when either the:			
• chemicals are on the Environmental Quality Standards Directive (EQSD) list	Indirect – risk of indirect impact	Increased supply of contaminants resulting from construction works on land entering the coastal water body via surface water runoff	**Scoped in**
	Indirect – risk of indirect impact	Accidental spillages during construction works on land entering the coastal water body via surface water runoff	**Scoped in**
• activity disturbs sediment with contaminants (for estuarine and coastal above Cefas Action Level 1).	N/A	There is no pathway for potential impacts.	**N/A – scoped out**

Water body name: Holyhead Bay **Water body ID:** GB681010360000 **Elements**	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
• if the activity releases chemicals on the EQSD list and has a mixing zone, like a discharge pipeline or outfall, follow the Environment Agency's surface water pollution risk assessment guidance. This is part of the Environmental Permitting Regulations guidance.	N/A	There is no pathway for potential impacts.	**N/A – scoped out**
Biology (Habitats) Could the proposal lead to:			
• changes to the composition and abundance of aquatic flora	N/A	Potential impacts to aquatic flora (e.g. saltmarsh, seagrass) due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**
• changes to the composition and abundance of benthic invertebrate fauna	N/A	Potential impacts to benthic invertebrates due to the risk of spills and contaminated run-off. Therefore, this has been scoped in for detailed assessment on a precautionary basis.	**Scoped in**
For TraC water bodies - scope in if the footprint (where footprint can be direct or a plume i.e. chemical or thermal; for dredging multiply the area by 1.5x) of your activity is:			
• 0.5km^2 or larger	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• 1% or more of the water body's area	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• Within 500m of any higher sensitivity habitat (see table below)	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• 1% or more of any lower sensitivity habitat (see table below)	N/A	There are no offshore works being undertaken within the water body and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**

Water body name: Holyhead Bay **Water body ID:** GB681010360000 **Elements** **Biology (Fish) – transitional water bodies only** Could the proposal lead to:	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
• changes to the composition, abundance and age structure of fish fauna	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• an 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)	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• entrainment or impingement of fish	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• refuge/predation areas	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**
• is the proposal in an estuary and could affect fish in the estuary; is outside the estuary but could delay or prevent fish entering it; or, could affect fish migrating through the estuary	N/A	The biological quality element 'Fish' is not assessed for coastal water bodies.	**N/A – scoped out**

Information for TraC water bodies

Extract from Environment Agency's Clearing the Waters for All

Higher and lower sensitivity habitats for TraC water bodies

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.*

Water body name: Ynys Mon Secondary **Water body ID**: GB41002G204400			
Elements	**Applicable**	**Potential Impact** (include direct and indirect potential impacts)	**Scoped In / Out** (consideration of avoidance measures)
Hydrological regime Identify if the activity/project has the potential to impact on the quality or quantity of ground water. Could the proposal lead to:			
• a significant change to groundwater flows, for example, below ground structures which restricts or alters baseflow to dependent surface water or wetlands	Indirect – risk of indirect impact	Changes in infiltration to the groundwater body.	**Scoped in**
	Indirect – risk of indirect impact	Changes to groundwater flows associated with the installation of buried infrastructure, which has the potential to change subsurface flow routes and change the distribution of groundwater.	**Scoped in**
	Indirect – risk of indirect impact	Changes to groundwater flows associated with the installation of surface infrastructure, which has the potential to change surface and subsurface flow routes and change the distribution of groundwater.	**Scoped in**
• abstraction of groundwater in large volumes or near sensitive locations	N/A	The project will not involve the abstraction of groundwater and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**
• a significant change to groundwater chemistry due to inputs of pollutants to the ground over a large area	Indirect – risk of indirect impact	Changes in infiltration to the groundwater body (groundwater quantity) and potential for ingress of road-related contaminants (groundwater quality).	**Scoped in**
• potential impact on ground water dependant terrestrial ecosystems e.g. wetlands	N/A	The project will not impact groundwater dependent terrestrial ecosystems and, therefore, there is no pathway for potential impacts.	**N/A – scoped out**

