West of Wales Shoreline Management Plan 2

Appendix H - Water Framework Directive Assessment

Pembrokeshire County Council

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HASKONING UK LTD.

ENVIRONMENT

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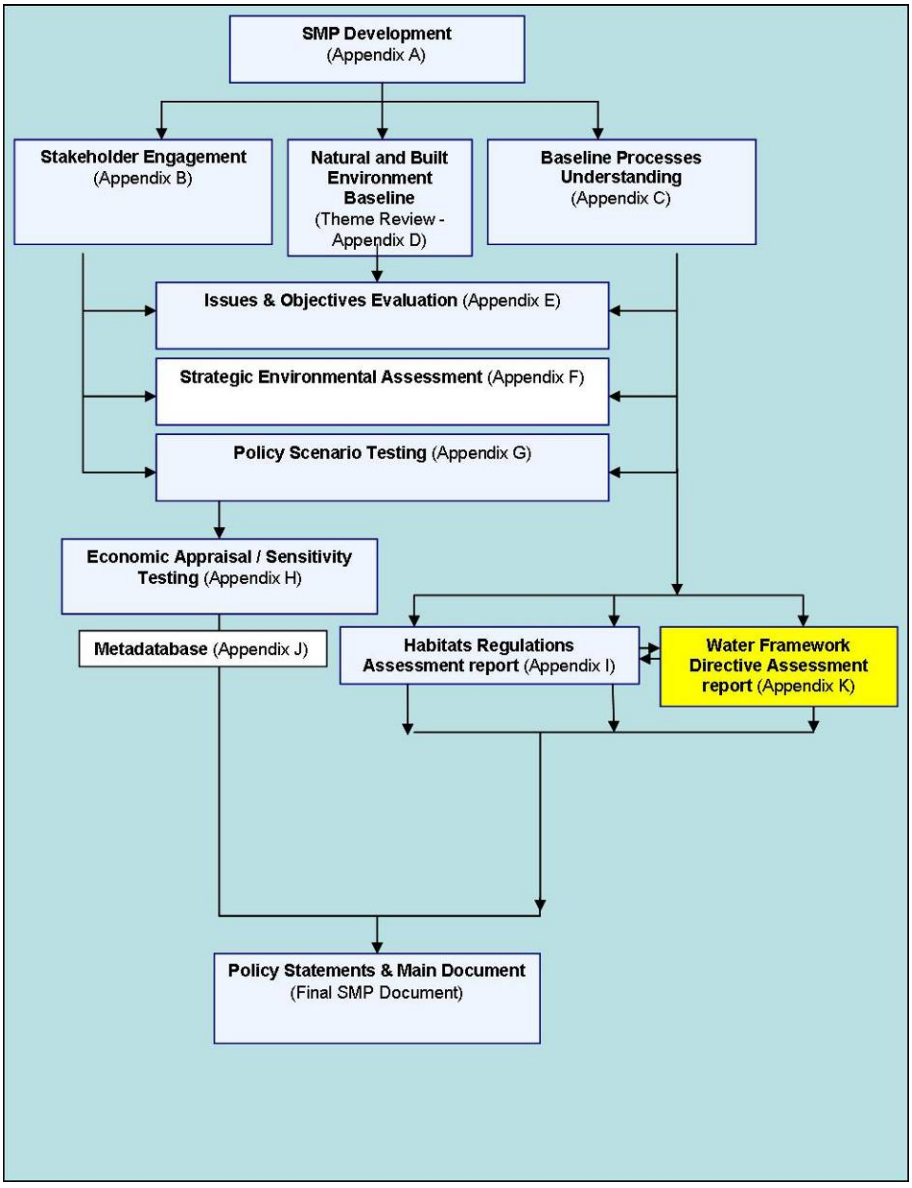
FOREWORD

Royal Haskoning was appointed to undertake the Water Framework Directive (WFD) Assessment for the first review of the West of Wales Shoreline Management Plan (SMP2). This **WFD Assessment (WFDA) Report** represents both the first and second stages of the WFD Assessment (i.e. Stage 1: Initial WFD Investigation and Stage 2: WFD Assessment of the preferred SMP2 policies). This Appendix and the accompanying annexes provide all the information required for the WFDA of the West of Wales SMP2, and sits alongside the other supporting appendices as shown in **Figure 0.1** below:

Figure 0.1 **Relationship between the SMP Appendices and how they feed into the SMP2 main document**



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H1 INTRODUCTION

H1.1 Purpose of the Report

H1.1.1 The purpose of this report is to comply with The Water Framework Directive (WFD; referred to in this report as the Directive), which came into force in 2000 and is one of the most substantial pieces of EC water legislation to date. The Directive needs to be taken into account in the planning of all new activities in the water environment. Therefore, Environment Agency Wales (the competent authority in Wales responsible for delivering the Directive) has recommended that decisions setting policy, including large-scale plans such as Shoreline Management Plans (SMPs), take account of the requirements of the Directive.

H1.1.2 The purpose of the WFD is to establish a framework for protecting inland surface waters, transitional waters, coastal waters and groundwaters. The framework for delivering this Directive is through the River Basin Management Plans (RBMPs). The West Wales SMP area falls entirely within the Western Wales River Basin District which was published in December 2009. Each RBD has been characterised into smaller management units known as 'Water Bodies'. This assessment has been undertaken according to Water Framework Directive: Guidance for Assessment of SMPs under WFD, which was developed for the Environment Agency (Environment Agency, 2009), and with reference to other WFD Assessments undertaken for a variety of SMPs across the country (e.g. River Tyne to Flamborough Head SMP2 review, Isle of Wight SMP2 review, North Wales SMP2 review, Wash SMP2 review). The Environment Agency guidance describes the methodology for assessing the potential hydromorphological change and consequent ecological impact of SMP policies and ensuring that SMP policy setting takes account of the Directive.

H1.1.3 This **Water Framework Directive Assessment (WFDA)** represents all of the stages of the WFD Assessment:

- **Step 1:** Scoping the SMP2 – Data Collection;
- **Step 2:** Defining Features and Issues;
- **Step 3:** Assessment of Preferred SMP2 policies; and
- **Step 4:** WFD Summary Statements.

The document is to enable informed consultation with Environment Agency Wales and the Client Steering Group (CSG), in order to report on the assessment of the compliance of the West of Wales SMP2 with the requirements of the WFD.

H1.1.4 The report uses the Environment Agency guidance to identify the compatibility of the West of Wales SMP2 with the Directive's environmental objectives. This assessment has been based on the draft preferred SMP2 policies that were issued on the 4th August 2010 (Version 4).

H1.2 Background

H1.2.1 The EU Water Framework Directive was transposed into Welsh law as the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003. The requirements of the Directive need to be considered at all stages of the river and coastal planning and development process. For the purposes of large-scale plans, such as SMPs, the consideration of the requirements of the Directive when setting and selecting policies must be necessarily high level. However, it sets the framework for future delivery of smaller-scale strategies or schemes. The Directive requires that Environmental Objectives be set for all surface and groundwater bodies in each EU member state. The default Environmental Objectives of relevance to the SMP2 are shown in **Table 1.1**.

H1.2.2 In order to achieve these Environmental Objectives, a set of specific mitigation measures has been set for each River Basin District (RBD). These measures are to mitigate impacts that have been or are being caused by human activity. In other words, measures to enhance and restore the quality of the existing environment. These mitigation measures will be delivered through the RBMP Process and are listed in the Programme of Measures within the RBMP.

Preventing deterioration in Ecological Status or Potential

H1.2.3 As stated in **Table 1.1**, a default Objective in all Water Bodies is to prevent deterioration in either the Ecological Status or, for Heavily Modified Water Bodies (HMWBs) or Artificial Water Bodies (AWBs), the Ecological Potential of the water body. Any activity which has the potential to have an impact on ecology (as defined by the biological, physico-chemical and hydromorphological Quality Elements (BQEs) listed in Annex V of the Directive) will need consideration in terms of whether it could cause deterioration in the Ecological Status or Potential of a water body. It is, therefore, necessary to consider the possible changes associated to baseline policies for each water body within the SMP2 area. This means that a decision-making audit is available should any later failure to meet the Environmental Objectives need to be defended, and issues for consideration when implementing policy are highlighted.

Table 1.1 Environmental Objectives in the Directive

Objectives (taken from Article 4 of the Directive)	Reference
Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water.	4.1(a)(i)
Member States shall protect, enhance and restore all bodies of surface water, subject to the application of sub-paragraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status by 2015.	4.1(a)(ii)
Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving Good Ecological Potential and good surface water chemical status by 2015.	4.1(a)(iii)
Progressively reduce pollution from priority substances and cease or phasing out emissions, discharges and losses of priority hazardous substances.	4.1(a)(iv)
Prevent deterioration in status and prevent or limit input of pollutants to groundwater.	4.1(b)(i)

Achieving objectives for EU protected sites

H1.2.4 Where there are sites designated under EU legislation (e.g. the Birds or Habitats Directives, Shellfish Waters Directive), the Directive aims for compliance with any relevant standards or objectives for these sites. Therefore, where a site which is water-dependent in some way is protected by designation under another EU Directive, and the Good Ecological Status (GES) or Good Ecological Potential (GEP) targets set under the Water Framework Directive would be insufficient to meet the objectives of the other Directive, the more stringent targets would apply.

Classifying Water Body status

H1.2.5 Ecological Status is expressed in terms of five status classes – high, good, moderate, poor or bad. These classes are established on the basis of specific criteria and boundaries defined against biological, physico-chemical and hydromorphological elements (which are set out in Annex V of the WFD); these are shown in **Table 1.2**.

Table 1.2 Definition of Quality Elements

Type	Description
Biological assessment	Uses numeric measures of communities of plants and animals (e.g. fish, macrophytes).
Physico-chemical assessment	Looks at elements such as temperature and the level of nutrients, which support the biology.
Hydromorphological quality	Looks at water flow, sediment composition and movement, continuity (rivers) and the structure of physical habitat.

Assessing Ecological Status

H1.2.6 The overall ecological status of a 'Water Body' is determined by whichever of these assessments is the poorer. A Water Body might achieve 'Good Status' for chemical and physico-chemical assessments, but only achieve 'Moderate Status' for the biological assessment; in this case it would be classed overall as having 'Moderate Ecological Status'. To achieve the overall aim of good surface water status, the WFD requires that surface waters be of at least GES and Good Chemical Status.

Achieving High Status

H1.2.7 To achieve High Status, the WFD requires that the hydromorphological Quality Elements are also in place. For lower classes, although hydromorphological quality is not explicitly required, it is a supporting element of the biological and in some cases physico-chemical status and must therefore be taken into account. Environment Agency Wales has classified the Ecological Status of all Water Bodies that have not been designated as HMWBs or as AWBs.

Water Body Designation as Artificial or Heavily Modified

H1.2.8 The WFD recognises that physical alterations may have been undertaken to support the use of a Water Body for a particular purpose (e.g. water storage, coast or flood defence, navigation, etc). If this reason is still valid the Water Body may be designated as a HMWB. AWBs are those Water Bodies which

have been constructed only for a specific use (e.g. reservoir). Any of the surface Water Body types (rivers, coastal, lake or transitional) can be designated as HMWBs or AWBs, and subject to alternate environmental objectives than ordinary Water Bodies, hence they have been clearly identified in each RBD and will have been classified differently.

Ecological Potential

H1.2.9 Environment Agency Wales has applied a separate classification process for HMWBs and AWBs based on separate guidance developed by WFD UK Technical Advisory Group (TAG). **Table 1.3** shows the steps that this guidance set out for identifying whether a HMWB or AWB meets its Ecological Potential or not.

Table 1.3 Process for classifying Ecological Potential

Stage	Description
1	Identifying the impacts of physical modification affecting the water body.
2	Identifying possible mitigation measures necessary to ensure the hydromorphological characteristics of a water body are consistent with Good or Maximum Ecological Potential.
3	Assessing whether all of these measures have been taken.

H1.2.10 Where all applicable mitigation measures have already been taken or screened out, the Water Body can be classified as GEP or better. Where one or more applicable mitigation measure remains to be taken, the Water Body has been classified as of 'Moderate Ecological Potential or worse'. This will then be combined with the outcomes from other assessments to give an overall classification.

Assessing Deterioration

H1.2.11 Deterioration is reported as a negative change between classes in 'Ecological Status' or 'Potential'. The WFD Assessment considers any activity that has the potential to have an impact on ecology (as defined by the BQEs) in terms of whether the activity could cause deterioration in the Ecological Status or Potential on a Water Body, or could prevent the Water Body from achieving its target Ecological Status or Potential. There are circumstances in which failure to achieve the environmental objectives can be justified under the WFD, these are:

- When failure to achieve Good Groundwater Status, GES (or GEP) or to prevent deterioration in the status of a water body is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of groundwater bodies; or
- When failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities.

However, in order to justify deterioration under these circumstances, all of the conditions set out in Article 4.7 of the WFD must be met.

H1.2.12 Where new defences, or maintenance works to existing defences, may be required as a result of the SMP policy, they may have the potential to result in deterioration in current Ecological Status or Potential, or to affect the achievement of target Ecological Status or Potential. Such an affect could be due to contamination or more likely in the case of coastal defence works, hydromorphological. Therefore, to take account of the requirements of the WFD during policy making, where the policy has the potential to result in deterioration in current or target Ecological Status or Potential, the conditions set out in Article 4.7 of the WFD identified in **Table 1.4** will need to be assessed and documented for the relevant Water Body.

Table 1.4 Conditions for defending 'deterioration' in Ecological Status or Potential

Condition	Description
A	All practicable steps taken to mitigate adverse impacts on the status of the body of water.
B	The reasons for selecting the preferred SMP policies are Reasons of Overriding Public Interest and/or the benefits to the environment and to society of achieving the environmental objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development.
C	The beneficial objectives served by the SMP policies cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.
D	The preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the WFD in Water Bodies within the same RBD that are outside of the SMP area.
E	There are no other overriding issues (e.g. designated sites, recommendations of the Habitats Regulations Assessment).

Mitigation Measures

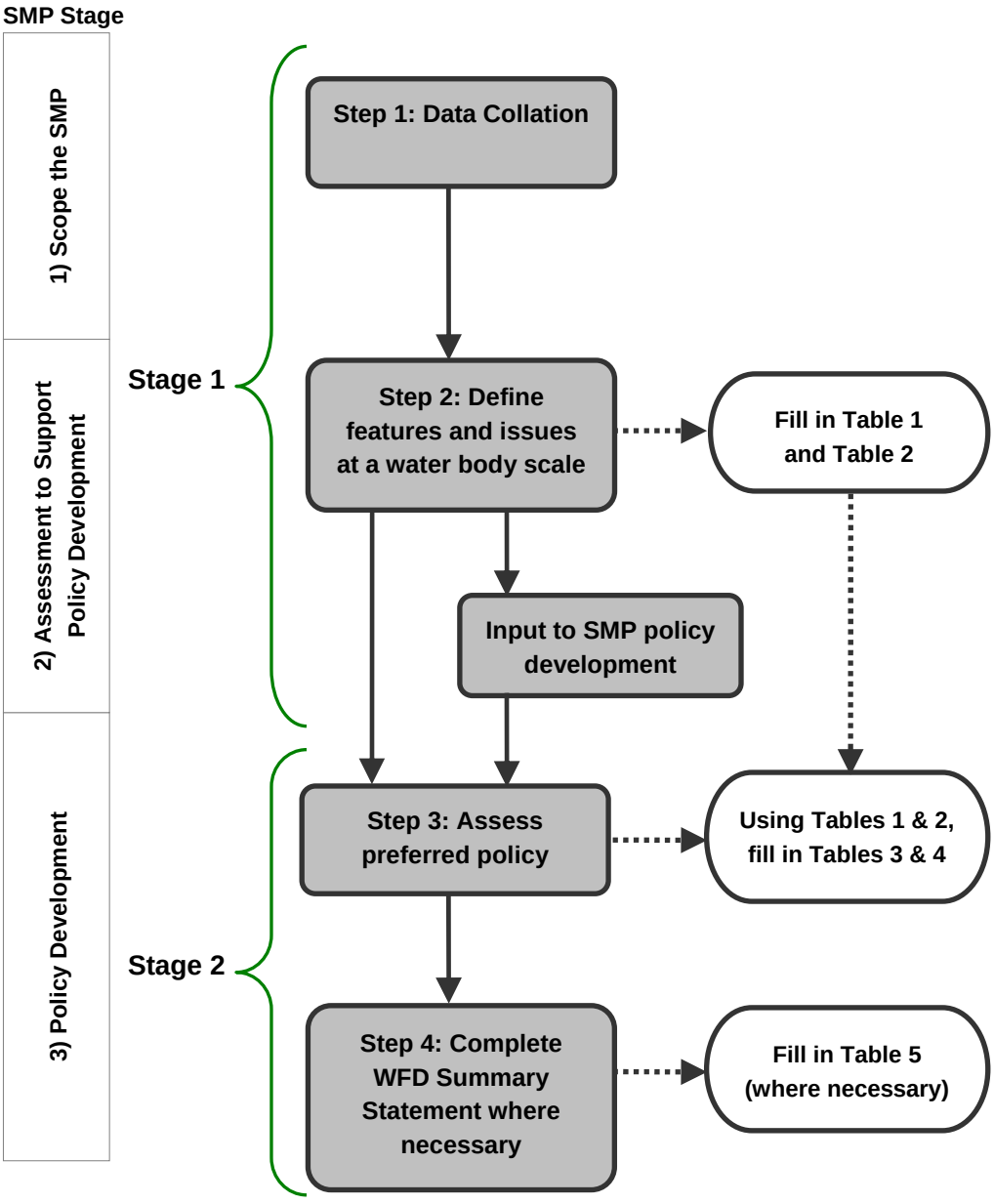
H1.2.13 Mitigation measures are defined as actions which aim to minimise or cancel the adverse impact on the Ecological Status or Potential of the Water Body. By practicable steps, the WFD is referring to actions or measures which could be taken to mitigate adverse impacts. The way that the term 'practicable' is used in other legislation suggests that those 'mitigation measures' should:

- Deliver the results for which they have been designed;
- Be technically feasible;
- Not lead to disproportionate costs; and
- Be compatible with new modification or sustainable human development activity.

H2 STAGE 1 ASSESSMENT METHODOLOGY

H2.1.1 The methodology devised for this assessment follows the Guidance for the assessment of SMPs under the Water Framework Directive, which has been developed by the Environment Agency (2009). The process has been broken down into a series of clearly defined steps, broadly following the tasks and activities described within the Defra guidance on producing SMPs (Defra, 2006), to provide a transparent and accountable assessment of the SMP2 policies. For this particular SMP2 review the process has been divided into two stages, as illustrated in **Figure 2.1**. This is due to the size of the SMP2 area, which encompasses a large number of surface and groundwater bodies, and therefore it is necessary to scope out those Water Bodies that will not be affected by the SMP2 policies or policy units that will not result in the deterioration of the WFD Environmental Objectives.

Figure 2.1 Water Framework Directive assessment process for SMPs



H2.1.2 The WFD Assessment process for SMPs is shown in **Figure 2.1**. The **Stage 1 Initial WFD Investigation Report** consisted of Steps 1 and 2; the actions undertaken within these steps are described in detail in the sections below. Following these first two steps a preliminary consultation with Environment Agency Wales was conducted, which was to ensure that there was agreement over the policies that will not have an impact on the surface and groundwater bodies. The comments from Environment Agency Wales have been appended in **Annex H-VI**.

H2.2 Step 1: Scoping the SMP2 – Data Collation

H2.2.1 To make the assessment as comprehensive as possible, a data collection exercise was undertaken to identify all surface and groundwater bodies present within the West of Wales SMP2 study area (from St Ann's Head to Great Ormes Head), shown in **Figure 2.1**; this was done using data downloaded from the Environment Agency's Geostore (2010).