Invasive Non-Native Species

Invasive Non-Native Species Risks of introducing or spreading INNS include materials or equipment that have come from, had use in or travelled through other water bodies, and activities that help spread existing INNS, either within the immediate **water** body or to other water bodies Does the activity or project have the potential to introduce or spread INNS to a water body?			
Water body name (ID)	**Applicable**	**Potential Impact (include direct and indirect potential impacts)**	**Scoped In / Out** (consideration of avoidance measures)
Caernarfon Bay North (GB621010380000)	Direct – risk of direct impact	Attached to equipment such as anchors/anchor chains	**Scoped in**
	Direct – risk of direct impact	Fouling on hulls	**Scoped in**
	Direct – risk of direct impact	Seawater in pipework	**Scoped in**
	Direct – risk of direct impact	Ballast water and within sediment within ballast tanks	**Scoped in**
	Indirect – risk of indirect impact	Introduction of turbine devices will increase the area of flat hard surfaces which may be colonised by INNS.	**Scoped in**
Holyhead Strait coastal water body (GB681010450000)	N/A	N/A	**Scoped out**
Holyhead Bay coastal water body (GB681010360000)	N/A	N/A	**Scoped out**
Ynys Mon Secondary groundwater water body (GB41002G204400)	N/A	N/A	**Scoped out**

WFD Protected Areas

If the proposed activity is within, or hydrologically connected to, a WFD Protected Area. If the activity is hydrologically linked, then as a general rule those Protected Areas within 2 km of the proposed activity will be most at risk.

Protected Areas Consider if WFD protected areas are at risk from your activity	Applicable	**Scoped In / Out** (consideration of avoidance measures)
• SACs/SPAs/RAMSAR	Yes	**North Anglesey Marine SAC, Anglesey Terns SPA – scoped in**
• Bathing Waters	Yes	**Porth Dafarch – scoped in**
• Shellfish Waters	Yes	**Beddmanarch Bay – scoped in**
• Nutrient Sensitive Areas	No	**N/A – scoped out**
• Nitrate Vulnerable Zones	No	**N/A – scoped out**
• Drinking Water Protected Areas (Surface and Ground)	No	**N/A – scoped out**
• Critical/sensitive habitats	Yes	**Scoped in:** • **Circalittoral *Sabellaria* reef (Annex I habitat type: reefs, OSPAR priority habitat) - Unknown/distributed throughout the MDZ and cable corridor** • **Annex I stony reef habitat - Unknown/distributed throughout the deeper areas of the MDZ and cable corridor** • **Annex I bedrock reef - Distributed throughout the shallower waters in central, southern and northern areas of the MDZ and cable corridor**

Stage 2, Step 2: Scoping decision of the project 'alone'

Question number	Scoping assessment	Scoping decisions
Q2.1	Is there a risk that a component of the proposal may cause deterioration of any element that makes up water body status?	**Yes – detailed assessment required**
Q2.2	Is there a risk that a component of the proposal may prevent the water body or Protected Area from achieving its objectives in the future?	**Yes – detailed assessment required**

Stage 2, Step 3: Assessing potential in combination and/or cumulative impacts

Are there any activities or projects which may act in combination and/or cumulative?	**Nature of the in-combination/cumulative effect (if any)**	**Avoidance measures** Are there any legally binding avoidance measures which could be included within the project at this point that will ensure the potential effects are avoided?	Can the risk of deterioration or prevention of achieving water body objectives from in combination/cumulative effects be ruled out?
Minesto Holyhead Deep - Licensed (Phase 1)	Based upon the geographical configuration of the Minesto Project Development Area with respect to the Morlais Project, there is no possibility of changes in tidal flow interacting between projects. This is due to the alignment of flood and ebb flows off the coast of Anglesey (i.e. the two projects are not upstream/downstream of each other). Similarly, any (minor) sediment plumes arising from construction from either project will not combine because of: (i) the alignment of principal tidal flows; and (ii) likely different construction programmes (note that phase 1 of the Holyhead Deep project is already installed).	N/A	**Yes – scoped out**
Holyhead Port Expansion - Application Submitted	Holyhead Port lies within Holyhead Bay coastal water body. As such, cumulative or in-combination effects on the Caernarfon Bay North coastal water body can only occur through indirect secondary effects rather than direct effects within the project footprint. For this reason, there is no interaction predicted from disturbance of seabed during construction or seabed habitat loss at the Holyhead Port site. Nevertheless, given the zones of impact of both proposals are proximal, it is considered appropriate to scope this project in for detailed assessment.	None identified.	**No – scoped in**
Holyhead Breakwater Refurbishment Scheme - Screening	This application is at the pre-application stage and, therefore, there is little information to assess the potential cumulative effects. This will be managed during the application process for the Holyhead Breakwater Refurbishment Scheme project.	N/A	**Yes – scoped out**
Holyhead Marina - Scoping	This application is at the pre-application stage and, therefore, there is little information to assess the potential cumulative effects. This will be managed during the application process for the Holyhead Marina project.	N/A	**Yes – scoped out**

Scoping decision of the project cumulatively or 'in combination'	**Potential cumulative/in combination impacts conclusion**
Q2.3 Can the risk of deterioration or prevention of achieving water body objectives from in combination and or cumulative effects be ruled out?	**It cannot be concluded that potential deterioration or prevention of achieving water body objectives from in combination / cumulative effects can be ruled out**

Stage 2, Step 4: Overall scoping decision

Questions number	Scoping assessment	Scoping decisions
Q2.4	Is there a potential risk that the proposal may cause deterioration or prevent a water body from meeting its objectives either alone or in combination?	**There is a risk the proposal may cause deterioration or prevent the water body from meeting its objectives and therefore a detailed compliance assessment might be required if no mitigation measures that can be included at Q2.5.**
Q2.5	Mitigation measures Are there any legally binding mitigation measures which could be included within the project at this point that will ensure the potential effects are avoided?	**There is a risk the proposal may cause deterioration or prevent the water body from meeting its objectives and therefore a detailed compliance assessment is required. There are no mitigation measures that can be included at this stage.**

Stage 3: Detailed Assessment

Stage 3, Step 1: Summary table

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
Caernarfon Bay North coastal water body (GB621010380000)	Hydromorphology	For full assessment refer to the ES Appendix 8.1, WFD Compliance Assessment, Section 1.7.1. Once installed within the MDZ, tidal devices will affect the baseline tidal regime due to the extraction of energy from the tidal currents. This will result in the formation of wakes within the hydrodynamic current flow arising from each tidal device within the Project. The overall effect will be to (mainly) pacify the existing tidal regime downstream of the tidal devices, when compared to the pre-existing (baseline) situation, recognising that the location of this wake will change along the axis of tidal flow depending on the stage of the tide. Modelling results have determined that changes in tidal velocity are limited to within the Caernarfon Bay North coastal water body. The magnitude of change is generally small and limited to the immediate vicinity of the MDZ array. In even the worst-cases, the magnitude of reduction in tidal current flow (up to 0.8 m/s) results in a residual current flow of high speeds, because the baseline flow conditions in these most affected areas is 2.2-2.4 m/s. Due to this residual high speed, and the small spatial extent of predicted change, it is not considered to represent a change in hydrodynamic characteristics of the Caernarfon Bay North coastal water body. The presence of tidal devices is expected to cause a reduction in wave height and a slight and highly localised change in direction. Modelling outputs	None	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		confirm that the structures cause waves from all directions to reduce due to dissipation of wave energy. Predicted changes in wave height were highly localised around the turbine array and limited to within the Caernarfon Bay North coastal water body. Predicted changes in wave height due to turbine presence are low for all wave directions. The greatest magnitude of change is predicted for waves from 330°N, where a decrease of 0.4-0.65 m may occur across an area of 0.67 km², and the largest predicted extent for change in wave height ≥±0.2 m is 5.3 km² (210°N). These changes correspond to 0.48% and 3.91% of the Caernarfon Bay North coastal water body extent, respectively. Given this limited extent, the predicted change is not considered to constitute a change in overall water body hydromorphological characteristic.			
	Water quality	The total volume of sediment released from pre-drilling for monopile or pin pile installation would be extremely small (1,020 m^3 per foundation). This is likely to result in peak increases in suspended sediment concentration at the points of release within the Project being only a few mg/l (typically less than 10 mg/l) and peak values will reduce to <1 mg/l within a small spatial extent (a few hundred metres). The maximum envisaged effect associated with sediment plumes arising from the foundation installation activities will cause only very minor enhancements in suspended sediment concentration (typically less than 1 mg/l a short distance from the release point) over only a small geographical area (a few hundred metres). Mobilisation of suspended sediments by construction activities has potential to introduce dissolved and particulate matters (organic and	Best practice measures for vessel movements to avoid/ reduce potential for vessel collision (accidental spillages). As a condition of the Marine Licence a Marine Pollution Contingency Plan (as part of the wider Pollution Prevention Management Plan) will be finalised following agreement with NRW. The conditions will ensure	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		inorganic), thereby causing an indirect increase in phytoplankton productivity. The activities associated with the construction, operation and decommissioning of the Morlais Project are not anticipated to affect the local or regional phytoplankton as no nutrients are anticipated to be released. Furthermore, the increased suspended sediment concentration from sediments suspended from the seabed are anticipated to be temporary in nature and are not anticipated to affect phytoplankton communities significantly. As such, construction, operation and decommissioning activities are not expected to cause any non-temporary effects on phytoplankton communities and are not considered to pose a risk of deterioration to the good status of the Caernarfon Bay North coastal water body. Also see Chapter 8: Marine Water and Sediment Quality (Volume I) for assessment of contaminants. There is a risk of spills at sea (e.g. via shipping accidents), releasing contaminants into the marine environment. It is assumed this to be a requirement of the marine licence (e.g. via a management/contingency plan secured as a condition of the licence).	that pollution prevention best practice is adhered to, including appropriate bunding and storage facilities are installed to contain and prevent the release of fuel, oils and chemicals associated with the plant, refuelling and construction equipment into the marine environment. Vessels associated with all Project operations will comply with IMO/MCA codes for prevention of oil pollution and any vessels over 400 GT will have on board Shipboard Oil Pollution Emergency Plans (SOPEP)		