H2.2.2 Maps which show the relationship between the SMP2 policy development zones, management areas and policy units and the coastal, transitional, ground and freshwater bodies have been provided in **Annex H-I**.

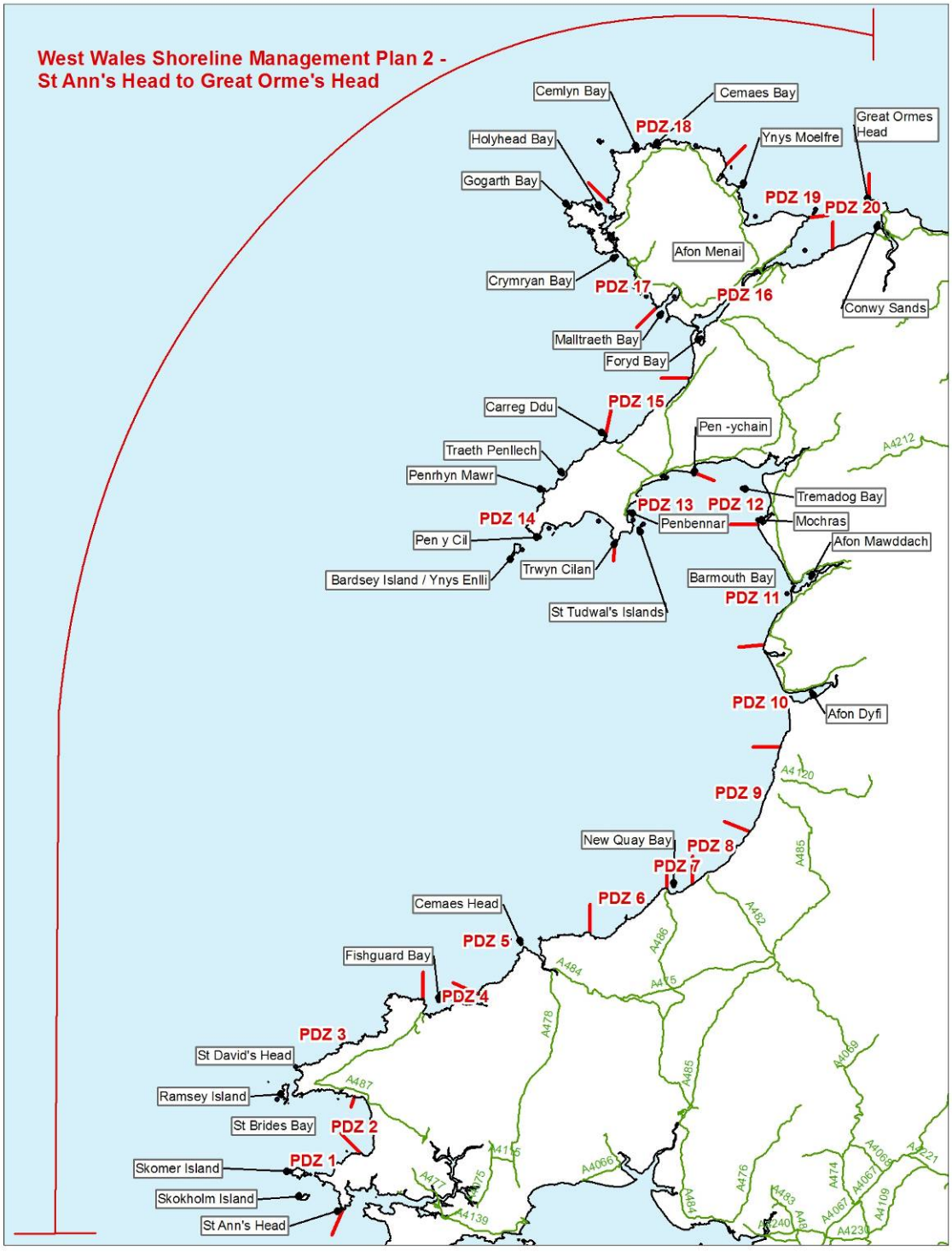
H2.2.3 For each Transitional and Coastal (TraC), and freshwater bodies present within the West of Wales SMP2 study area the following information was obtained from the Environment Agency and the Western Wales RBMP:

- Water Body Identification number;
- Designation type;
- Classification details (including information on relevant BQEs and any designation as an artificial or heavily modified water body);
- Relevant WFD Environmental Objectives (based on Article 4.1 of the Directive and as described in **Table 1.1)**:
    - **WFD1:** No changes affecting high status sites.
    - **WFD2:** No changes that will cause failure to meet surface water GES or GEP or result in a deterioration of surface water Ecological Status or Potential.
    - **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other Water Bodies.
    - **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration of groundwater status.
- Relevant objectives and mitigation measures from the 'Programme of Measures' in the Western Wales RBMP (Environment Agency, 2009). However, for some Water Bodies in the SMP2 area, the current overall status and objectives have not yet been assessed.

-

H2.2.4 In addition, the above information was also collected for the groundwater bodies (GWBs) that could potentially be impacted by SMP2 policies. The aim was to identify any GWBs considered to be at risk of failing the objectives of the WFD as a result of saline intrusion associated with groundwater abstraction, as well as comparing the groundwater source protection zones with possible future coastal / estuarine frontage realignments.

Figure 2.2 West of Wales SMP2 Study Area



H2.2.5 Any discrepancies between water body boundaries and SMP2 boundaries were examined and any locations where changes of the SMP2 boundary would be recommended to attain consistency with water body boundaries were identified. Detailed maps illustrating the locations of the boundary issues are presented in **Annex H-III** of this Appendix.

H2.2.6 Finally, all international and national nature conservation designations were identified and illustrated on maps that are in **Annex H-IV** of this Appendix. The international sites, i.e. Natura 2000 designated sites (including Ramsar sites) and national sites (Sites of Special Scientific Interest (SSSIs)) were identified from the existing Habitats Regulations Assessment (HRA) of the West of Wales SMP2. It was also determined at this stage whether there were any additional investigations that could be recommended for the next round of SMP reviews to inform the WFD Assessment, such as studies to address the zone of influence in terms of BQEs. For example, the impacts of changes in sediment transport may affect fish, as well as, benthic invertebrates, saltmarsh and seagrass.

H2.3 Step 2: Defining Features and Issues

H2.3.1 For the SMP2, sections of the coast are considered with respect to their influence on (and interaction with) other areas of the SMP, and therefore a series of 20 Policy Development Zones (PDZs), as illustrated in **Figure 2.1**, have been developed which incorporate specific sections of the coast. These sections of coastline have been considered with respect to their influence on, and interaction with, other areas of the SMP. Furthermore, each PDZ has been divided into Management Units (MANs), which themselves are divided into Policy Units (PUs). **Annex H-II** details the relevant coastal, transitional, freshwater and groundwater bodies that have been assessed for each policy unit and the corresponding SMP2 preferred policy option.

H2.3.2 In the main SMP2 document for each PDZ, there are summaries of the preferred SMP policy option and how this differs from the 'with present management' (WPM); these were used to identify how the SMP2 policies could affect the WFD features (i.e. BQEs of each water body). The physical and hydromorphological parameters that could potentially be affected by SMP2 policies, and the BQEs present within each water body that are dependent on these parameters, were identified in **Assessment Table 2** (**Annex H-V**) for each water body. It was deemed unnecessary for **Assessment Table 1** to be completed in this instance since all the information is further expanded upon in **Assessment Table 2**; this is in accordance with the guidance provided by the Environment Agency (2009). In addition, the water body classification, predicted Ecological Potential, relevant WFD Environmental Objectives (set out in **Section 2.1)**, relevant Protected Area Designations, and the relevant 'Mitigation Measures' from the Western Wales RBMP were also used to populate the **Assessment Table 2**.

H2.3.3

H2.3.4 In addition, for each of the Water Bodies highlighted as relevant in Step 1, an initial screening assessment of the potential impact of the generic SMP policies (Hold the Line (HTL), Advance the Line (ATL), No Active Intervention (NAI) and Managed Realignment (MR)) on the surface water bodies was carried out, so as to determine whether any of them could be excluded from further assessment required within Steps 3 and 4. **Assessment Table 2** summarises those Water Bodies that can be excluded from any further assessment (refer to **Annex H-V**).

H3 STAGE 2 ASSESSMENT METHODOLOGY

H3.1 Introduction

H3.1.1 Steps 3 and 4 of the WFD Assessment were carried out following preliminary consultation of the Stage 1 Initial WFD Investigation Report with Environment Agency Wales. The consultation comments have been recorded and incorporated within **Annex H-VI** of this WFD Assessment Report.

H3.2 Step 3: Assessment of the Preferred SMP2 Policies against the Environmental Objectives

H3.2.1 The assessment of SMP2 policies against the Environmental Objectives are supported by a tabulated account based on an adaptation of the Policy Summary tables for each PU within the SMP2 report. Using the information on the water body features and issues defined in **Assessment Table 2**, the potential impacts of each SMP policy have been assessed at a PU level and summarised at a Management Unit level for each of the relevant Water Bodies and recorded in **Assessment Table 3**. For each PU, the potential changes to the relevant physical and hydromorphological parameters that might occur as a result of the SMP policy will be identified. The impacts of climate change on baseline processes have also been taken into account when assessing all epochs. The assessment of deterioration with respect to the Directive considered the impact of any changes to the surface water body features (BQEs) that were identified in **Assessment Table 2**.

H3.2.2 The assessment of SMP2 policies also included consideration of the potential for impact upon the landward FWBs identified during Step 1 as having the potential to be influenced by those policies (refer to **Section 2.1**). The potential for impact could arise where the SMP2 policy for a PU is NAI or MR as these policy options could result in saline inundation of freshwater habitats and, hence, could potentially impact upon the freshwater biology.