	Biology (habitats)	There are very few records of seagrass within the waterbody, which are not in the footprint of the development (nearest seagrass records are approximately 6 km from the MDZ. There are no recorded saltmarsh beds within the waterbody. Potential impacts on benthic invertebrates through loss or disturbance of habitat within the MDZ. Total	Use of pre-construction surveys to check for the presence of any rare or protected habitats and species and subsequent micro-	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		potential habitat loss of 2,184,932 m^2 (5.49% of the seabed area within the MDZ and export cable corridor, 1.5% of the seabed area within the water body). In addition, if post-lay burial of cable through sandwave formation is required, this will temporarily disturb an area up to 423,499 m^2. Benthic habitats present within the MDZ are considered to be widespread regionally. This availability of alternative similar habitat provides benthic communities with opportunity to migrate following disturbance and provides capacity for recovery and recolonisation of any affected substrate following decommissioning. The changes are likely to be measurable above baseline conditions, but are expected to remain within the range of natural variations. Further, the effect is slowly reversible following decommissioning (5-10 years). Therefore, no deterioration in the current status of this waterbody is predicted.	siting key project infrastructure.		
	Biology (fish)	The MDZ array and cable corridor does not lie adjacent to any major river estuaries. Whilst migratory fish, in particular salmonids, may pass through the site as part of migration to/from rivers in this region, assessments within the Morlais EIA have concluded that no significant impacts would arise on such fish behaviour (see Chapter 10, Fish and Shellfish Ecology of the ES). Also see Additional Information to Support Morlais Habitats Regulations Assessment (migratory fish) (MOR-MSP-DOC-003). Potential impacts on fish from the Project include barrier effects and collision risk with active tidal devices. Although fish are not considered as quality elements for coastal water bodies, any impacts to migratory fish would need to be considered in	None	**No – noting coastal water bodies are not assessed for the biological quality element 'Fish'**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		hydrologically connected estuarine and river water bodies. In terms of potential barrier effects and/or collision with active TECs, it is very difficult to assess the magnitude of these effects due to the absence of information from projects off this scale. However, it can be assumed that if fatal collisions do occur, it is likely to only be to a small proportion of individuals and not result in a population level effect. The loss of individuals from collisions, in the context of overall mortalities within a population, is considered to be within the natural levels of mortality.			
	Protected Areas (SAC, SPA, Critical/ Sensitive Habitats)	The MDZ and cable corridor overlap the North Anglesey Marine SAC and Anglesey Terns SPA. Potential impacts from the project have been considered separately as part of the HRA and found the project unlikely to result in adverse effects on integrity of protected features of these site (see ORML1938 HRA Morlais Marine). Under the worst-case scenario development would result in the loss of a 5.49 % of the seabed within the MDZ and export cable corridor. Although there is a high percentage coverage of similar habitat types within the MDZ available, the scale of the change would be noticeable. This impact will occur at a scale which would be noticeable from monitoring but would remain within the range of natural variations of background conditions. Further, the effect is slowly reversible following decommissioning (5-10 years) Proposed mitigation measures include the use of pre-construction surveys to check for the presence of any rare or protected habitats and species and subsequently micro-siting key project infrastructure.	Refer to HRA. Use of pre-construction surveys to check for the presence of any rare or protected habitats and species and subsequent micro-siting key project infrastructure.	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		This would inform areas which should be avoided and areas which infrastructure should not be placed. Overall, even though impacts on seabed habitats within the MDZ and cable corridor are predicted, and thus impacts on habitats within the Caernarfon Bay North coastal water body, none of these will (following mitigation) produce a significant, non-temporary effect at the scale of the waterbody. Therefore, no deterioration in the current status of this waterbody is predicted via impacts on circalittoral *Sabellaria* reef, stony reef or bedrock reef habitat.			
	Protected Areas (Bathing Water)	For full assessment refer to the ES Chapter 8, Marine Water and Sediment Quality. Increases in SSC caused by sediment resuspension will be one-off and temporary in duration, with a return to the very low background concentrations occurring rapidly upon cessation of installation. It has been concluded that sediment contamination within the MDZ is likely to be low, due to the dynamic hydrological regime and generally low level of industrial activity in this region. The low proportion of fine sediments within the MDZ (which have a greater adsorbing capacity for contaminants) is another factor that indicates low sediment contamination levels. Accidental spillage will be risks will be managed through best practice and pollution prevention including adherence to project-specific CEMP and PPMP which themselves will take full account of relevant pollution control legislation and guidance, i.e. MARPOL regulations.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body. Best practice measures for vessel movements to avoid/reduce potential for vessel collision (accidental spillages).	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		Based on the above, no deterioration in the current status of this waterbody is predicted via a change in the status of this WFD Protected Area.			
	INNS	See Chapter 9, Benthic and Intertidal Ecology of the ES and Outline INNS Management Plan (Document MOR/RHDHV/DOC/0075).	Preparation of Biosecurity Risk Assessment	**No**	**Yes**
	Cumulative/in-combination effects	Holyhead Port lies within Holyhead Bay coastal water body. As such, cumulative or in-combination effects on the Caernarfon Bay North coastal water body can only occur through indirect secondary effects rather than direct effects within the project footprint. However, the zones of impact of both proposals are proximal. The effects of any accidental spillages of materials during construction or suspended sediment plume from dredging activities are expected to be relatively localised. Holyhead Port is >2 km from the Caernarfon Bay North coastal water body boundary. Assessment of expected effects envelope within the Holyhead Port ES showed no interaction with the Caernarfon Bay North coastal water body (RHDHV, 2019). Similarly, modelling of potential noise impacts within the Holyhead Port ES established that these will be limited to the Holyhead Bay coastal water body, and disturbance to fish passage from the MDZ is considered to pose a negligible risk to migratory fish populations. As such there is negligible risk of disturbance to hydrologically connected estuarine and river water bodies. Impacts to coastal processes during construction or operation activities at Holyhead Port may manifest through: morphological changes caused by seabed removal; changes to tidal prism or sediment	None.	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		transport due to reclamation and dredging works; changes in tidal currents and exposure of local intertidal and foreshore areas; and changes in sediment deposition within Holyhead Bay. Holyhead Port lies >2 km from the Caernarfon Bay North coastal water body and is sheltered by the Holyhead breakwater. Due to the sheltered location and the geographic separation, it is not expected that these changes in coastal processes would cause detectable effects at the adjacent Caernarfon Bay North coastal water body. Based on this lack of interaction between effects from the Holyhead Port development and the Caernarfon Bay North coastal water body, there is no pathway for cumulative or in-combination impacts on WFD parameters. As a result, the scheme is considered to be compliant with WFD requirements in terms of potential cumulative/in-combination effects.			
Holyhead Strait coastal water body (GB681010450000)	Water quality	The only potential pathway is via increased supply of sediment and contaminants resulting from construction works on land entering the coastal water body via surface water runoff. However, mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body. Best practice measures for vessel movements to	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
			avoid/reduce potential for vessel collision (accidental spillages).		
	Biology (habitats)	The only potential pathway is via increased supply of sediment and contaminants resulting from construction works on land entering the coastal water body via surface water runoff, thus impacting marine habitats and species. However, mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body. Best practice measures for vessel movements to avoid/reduce potential for vessel collision (accidental spillages).	**No**	**Yes**
	Protected Areas (Beddmanarch Bay Shellfish Water Protected Area)	The runoff of sediment and contaminants from terrestrial construction and operational activities will be controlled by a suite of best practice mitigation measures embedded into the scheme design (e.g. in the Code of Construction Practice and site drainage system). These will prevent an increase in the supply of sediment and contaminants into the coastal water bodies that receive drainage from the onshore site and, therefore, prevent any adverse impacts on the Beddmanarch Bay Shellfish Water Protected Area located within this coastal water body.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body.	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
			Best practice measures for vessel movements to avoid/reduce potential for vessel collision (accidental spillages).		
Holyhead Bay coastal water body (GB681010360000)	Hydromorphology	Water body is designated as a HMWB for Navigation, ports and harbours and Coast protection. Mitigation measures currently not in place (not yet identified; 2019) include: • (4.) Remove or soften hard bank; • (13.) Realign flood defence; and • (19.) Enhance ecology. The Morlais project will not impact or provide opportunities to implement these measures relating to coast protection (no relevant mitigation measures not in place with regards to Navigation, ports and harbours).	N/A	**No**	**Yes**
	Water quality	The only potential pathway is via increased supply of sediment and contaminants resulting from construction works on land entering the coastal water body via surface water runoff. However, mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body. Best practice measures for vessel movements to avoid/	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
			reduce potential for vessel collision (accidental spillages).		
	Biology (habitats)	The only potential pathway is via increased supply of sediment and contaminants resulting from construction works on land entering the coastal water body via surface water runoff, thus impacting marine habitats and species. However, mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body.	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the coastal water body. Best practice measures for vessel movements to avoid/reduce potential for vessel collision (accidental spillages).	**No**	**Yes**
Ynys Mon Secondary groundwater water body (GB41002G204400)	Quantitative	The screening exercise presented in the associated ES (Volume III, Chapter 8, Table 1-6) showed that due to the small scale of the construction works in relation to the overall size of the groundwater body, as well as the shallow excavation to only 1.7 m taking place mostly within an existing road, there is no potential for significant impacts to the quantity of the groundwater body. The operational infrastructure and associated maintenance activities do not have the potential to impact upon the quantity or quality of groundwater as demonstrated in the associated ES (Volume III, Chapter 8, Table	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the	**No**	**Yes**