H3.2.3 In addition, the assessment of the SMP2 policies in **Assessment Table 3** included consideration of the potential for impact upon GWBs. Particular attention was paid to PUs where the SMP2 policy is NAI (where previously defended) or MR, as these policies could potentially result in the saltwater-freshwater interface moving landward, which, coupled with abstraction pressures, could result in saltwater intrusion and deterioration of the GWB. For these PUs, the extent of groundwater abstractions will be identified through the use of Zone 3 (total catchment of the groundwater abstraction) of the SPZ. Where Zone 3 of an abstraction is found to extend to the coastline, or where it extends to the long term (100 years) predicted shoreline, it has been considered that an SMP2 policy could potentially cause deterioration in the quality of the abstraction due to saline intrusion. Consideration was also given to the potential for SMP2 policies to lead to deterioration in Status or Potential of the TraC Water Bodies as a result of groundwater pollution.

H3.2.4 The outcomes of the assessment for each PU were then checked against the Environmental Objectives (as set out in **Section 2.1**). For each PU **Assessment Table 3** records whether the SMP2 policy has the potential to meet or contribute to the potential failure of the Environmental Objectives. Following the assessment of SMP2 policies for each PU, a summary of the achievement (or otherwise) of the Environmental Objectives has been completed at the water body scale (**Assessment Table 4**).

H3.3 Step 4: Complete WFD Summary Statements

H3.3.1 Where it is identified that the WFD Environmental Objectives would either not be met for one or more PUs within a water body or that there would be potential for deterioration in a water body, then the need for a Water Framework Directive 'Summary Statement' has been recorded in the final column of **Assessment Table 4**. Summary Statements were then completed for each of the Water Bodies as deemed necessary from **Assessment Table 4** and given in **Assessment Table 5**. The Summary Statements have addressed five questions, which are as follows:

1. Have all practicable mitigation measures (including the Western Wales RBMP mitigation measures) been incorporated into the preferred SMP2 policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.

2. Can it be shown that the reasons for selecting the preferred SMP2 policies are imperative reasons of overriding public interest (IROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP2 policies to human health, to the maintenance of health and safety or to sustainable development?

3. Have other significantly better options for the SMP2 policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?

4. Can it be demonstrated that the preferred SMP2 policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?

5. Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Habitat Regulations Assessment)?

The relevant mitigation measures from the Western Wales RBMP were also considered when reviewing the SMP2 policies for the West of Wales study area. This is particularly important since the SMP2 is an important opportunity to implement some of the measures from the RBMP. **Assessment Table 4** summarises how many and which of the measures have been attained (or part attained) by the changes in SMP policies, whilst **Assessment Table 5** discusses in detail how the mitigation measures have been incorporated within the SMP. The Action Plan in the final SMP document will also include a requirement for all schemes resulting from SMP2 policies to consider those mitigation measures listed in the Western Wales RBMP Programme of Measures.

H4 STAGE 1 RESULTS

H4.1 Step 1: Scoping the SMP2 – Data Collation

High Status Water Bodies

H4.1.1 None of the TraC Water Bodies in the West of Wales SMP2 study area are classified as at High Status. Therefore, the potential of SMP2 policies to meet or fail WFD Environmental Objective 1 has not been considered further in this assessment.

Transitional and Coastal Water Bodies (TraC)

H4.1.2 There are 35 TraC Water Bodies within the West of Wales SMP2 area, as shown in **Figure 4.1** (for more detailed maps refer to **Annex H-I** (**Figures a to i**)). These include 19 Transitional Water Bodies and 16 Coastal Water Bodies. **Table 4.1** provides information on these TraC Water Bodies including their designation, status, overall objective and relevant mitigation measures from the Western Wales RBMP. One of these Coastal Water Bodies can be scoped out at this stage, since it is outside the influence of the SMP2 study area. This is 'Grassholm Island and the Smalls' (GBGB621008480000), which is 9.5km from Skomer Island and 13.5km from the mainland. Due to the distance, it is considered that the SMP2 policies are unlikely to affect the hydrodynamics enough for there to be an effect on this particular water body. It has therefore not been recorded any further in this WFD Assessment.

H4.1.3 **Table 4.1** illustrates that seven of the 19 Transitional Water Bodies are designated as being heavily modified (HMWB), with the remaining Water Bodies being 'not designated as either HMWB or AWB'. There are nine Water Bodies classified as being of Moderate Ecological Status (Solfach, Gwaun, Nyfer, Teifi, Dwyfor, Braint, Seiont, Ffraw and Alaw), three of Good Ecological Status (Mawddach, Glaslyn and Foryd Bay), six of Moderate Ecological Potential (Ystwyth/Rheidol, Dyfi and Leri, Dysynni, Atro, Cefni and Conwy) and one of Good Ecological Potential (Erch).

H4.1.4 Four out of the 15 scoped in Coastal Water Bodies are designated as HMWB, which are Menai Strait, Holyhead Bay, Cemlyn Lagoon and Conwy Bay (see **Table 4.1**). Holyhead Bay and Conwy Bay are designated as such because of man-made coastal protection, whilst Cemlyn Lagoon because of artificial structures at the mouth of the lagoon. The remaining Coastal Water Bodies are 'not designated' as either HMWB or AWB. Holyhead Bay, Menai Strait and Conwy Bay are classified as being of Moderate Ecological Potential and Cemlyn Lagoon as Good Ecological Potential. All the Coastal Water Bodies not designated HMWBs are of Good Ecological Status.

Freshwater Bodies (FWBs)

H4.1.5 There are a large number of river Water Bodies within the Western Wales catchment that discharge at the coast within the West of Wales SMP2 study area, as shown in **Figure 4.2** (for more detailed maps refer to **Annex H-I** (Figures j to q)). These rivers could be affected by changes in tidal flooding over the next 100 years, and hence, have the potential to be impacted in the SMP2 policies. The detailed maps in **Annex H-I** illustrate the Environment Agency's flood zones (1 and 2) in relation to the freshwater bodies (FWBs) within the SMP2 area; this information has been used to scope in those Water

Bodies within the SMP2 study area into **Table 4.2** below, by determining which FWBs are at risk of tidal flooding.

H4.1.6 There are 668 FWBs in the Western Wales RBMP study area as can be seen in **Figure 4.2**. Only 112 of these have been scoped into the assessment as having the potential to be affected by the SMP policies (refer to **Table 4.2** below).