Water body name (ID)	WFD element/s scoped in	Description of impacts; include a list of all evidence documents to inform the detailed assessment	Mitigation measures	Risk of activity preventing the water body/PA from meeting its objectives? *	Can the risk of deterioration be ruled out? *
		1-8). Although there is potential for the presence of the buried cable ducting throughout the cable route to impact upon the quantitative status of the groundwater bodies which underlie the Project, the size of the cable ducting in comparison to the size of the groundwater bodies which underlie the Project will result in a negligible impact upon infiltration rates, groundwater flows, subsurface flow routes and alterations in the distribution of groundwater.	groundwater water body.		
	Chemical	The screening exercise for groundwater quality, presented in the associated ES (Volume III, Chapter 8, Table 1-7) shows that due to the small scale nature of the works in relation to the size of the water body, there will be no significant impact on groundwater quality (chemical status).	Mitigation measures included in the Code of Construction Practice will prevent the release of sediment and contaminants into the surface watercourses that drain the construction area before entering the groundwater water body.	**No**	**Yes**

* Where there is uncertainty if the proposed activity may prevent a water body or PA from meeting its objectives or may cause deterioration then we must follow a precautionary approach, contact the Integrated Water Planning team for further advice.

Conclusion of WFD Compliance Assessment & Authorisation

In light of the conclusions of a detailed compliance assessment (Stage 3), and taking account of the advice received from technical specialist advisors, it has been established that **the project has no potential to cause deterioration of any water body or prevent a water body or WFD Protected Area from meeting its objectives**, taking into account any conditions or restrictions as applicable, either alone or in-combination with other activities.	
Produced by:	Colin Trigg
date	20/05/2021
Approved by:	Peter Morrison
date	20/08/2021

Consultation with technical advisors/specialists

Relevant section of the WFD compliance assessment	Date(s) of correspondence* and any meeting(s) with technical advisor(s) and include the name of the technical advisor	Description of how the comments from technical advisors have been considered
General	**18/9/2020 – DPAS comments**	**Key to addressing comments was to update (from 1st iteration) and populate form to align with latest WFD guidance** **Consideration given to use of 'screening' 'scoping' terms.**
Prelim assessment (Stage 1, step3)	**18/9/2020 – DPAS comments** **22/04/2021 – DPAS comments**	**Screening in of WFD elements (no consideration of mitigation)** **Additional information added to mitigation column for Caernarfon Bay North WQ**
Waterbodies	**18/9/2020 – DPAS comments**	**Mitigation considered in detailed assessment stage**
Bathing water/shellfish water	**18/9/2020 – DPAS comments**	**Bathing water identified, mitigation for these waters considered in detailed assessment**
Benthic features	**18/9/2020 – DPAS comments**	**Scoped in**
Holyhead Port Expansion	**18/9/2020 – DPAS comments**	**Scoped in**