Figure 4.1 **Map of TraC Water Bodies in West of Wales SMP area**

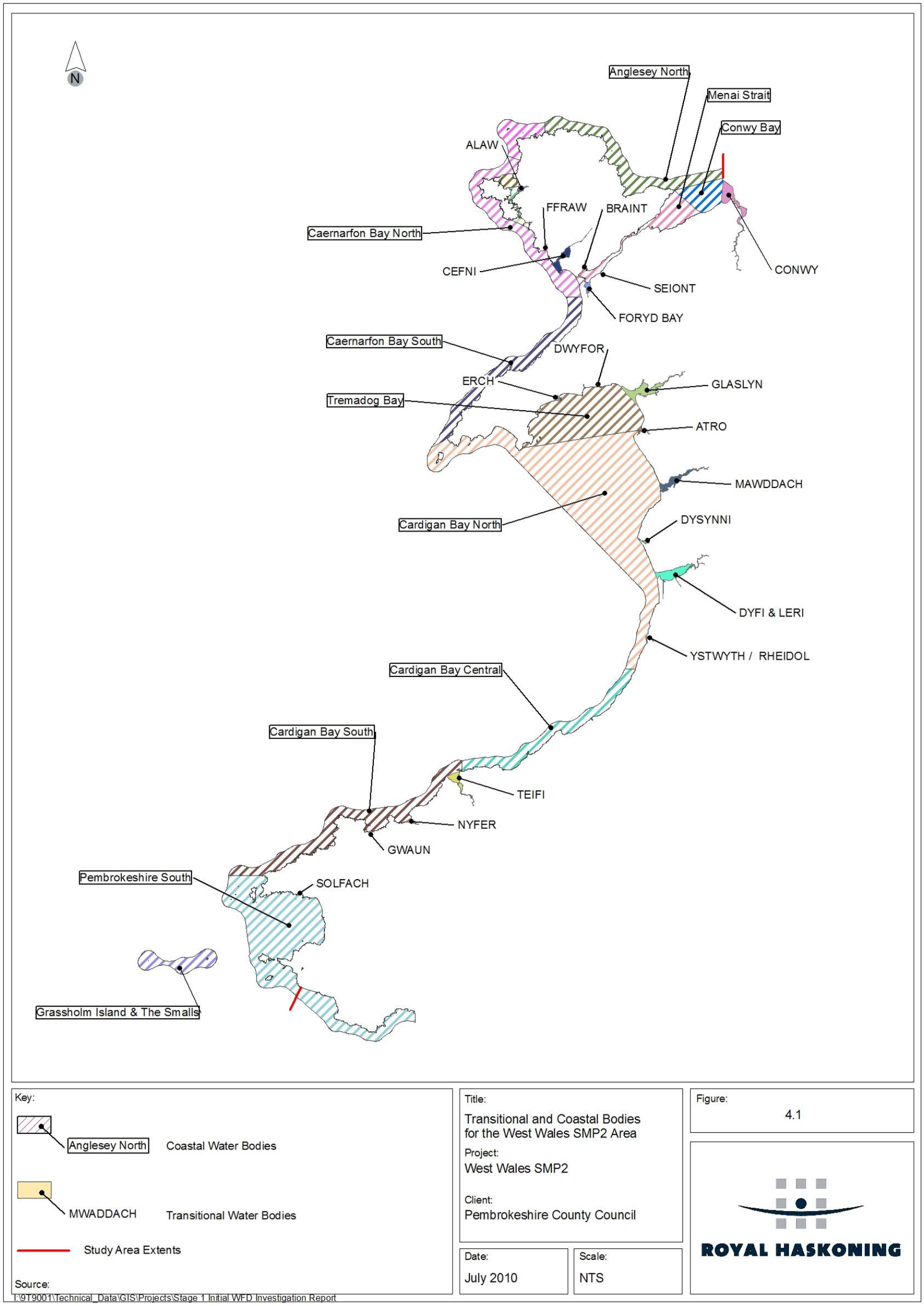


Figure 4.2 **Freshwater Bodies within the West of Wales SMP2 area**

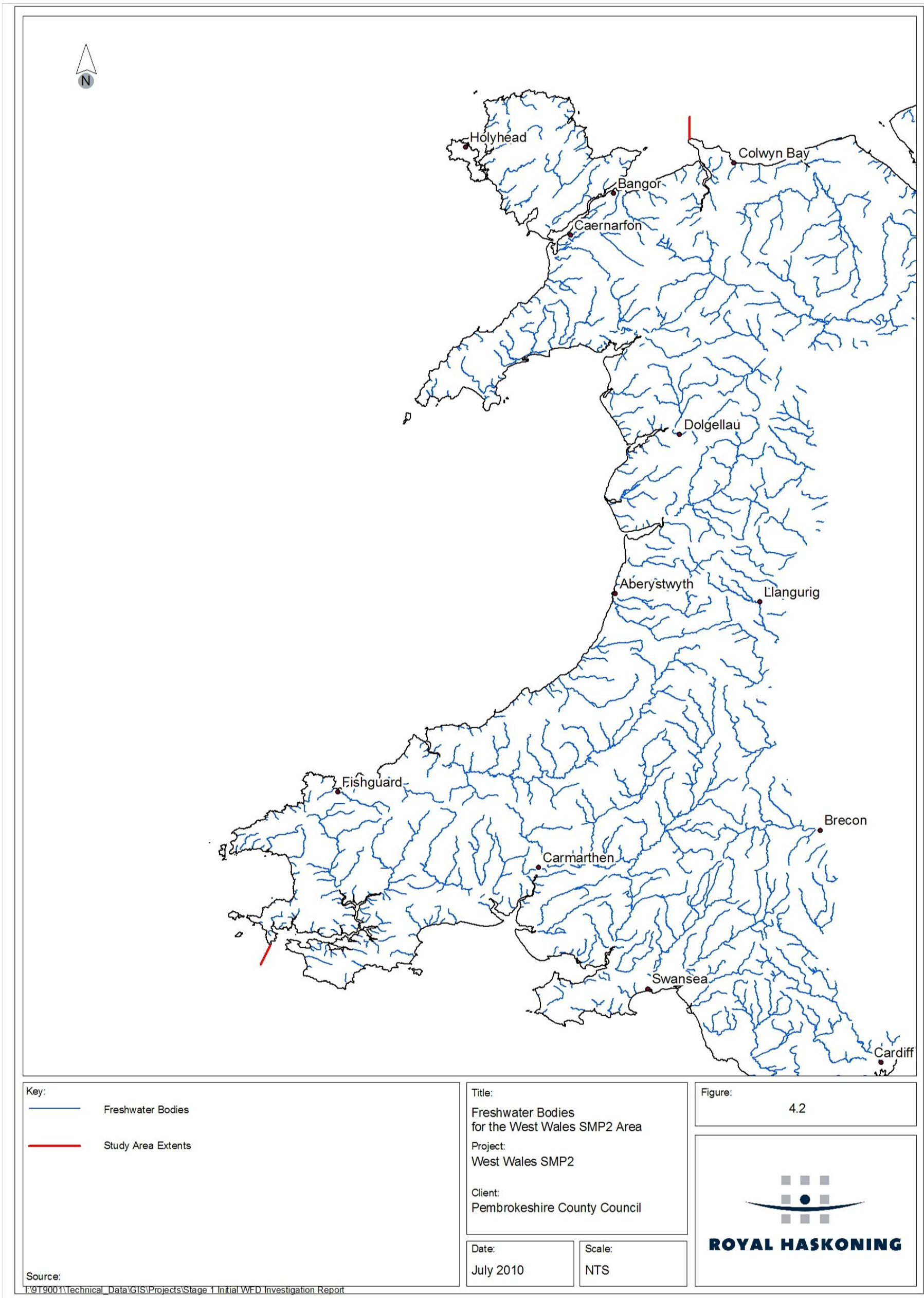


Table 4.1 Information on the TraC Water Bodies, including their ID and name, hydromorphological and ecological designations and the relevant mitigation measures

WFD Assessment ID	Water body ID and name	Hydromorphological Designation	Current Ecological Status / Potential	Ecological Objective	Overall Objective	Reason for Designation	Relevant Mitigation Measures from the Western Wales RBMP
Transitional Water Bodies							
T1	**Solfach** GB521006109400	Not Designated Artificial or Heavily Modified Water Body (A/HMWB)	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T2	**Gwaun** GB521006110500	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T3	**Nyfer** GB511006115200	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T4	**Teifi** GB511006206900	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T5	**Ystwyth/Rheidol** GB511006315000	**Heavily Modified Water Body (HMWB)**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Coastal Protection**	Relevant measures not in place: • Remove obsolete structure • Removal of hard bank / revetment, or replacement with soft engineering solution. • Preserve, and where possible restore historic aquatic habitats. • Increase in-channel morphological diversity. • Bank rehabilitation / reprofiling. • Managed re-alignment of flood defence • Preserve and where possible

WFD Assessment ID	Water body ID and name	Hydromorphological Designation	Current Ecological Status / Potential	Ecological Objective	Overall Objective	Reason for Designation	Relevant Mitigation Measures from the Western Wales RBMP
							enhance ecological value of marginal aquatic habitat, banks and riparian zone • Operational and structural changes to locks, sluices, weirs, beach control, etc. • Retain marginal aquatic and riparian habitats (channel alteration). • Indirect / offsite mitigation (offsetting measures).
T6	**Dyfi and Leri** GB511006407000	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	Shell Fisheries	None identified in Annex B of the RBMP
T7	**Dysynni** GB511006414900	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Coastal Protection**	Relevant measures not in place: • Remove obsolete structure • Removal of hard bank / revetment, or replacement with soft engineering solution. • Preserve, and where possible restore historic aquatic habitats. • Increase in-channel morphological diversity. • Managed re-alignment of flood defence • Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone • Operational and structural changes to locks, sluices, weirs, beach control, etc. • Retain marginal aquatic and

WFD Assessment ID	Water body ID and name	Hydromorphological Designation	Current Ecological Status / Potential	Ecological Objective	Overall Objective	Reason for Designation	Relevant Mitigation Measures from the Western Wales RBMP
							riparian habitats (channel alteration). • Indirect / offsite mitigation (offsetting measures).
T8	**Mawddach** GB511006407100	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
T9	**Atro** GB521006407200	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	Navigation	None identified in Annex B of the RBMP
T10	**Glaslyn** GB511006507300	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
T11	**Dwyfor** GB511006511000	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T12	**Erch** GB521006509600	**HMWB**	Good	Good Ecological Potential by 2015	Good Potential by 2015	Navigation	None identified in Annex B of the RBMP

WFD Assessment ID	Water body ID and name	Hydromorphological Designation	Current Ecological Status / Potential	Ecological Objective	Overall Objective	Reason for Designation	Relevant Mitigation Measures from the Western Wales RBMP
T13	**Foryd Bay** GB521006501200	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
T14	**Braint** GB521010201000	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T15	**Cefni** GB521010207500	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Flood Protection**	Relevant measures not in place: • Increase in-channel morphological diversity. • Managed re-alignment of flood defence. • Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone. • Retain marginal aquatic and riparian habitats (channel alteration).
T16	**Seiont** GB521006501100	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP

WFD Assessment ID	Water body ID and name	Hydromorphological Designation	Current Ecological Status / Potential	Ecological Objective	Overall Objective	Reason for Designation	Relevant Mitigation Measures from the Western Wales RBMP
T17	**Ffraw** GB521010207400	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T18	**Alaw** GB521010207600	Not Designated A/HMWB	Moderate	Good Ecological Status by 2027	Good Status by 2027		None identified in Annex B of the RBMP
T19	**Conwy** GB541006614800	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Flood Protection**	Relevant measures not in place: • Removal of hard bank / revetment, or replacement with soft engineering solution. • Managed re-alignment of flood defence. • Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone.

Coastal Water Bodies							
C1	**Pembrokeshire South** GB611008590003	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C2	**Cardigan Bay South** GB621009580000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C3	**Cardigan Bay Central** GB651009030000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C4	**Cardigan Bay North** GB621009600000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C5	**Tremadog Bay** GB651009350000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C6	**Caernarfon Bay South** GB651010610000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C7	**Caemarfon Bay North** GB621010380000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C8	**Menai Strait** GB681010120000	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	Shell Fisheries	Relevant measures not in place: • Removal of hard bank / revetment, or replacement with soft engineering solution. • Managed re-alignment of flood defence. • Modify structure or reclamation. • Prepare a dredging / disposal strategy.

							• Reduce Impact of dredging. • Reduce sediment resuspension.
C9	**Cymyran Bay** GB651010370000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C10	**Holyhead Bay** GB681010360000	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Coastal Protection,** Navigation	Relevant measures not in place: • Removal of hard bank / revetment, or replacement with soft engineering solution. • Managed re-alignment of flood defence. • Modify structure or reclamation. Measures In Place: • Prepare a dredging / disposal strategy. • Reduce Impact of dredging. • Reduce sediment resuspension.
C11	**Holyhead Strait** GB681010450000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C12	**The Skerries** GB611010390000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP
C13	**Cemlyn Lagoon** GB610100083000	**HMWB**	Good	Good Ecological Potential by 2015	Good Potential by 2015	**Structure**	None identified in Annex B of the RBMP
C14	**Anglesey North** GB641010620000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP

C15	**Conwy Bay** GB671010400000	**HMWB**	Moderate	Good Ecological Potential by 2027	Good Potential by 2027	**Coastal Protection, Shell Fisheries**	None identified in Annex B of the RBMP
C16	**Grassholm Island and the Smalls** GB621008480000	Not Designated A/HMWB	Good	Good Ecological Status by 2015	Good Status by 2015		None identified in Annex B of the RBMP

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H4.1.7 This is based on whether the FWBs within the SMP2 study area are at risk of significant increased saline intrusion as a result of increased tidal flooding over the next 100 years; this has been assessed by using the 1 in 1000 year flood zones for the present day, 50 year and 100 year periods. A further 12 rivers have been scoped out based on the fact that they discharge into areas of the coast that are currently undefended and will continue to be undefended as the preferred policy is NAI for all three epochs. Any increases in tidal flooding will therefore be natural and not due to any defences (or the removal of defences that were there previously).