*Attach a copy of any written correspondence with the WFD assessment for the audit trail

Appendix 1

NRW TE response dated 22/04/2021 and following correspondence with NRW MLT

ORML1938: Morlais Tidal Array – Marine Licence application
NRW Marine Licensing Team: Water Framework Directive compliance assessment v2
22/04/21
We have reviewed NRW Marine Licensing Team's Water Framework Directive compliance assessment (version 2) compiled in relation to the above application.
Overall, we acknowledge and welcome that much of our previous advice (dated 18/09/20) has been addressed in the current version. Our remaining advice is detailed as follows.
1. We note that in version 1 of the WFD compliance assessment, thermal conditions were screened in for GB621010380000: Caernarfon Bay North (3.1: preliminary assessment, Table 6 (p11), but in version 2 these are scoped out in stage 2, step 1. The only information provided on this is "*no pathway for potential impacts*". No information on this change is provided in the section on "Consultation with technical advisors/specialists" p.38, so we advise that clarification is provided regarding this.

2. We note the following text has now been included in Stage 3: Detailed assessment, step 1, summary table for Caernarfon Bay North water body, in the Water Quality section: "*There is a risk of spills at sea (e.g. via shipping accidents), releasing contaminants into the marine environment. It is assumed this to be a requirement of the marine licence (e.g. via a management/contingency plan secured as a condition of the licence)".* However, we note that the only mitigation measures refer to best practice rather than any management or contingency plan, as advised.

NRW MLT Email response to comments made on the 22/04/2021

1. We note that in version 1 of the WFD compliance assessment, thermal conditions were screened in for GB621010380000: Caernarfon Bay North (3.1: preliminary assessment, Table 6 (p11), but in version 2 these are scoped out in stage 2, step 1. The only information provided on this is "*no pathway for potential impacts*". No information on this change is provided in the section on "Consultation with technical advisors/specialists" p.38, so we advise that clarification is provided regarding this.

Given the nature of the proposed scheme, specifically the construction, operation, maintenance, repowering and decommissioning of up to a maximum of 620 Tidal Devices, it is considered unlikely to result in significant alterations in thermal conditions within the marine environment (as opposed to, for example, discharges of cooling water). Furthermore, the Caernarfon Bay North coastal water body is not assessed for thermal conditions (2018 classification; Water Watch Wales), with this previous consideration an artefact of the Environment Agency's old 'Clearing the Waters' guidance for WFD assessments – prepared for dredging and disposal activities only, although often applied to other marine activities. The Environment Agency's 'Clearing the Waters for All'

guidance, published in December 2016, supports the assessment of any activity in transitional and coastal water bodies and does not require consideration of thermal conditions. This is also the case with NRW's OGN 72 for WFD assessments. Therefore, it is not considered appropriate (or necessary) to assess thermal conditions further with respect to WFD compliance.

2. We note the following text has now been included in Stage 3: Detailed assessment, step 1, summary table for Caernarfon Bay North water body, in the Water Quality section: "There is a risk of spills at sea (e.g. via shipping accidents), releasing contaminants into the marine environment. It is assumed this to be a requirement of the marine licence (e.g. via a management/contingency plan secured as a condition of the licence)". However, we note that the only mitigation measures refer to best practice rather than any management or contingency plan, as advised.

As a condition of the ML a Marine Pollution Contingency Plan (as part of the wider Pollution PMP) will be finalised following agreement with NRW. The conditions will ensure that pollution prevention best practice is adhered to, including appropriate bunding and storage facilities are installed to contain and prevent the release of fuel, oils and chemicals associated with the plant, refuelling and construction equipment into the marine environment. The CEMP (also to be finalised following agreement with NRW) will detail management measures to reduce impacts during the construction phase such as following pollution control legislation and guidance. Furthermore, licence conditions will ensure that an Emergency Response Cooperation Plan (ERCoP) with guidance set out by MCA in MGN 371, issued and approved by MCA. Vessels associated with all Project operations will comply with IMO/MCA codes for prevention of oil pollution and any vessels over 400 GT will have on board Shipboard Oil Pollution Emergency Plans (SOPEP). Vessels associated with all Project operations and barge will carry on-board oil and chemical spill mop up kits

Email from NRW TE with Final Response received on 10/05/2021

Thanks for providing the additional clarifications regarding our recent advice on the draft WFD Compliance Assessment for the Morlais Marine Licence application. Please find our response below:

1. We confirm that we are content with the explanation for thermal impacts being scoped out and consider that no further changes are required to the assessment in this regard.