H4.1.8 Seven of the 73 scoped FWBs are classified as heavily modified, of which two have Good Ecological Potential (Gwyrfai and Wydden), whilst the rest have Moderate Ecological Potential. There are five FWBs that are not designated as AWBs or HMWBs that have been predicted to improve their status from moderate to good by 2015. There are only three Water Bodies that have Poor Ecological Status (Mwidan in PU 5.11, Llifon in PU 16.2 and Ogwen (lower) in PU16.31), although the latter two are unlikely to be affected by the SMP2 policies as they discharge along an undefended coastline.

H4.1.9 There are 61 lakes within the Western Wales RBMP area, but only two of these are close to the coast and at risk of saline intrusion within the SMP2 study area; these are Llyn Coron (GB31033337) and Llyn Dinam (GB31032948). Llyn Coron is not designated as an artificial or heavily modified water body (A/HMWB) and is of moderate status with the aim to achieve GES by 2027. This lake is part of a Natura 2000 site and a designated site under the Nitrates Directive and is found adjacent to PU 17.2 (Traeth Mawr). Llyn Dinam is also not a designated A/HMWB and is of moderate status with the aim to achieve Good Ecological Status by 2027. This small lake is part of a Natura 2000 site and is found adjacent to PU 17.19 (Inland Sea).

Groundwater Bodies (GWBs)

H4.1.10 There are a total of ten GWBs located within the West of Wales SMP2 area and there are no unproductive strata[1]. These GWBs and their status are listed in **Table 4.3** below and are illustrated in **Figure 4.3**.

H4.1.11 Five of the ten GWBs are classified as poor overall status. The quantitative status has been classified as good within all GWBs; however the chemical status has failed in the GWBs which are classified as poor.

H4.1.12 All ten GWBs are also protected as Drinking Water Protected Areas (DrWPAs) under the Groundwater Directive (2006/118/EC), although these are due to sensitivity to nutrients rather than saline intrusion. Reference was made to the Western Wales RBMP in order to determine the status for saline intrusion, since GWBs designated as being 'At Risk', 'Probably At Risk' or at 'Poor Status' within the SMP2 area could be impacted by the SMP policies. None of the GWBs are designated as Poor Status, At Risk or Probably At Risk from saline intrusion, all are 'Good Status' meaning saline intrusion is not presently or regarded a future issue within the SMP2 area.

[1] These are rocks which are generally unable to provide usable water supplies and are unlikely to have surface water and wetland ecosystems dependant upon them.

H4.1.13 The Environment Agency website shows the presence of 18 Source Protection Zones (SPZs) within the Western Wales RBMP area; however the majority of these are located a relatively large distance from the coastline. There are seven Source Protection Zones within the vicinity of the coast for the SMP2 area; these are Nant Peris (water body ID code: WE009), Barmouth Junction (WE011), Abergynolwyn (WE010), Llanerch-goediog (WE005), Lovesgrove (WE067), Brynberian Standby (WE017) and Eithbed (WE016). Only one of these areas is at risk of saline intrusion, which is Lovesgrove SPZ near Aberystwyth. This SPZ lies within Flood Zones 1 and 2, therefore the SMP2 policies will determine whether there will be any changes in risk of saline intrusion. Therefore, it will only be necessary to assess the Lovesgrove SPZ within the Stage 2 WFD Assessment.

Table 4.2 **Scoping of the FWBs (all are rivers within the Western Wales Catchment) that would be affected by changes in tidal flooding over the next 100 years (measured by the change 1 in 1000 year flood zone) and, hence, have the potential to be impacted by policies in the West of Wales SMP2 area.** Where a river discharges along undefended coastline that has draft preferred policy NAI for all three epochs it has not been included as an increase in the tidal extent will occur naturally over time.

WFD Assessment ID	Freshwater Body Name (ID number)	ID Number	Relevant Policy Units	Hydromorphological Designation	Ecological Quality	Objective	Relevant Mitigation Measures from the Western Wales RBMP that are not in place
Scoped In – At risk of being tidally flooded from a 1 in 1000 year flood zone							
F1	Haroldstone Stream	GB110061031050	PU2.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F2	Nolton Stream	GB110061031070	PU2.8	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F3	Bathesland	GB110061031080	PU2.10	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F4	Brandy Brook	GB110061031160	PU2.11, 2.12	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F7	Solva	GB110061038340	PU3.2	Not Designated A/HMWB	Good	Good Status by 2015	• None
F8	Alun	GB110061038330	PU3.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F9	Unnamed - headwaters to tidal limit, Abereiddi	GB110061038370	PU3.9	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F11	Goodwick Brook	GB110061038490	PU4.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F12	Gwaun	GB110061038460	PU4.6	Not Designated A/HMWB	Good	Good Status by 2015	• None
F13	Nyfer	GB110061038510	PU4.16	Not Designated A/HMWB	Good	Good Status by 2015	• None
F15	Un-named - Teifi Est., S. Side near Poppit	GB110062039120	PU5.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F16	Unnamed - Teifi estuary, St Dogmaels N.	GB110062039100	PU5.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F17	Mwidan	GB110062039160	PU5.11	Not Designated A/HMWB	Poor	Good Status by 2027	• None
F18	Piliau	GB110062039070	PU5.14	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F20	Gilwen	GB110063036430	PU6.2	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F22	Howni	GB110063036410	PU6.2	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F23	Hawen	GB110063036470	PU6.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F24	Ffynnon	GB110063036490	PU6.8	Not Designated A/HMWB	Good	Good Status by 2015	• None
F25	Halen	GB110063041380	PU7.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F26	Gido	GB110063041400	PU7.4	Not Designated A/HMWB	Moderate	Good Status by 2027	•
F27	Aeron	GB110063041500	PU8.3	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F28	Arth	GB110063041460	PU8.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F29	Cledan	GB110063041480	PU8.8	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F30	Peris	GB110063041490	PU8.8	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F31	Wyre	GB110063041510	PU8.9	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F32	Ystwyth	GB110063041710	PU9.2	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F33	Rheidol	GB110063041570	PU9.3, 9.4, 9.5 and 9.6	**Heavily Modified** (due to power generation, water regulation and water storage)	Moderate	Good potential by 2027	• None

WFD Assessment ID	Freshwater Body Name (ID number)	ID Number	Relevant Policy Units	Hydromorphological Designation	Ecological Quality	Objective	Relevant Mitigation Measures from the Western Wales RBMP that are not in place
F34	Clarach	GB110063041600	PU9.11	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F35	Leri – lower	GB110064043570	PU10.5, 10.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F36	Clettwr	GB110064043600	PU10.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F37	Llyfnant	GB110064048250	PU10.7	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F38	Dyfi	GB110064048390	PU10.8, 10.9	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F39	Pennal	GB110064048360	PU10.10	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F40	Unnamed trib north of Afon Dyffyn-Gwyn	GB110064048310	PU10.17	**Heavily modified**	Moderate	Good potential by 2027	• Increase in-channel morphological diversity; • Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works; • Operational and structural changes to locks, sluices, weirs, beach control, etc; • Selective Vegetation Control Regime; • Appropriate Vegetation Control Technique; • Appropriate timing (Vegetation control); • Appropriate Techniques (Invasive Species); and • Retain marginal aquatic and riparian habitats (channel alteration).
F41	Fathew	GB110064048410	PU10.18	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F42	Dysinni - lower	GB110064048440	PU10.18	Not Designated A/HMWB	Good	Good Status by 2015	• None
F43	Gwril	GB110064048470	PU11.2	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F44	Unknown tributary near Afon Dysynni	GB110064048460	PU11.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F45	Unknown tributary near Afon Dysynni	GB110064048500	PU11.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F46	Mawddach	GB110064048540	PU11.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F47	Arthog	GB110064048640	PU11.9 & 11.10	Not Designated A/HMWB	Good	Good Status by 2015	• None
F48	Mawddach estuary south	GB110064048540 GB110064048650 GB110064048660	PU11.10	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F49	Mawddach lower	GB110064048710	PU11.12	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F51	Wnion - lower	GB110064048800	PU11.12	**Heavily modified**	Moderate	Good Potential by 2027	• Re-engineering of the river where the flow regime cannot be modified; • Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Ensure there is an appropriate baseline flow regime downstream of the impoundment; • Provide flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; • Ensure that the thermal regime in waters downstream of the impounding works is consistent with good status conditions;
F52	Cwm-Mynach	GB110064048820	PU11.12	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F53	Cwm-Llechen	GB110064048810	PU11.13	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F54	Mawddach estuary north	GB110064048680	PU11.16	Not Designated A/HMWB	Good	Good Status by 2015	• None
F55	Mawddach estuary north	GB110064048690	PU11.17, 11.18	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F56	Ysgethin	GB110064048830	PU11.20	**Heavily modified**	Moderate	Good status by 2027	• Re-engineering of the river where the flow regime cannot be modified; • Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Ensure there is an appropriate baseline flow regime downstream of the impoundment;