2. We confirm that we are content with the explanation regarding mitigation for spillages at sea. We advise that it would be useful to include some of this helpful information in the appropriate column of the table in the assessment.

If you have any further queries regarding the above please don't hesitate to contact me.

Appendix 2

NRW TE response dated 18 September 2020

ORML1938: Morlais Tidal Array – Marine Licence application
NRW Marine Licensing Team: Water Framework Directive compliance assessment
NRW DPAS comments

We have reviewed NRW Marine Licensing Team's Water Framework Directive compliance assessment compiled in relation to the above application, and our advice is as follows:

1. We advise that some elements which have been screened out at an early stage of NRW PS's WFD compliance assessment should have been screened in and considered at the Detailed Assessment stage. This is also applicable for the screening of critical and sensitive habitats.
2. The terms "screening" and "scoping" are used interchangeably within the document, which is confusing for the reader. We advise that these terms are used appropriately and consistently throughout the document.
3. Step 3; Preliminary Assessment, Table 6: We are concerned that some WFD elements are screened out at an early stage with the justification being the proposed mitigation. We advise that the correct process would be to screen and scope them in to the Detailed Assessment stage and then, when adequately assessed and evidenced at that stage, conclude whether there is no risk of deterioration to the element in question with consideration of mitigation.
4. We note that the contents of the cables have now been described and do not envisage any spill risk from those. However, clarification is required on what would replace lead if other options were pursued on environmental grounds. We are also concerned about the use of bitumen which we would expect to include hydrocarbons. If bitumen were to be used, we would require evidence of what the risk is to the marine environment in terms of breaches of Environmental Quality Standards, WFD compliance and harm to ecological receptors.
5. We would expect the risk of spills at sea (e.g. via shipping accidents) to be a requirement of the marine licence e.g. via a management/contingency plan secured as a condition of the licence. However, this should be considered in the HRA and WFD compliance assessment.
6. Caernarfon Bay North: Specific pollutants, chemical status and priority substances should be screened in due to the risk of spills. Mitigation should not be considered until Detailed Assessment stage. There appears to be an error in relation to the macroalgae biological element, which is screened in for further assessment. However, the justification provided in the final column relates to benthic invertebrates; this may be a typographical error.
7. Holyhead Strait and Holyhead Bay: Phytoplankton, benthic invertebrates, macroalgae, saltmarsh, seagrass, specific pollutants, chemical status and priority substances should be screened in due to the risk of spills and contaminated runoff. There is a pathway

for effect via surface water runoff from land-based construction activities resulting in increased supply of sediment and contaminants entering the water bodies which has the potential for effects to biological elements. Therefore, mitigation should not be considered until the Detailed Assessment stage.
8. Bathing Water Directive: The specific bathing water within 2km of the proposal site is not identified. We agree with the conclusion to scope out sediment. However, we disagree with accidental spillage being scoped out as mitigation is required and this should only be considered at Detailed Assessment stage.
9. Beddmanarch Bay Shellfish Waters: We disagree with runoff being scoped out as mitigation is required and this should only be considered at Detailed Assessment stage.
10. Step 3.2, Table 7: The justification for screening Holyhead Port Expansion out is inadequate. The applicant has assessed cumulative impacts with the Holyhead Port proposals as 'no pathway to impact'. However, we believe the zones of impact of both proposals are proximal. Holyhead Port Expansion should therefore be scoped in to the WFD compliance assessment. A consistent approach to this should be taken across the WFD compliance assessment and wider EIA. Please refer to our Metocean Conditions and Coastal Processes comments for further details.
11. Step 3.3, Table 8: circalittoral Sabellaria reef, Annex I stony reef and Annex I bedrock reef should all be screened in for further assessment.
12. Step 5; Detailed Impact Assessment: Thermal conditions have been placed with "Depth variation, …" which is not appropriate; this physico-chemical element should be considered by itself and further detail provided as to why it no longer needs to be considered. Accidental spills and contaminated runoff should be considered in this section and details given of mitigation measures proposed.