WFD Assessment ID	Freshwater Body Name (ID number)	ID Number	Relevant Policy Units	Hydromorphological Designation	Ecological Quality	Objective	Relevant Mitigation Measures from the Western Wales RBMP that are not in place
							• Provide flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; and • Ensure that the thermal regime in waters downstream of the impounding works is consistent with good status conditions.
F57	Unnamed tributary near Afon Artro	GB110064048200	PU12.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F59	Artro	GB110064048220	PU12.4	Not Designated A/HMWB	Good	Good Status by 2015	• None
F60	Dwyryrd estuary south	GB110065053500	PU12.8, 12.9	Not Designated A/HMWB	Moderate	Good status by 2027	• None
F63	Gaseg lower	GB110065053820	PU12.13	Not Designated A/HMWB	Good	Good Status by 2015	• None
F64	Unnamed to Glaslyn estuary north	GB110065053770	PU12.16	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F65	Unnamed tributary Tremadog Bay	GB110065053540	PU12.18	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F66	Dwyfach	GB110065053730	PU12.22	Not Designated A/HMWB	Good	Good Status by 2015	• None
F67	Wen (Lleyn Peninsular)	GB110065053680	PU12.24	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F68	Erch-lower	GB110065053570	13.4	Not Designated A/HMWB	Good	Good Status by 2015	• None
F69	Rhyd-Hir-lower	GB110065053490	13.4	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F70	Penrhos	no information available (NIA)	13.4	NIA	NIA	NIA	• NIA
F71	Soch	GB110065053760	PU13.12	Not Designated A/HMWB	Good	Good Status by 2015	• None
F72	Unnamed near Soch catchment, Soch	GB110065047990	PU13.14	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F73	Llyfni	GB110065053970	PU16.1	**Heavily modified**	Moderate	Good potential by 2027	• Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Provide Flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; and • Ensure that the thermal regime in waters downstream of the impounding works is consistent with good status conditions.
F74	Llifon	GB110065053980	PU16.2	Not Designated A/HMWB	Poor	Good Status by 2027	• None
F75	Carrog	GB110065053990	PU16.5	Not Designated A/HMWB	Good	Good Status by 2015	• None
F76	Cefni	GB110102058670	PU16.9	**Heavily modified**	Moderate	Good potential by 2027	• Increase in-channel morphological diversity. • Flood bunds (earth banks, in place of floodwalls). • Set back embankments.
F77	Gwyrfai	GB110065054190	PU16.11	**Heavily modified**	Good	Good potential by 2015	• None
F78	Un-named to Foryd estuary east	GB110065054000	PU16.11	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F79	Seiont-lower	GB110065054040	PU16.12	**Heavily modified**	Moderate	Good potential by 2027	• Re-engineering of the river flow where the flow regime cannot be modified; • Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Ensure there is an appropriate baseline flow regime downstream of the impoundment; • Provide flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; and • Ensure that the thermal regime in waters downstream of the impounding works is

WFD Assessment ID	Freshwater Body Name (ID number)	ID Number	Relevant Policy Units	Hydromorphological Designation	Ecological Quality	Objective	Relevant Mitigation Measures from the Western Wales RBMP that are not in place
							consistent with good status conditions.
F80	Cadnant	GB110065054030	PU16.13	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F81	Un-named to Menai Strait south	GB110065058490	PU16.14	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F82	Lleiniog	GB110102058900	PU16.25	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F83	Aber	GB110065058550	PU16.32	Not Designated A/HMWB	Good	Good Status by 2015	• None
F84	Ddu	GB110065058570	PU16.33	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F85	Unnamed - Crigyll / Caradog catchment	GB110102058860	PU17.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F86	Crigyll	GB110102058970	PU17.7	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F87	Unnamed - Crigyll / Caradog catchment	GB110102058930	PU17.20	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F88	Alaw	GB110102058980	PU17.22	**Heavily modified**	Moderate	Good potential by 2027	• Re-engineering of the river where the flow regime cannot be modified; • Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Ensure there is an appropriate baseline flow regime downstream of the impoundment; • Provide flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; and • Ensure that the thermal regime in waters downstream of the impounding works is consistent with good status conditions.
F89	Tan R'Allt	GB110102059100	PU17.22	Not Designated A/HMWB	Good	Good Status by 2015	• None
F90	Unnamed - Wygyr catchment	GB110102059090	PU17.23	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F91	Unnamed - Wygyr catchment	GB110102059150	PU18.6	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F92	Wygyr	GB110102059170	18.10	Not Designated A/HMWB	Good	Good Status by 2015	• None
F93	Goch Amlwch	GB110102059230	18.16	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F94	Unnamed – Wygyr Catchment	GB110102058990	19.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F95	Goch Dulas	GB110102059000	19.3	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F96	Unnamed – Lligwy catchment	GB110102059030	PU19.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F97	Unnamed - Lligwy catchment (Y Marchogion)	GB110102059030	PU19.10	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F98	Nodwydd	GB110102058870	PU19.14	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F99	Unnamed to Conwy Bay	GB110065058580	PU20.2	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F100	Gyrach	GB110065058590	PU20.2	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F101	Un-named Conwy Estuary west	GB110066059840	PU20.5	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F102	Gyffin	GB110066059840	PU20.6	Not Designated A/HMWB	Good	Good Status by 2015	• None
F103	Wydden	GB110066059890	PU20.15	**Heavily modified**	Good	Good potential by 2015	• None
F104	Ganol	GB110066059900	PU20.15	Not Designated A/HMWB	Good	Good Status by 2015	• None
F105	Unnamed to Conwy Estuary east	GB110066059800, GB110066059820	PU20.16	Not Designated A/HMWB	Good	Good Status by 2015	• None

WFD Assessment ID	Freshwater Body Name (ID number)	ID Number	Relevant Policy Units	Hydromorphological Designation	Ecological Quality	Objective	Relevant Mitigation Measures from the Western Wales RBMP that are not in place
F106	Hiraethlyn	GB110066059790	PU20.17	Not Designated A/HMWB	Moderate	Good Status by 2027	• None
F107	Roe	GB110066059780	PU20.19	Not Designated A/HMWB	Moderate	Good Status by 2015	• None
F108	Dulyn	GB110066059740	PU20.19	Not Designated A/HMWB	Good	Good Status by 2015	• None
F109	Porth-llwyd	GB110066059690	PU20.19	**Heavily modified**	Moderate	Good Potential by 2027	• Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Ensure the rate and range of any artificial drawdown is appropriately managed to maintain aquatic plant and animal communities in the shore zones of water storage and supply with gently shelving shore zones; and • Ensure the seasonal pattern of water levels during each year is managed so as to enable the establishment and retention of aquatic plant and animal communities in the shore zone of the impoundment.
F110	Ddu	GB110066054890	PU20.19	**Heavily modified**	Moderate	Good Potential by 2027	• Same as above for ‘Porth-llwyd’.
F111	Crafnant	GB110066054880	PU20.19	Not Designated A/HMWB	Good	Good Status by 2015	• None
F112	Conwy	GB110066060030	PU20.19	Not Designated A/HMWB	Moderate	Good Status by 2027	• None

Figure 4.3 **Map of Groundwater Bodies in West of Wales SMP2 area**

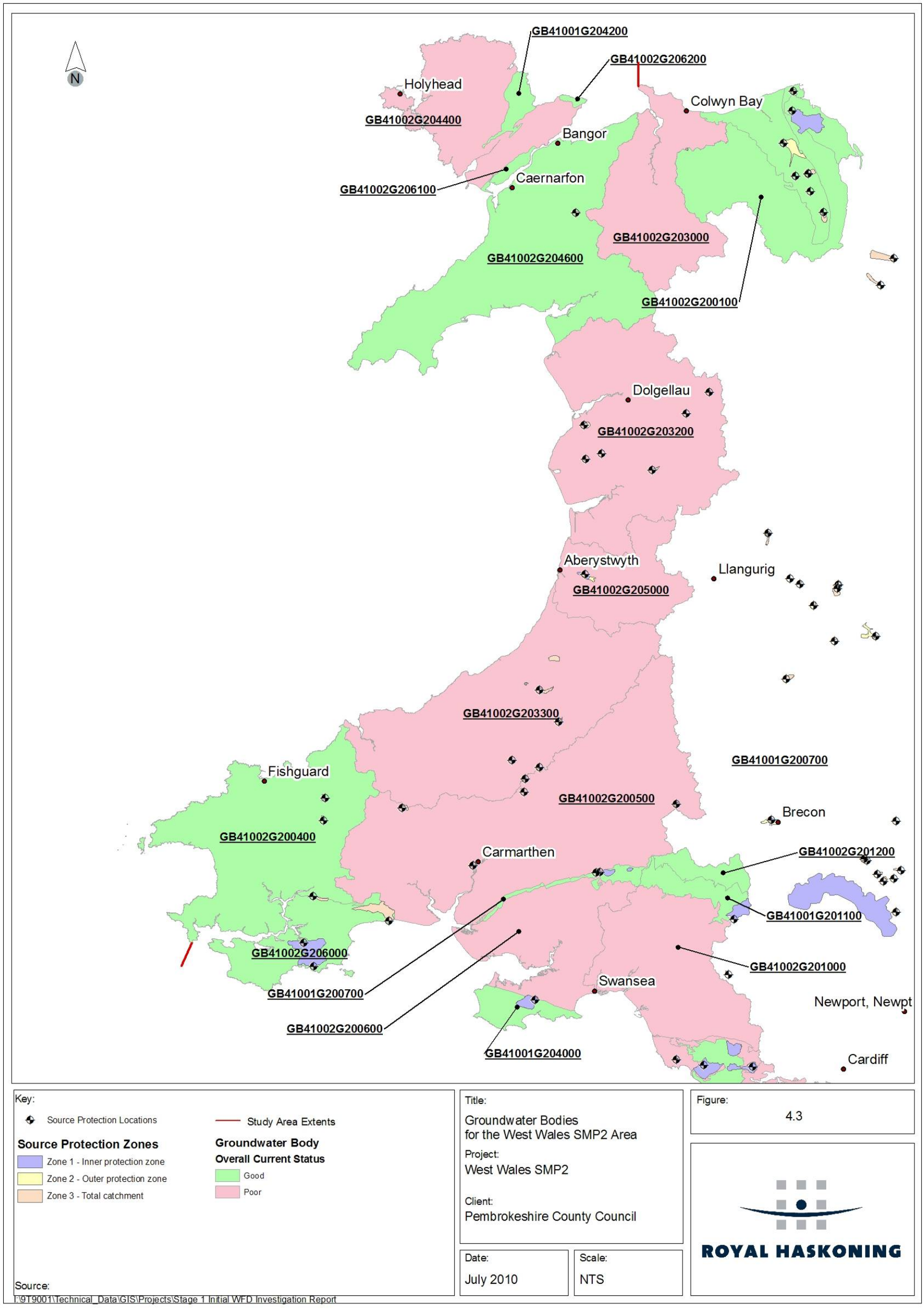


Table 4.3 **Groundwater Bodies within the SMP2 study area, their status, risk of saline intrusion and pressures / risks**

WFD Assessment ID	Water body name and ID	Overall Status	Status Objective	Risk of Saline Intrusion	Pressures / Risks (taken from Annex G of the SMP and RBC2 figures)
G1	**Cleddau and Pembrokeshire** GB41002G200400	Good	Good Status by 2015	Good (confidence high)	None identified within RBMP
G2	**Teifi and Coastal Ceredigion** GB41002G203300	Poor	Good Status by 2027	Good (confidence high)	Diffuse source nitrate
G3	**North Ceredigion Rheidol Area** GB41002G205000	Poor	Good Status by 2027	Good (confidence low)	Groundwater abstraction risk to groundwater dependant terrestrial ecosystems
G4	**Meirionydd** GB41002G203200	Poor	Good Status by 2027	Good (confidence low)	Groundwater abstraction risk to groundwater dependant terrestrial ecosystems
G5	**Llyn & Eryri** GB41002G204600	Good	Good Status by 2015	Good (confidence low)	Risk to groundwater drinking water protected areas
G6	**Ynys Mon Southern Carboniferous Limestone** GB41002G206100	Good	Good status by 2015	Good (confidence low)	None identified within RBMP
G7	**Ynys Mon Minor** GB41002G204400	Poor	Good Status by 2027	Good (confidence low)	None identified within RBMP
G8	**Ynys Mon Central Carboniferous Limestone** GB41001G204200	Good	Good Status by 2015	Good (confidence low)	None identified within RBMP
G9	**Ynys Mon Eastern Carboniferous Limestone** GB41002G206200	Good	Good status by 2015	Good (confidence low)	None identified within RBMP
G10	**Conwy** GB41002G203000	Poor	Good Status by 2027	Good (confidence low)	Groundwater abstraction risk to groundwater dependant terrestrial ecosystems

Boundary issues

H4.1.14 A comparison of the West of Wales SMP2 draft policies with the coastal and transitional water body boundaries has resulted in identifying a number of discrepancies which are presented in **Table 4.4** below (and as shown in **Figure 4.4**, with detailed maps in **Annex H-III**). These boundary issues are reasonably complex, with discrepancies involving TraC Water Bodies. Where possible, a revision to the boundaries has been discussed and considered by the SMP2 development team. This is an important issue as the policy unit boundaries enable similar sections of coast to be managed in a coherent manner following consideration of a number of factors including the character of both the natural and human coast, coastal processes and the operating authority boundaries.

Table 4.4 Boundary issues between Coastal and Transitional Water Bodies and SMP2 policy units

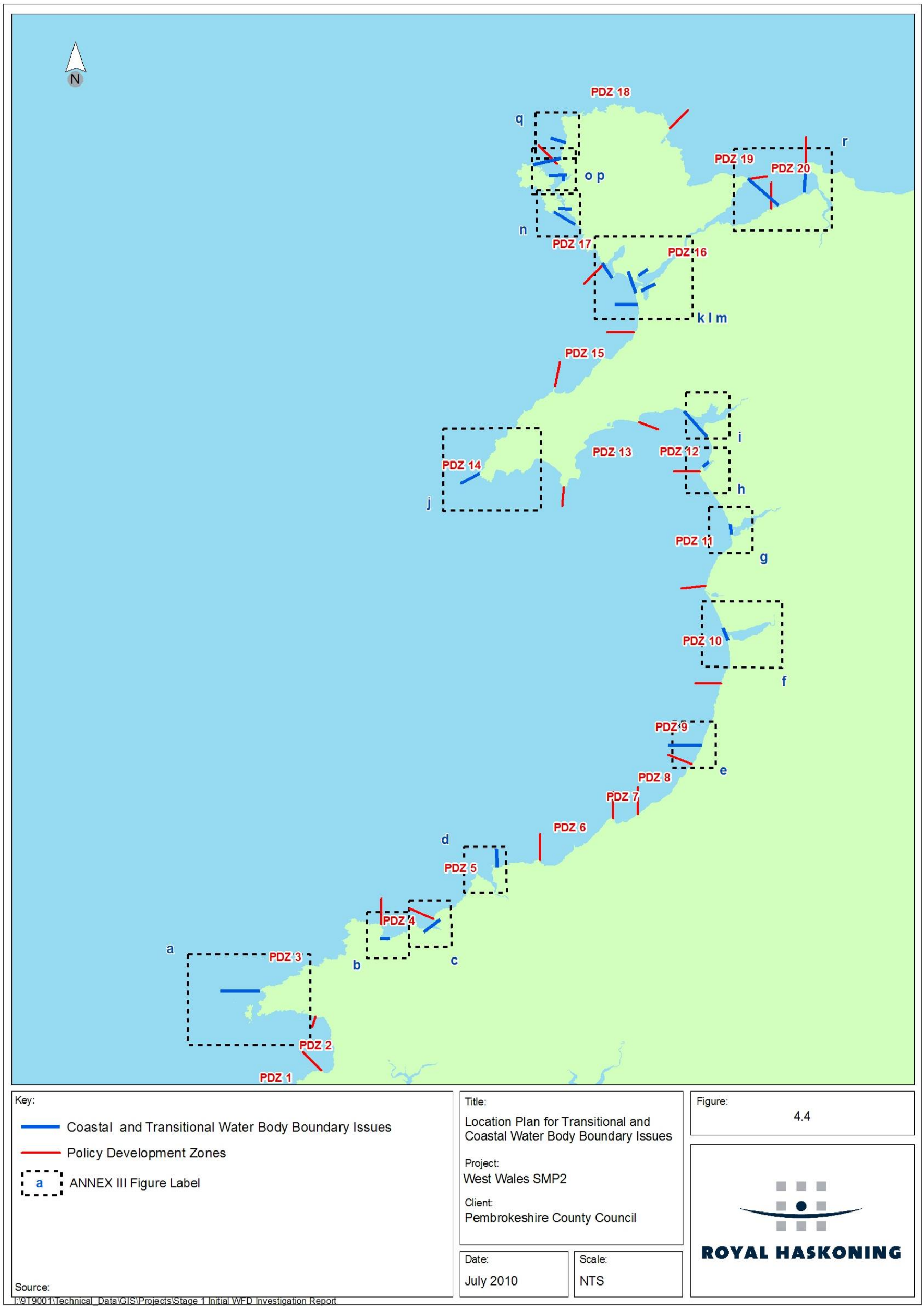
Policy Unit	Policy Unit Description	Water Body Boundary Issue (C = coastal water body; T = transitional water body)	Potential Action	Is it possible / necessary to change the PU boundary?	Annex H-III Figure
3.1	Dinas Fach to Pen Anglas	Pembrokeshire South (C1) - Cardigan Bay South (C2)	Moving the 3.8 - 3.1 PU boundary northwards could remedy this.	**No.** Existing 3.8 - 3.1 PU boundary to remain unchanged since PU 3.8 (HTL/MR/MR) is to be defended whilst PU 3.1 is undefended with NAI for all three epochs.	a
4.4 & 4.8	Penyraber and Castle Point Cliffs	Cardigan Bay South (C2) - Gwaun (T2)	Split PU 4.4 into two policy units and move the 4.8 - 4.9 PU to the west by ca. 170m around Castle Point.	**No.** PU 4.4 is undefended cliff coastline and therefore it is not reasonable to split into two policy units. PUs 4.8 and 4.9 are both undefended cliffs and though the boundary could be moved to tie in with the water body boundary it is not deemed necessary.	b
4.13 & 4.19	Around Cat Rock and around the Navigation Beacon in Newport Bay	Cardigan Bay South (C2) – Nyfer (T3)	Move the 4.13 - 4.14 PU boundary west by ca. 400m (west of Cat Rock) and move the 4.18 - 4.19 PU further north by ca. 160m.	**No.** PU 4.13 comprises undefended cliffs whilst the policy for PU 4.14 is to support local private defences. PU 4.18 has some flood protection whilst PU is undefended cliffs. The policy for PU 4.18 is to eventually have a policy of NAI in the third epoch, by which time the policy boundary could shift further north to be aligned with the water body boundary.	c
5.15	Mwnt and Aberporth Cliffs	Cardigan Bay South (C2) - Cardigan Bay Central (C3)	Move 5.9 - 5.15 PU boundary eastwards (ca. 500m)	**No.** Both policy units are undefended cliffs and therefore it is not deemed necessary to move the boundary on this occasion.	d
9.1	Carreg Ti Pw to Allt Wen	Cardigan Bay Central (C3) - Cardigan Bay North (C4)	Move 8.10 - 9.1 PU boundary (PDZ 8 - 9) further north (ca. 3.9km).	**No.** Both policy units are undefended cliffs and therefore it is not deemed necessary to move the boundary on this occasion.	e
10.4 & 10.14	The seaward side of Twyni Bach dunes and opposite Trefeddian Hotel	Cardigan Bay North (C4) - Dyfi and Leri (T6)	Split PU 10.4 into two policy units and move the 10.14 - 10.15 PU boundary further south (ca. 1.7km).	**No / Potentially.** PU 10.4 has been defined to MR the sand dunes in the first epoch followed by NAI for the remaining epochs. The area depicts the extent of the sand dune spit. The boundary between PUs 10.14 and 10.15 reflects the choice of coastal management to protect the landward assets. The preferred policy in MR for both PUs, so depending on whether these would be managed differently could mean that this boundary could be shifted for future SMP reviews.	f

Policy Unit	Policy Unit Description	Water Body Boundary Issue (C = coastal water body; T = transitional water body)	Potential Action	Is it possible / necessary to change the PU boundary?	Annex H-III Figure
11.5 & 11.14	The seaward side of Ro Wen Spit and Princes Avenue	Cardigan Bay North (C4) - Mawddach (T8)	Move the 11.4 - 11.5 PU boundary further north (by ca. 400m) and move the 11.14 - 11.15 PU boundary further south (ca. 300m).	**No.** The boundary between PUs 11.4 and 11.5 has been defined due to the landward assets, as the policy for PU 11.4 is HTL for the first epoch, whilst it is MR for PU 11.5. The boundary between PUs 11.14 and 11.15 has been defined based on the need to HTL within PU 11.14 for all three epochs, and HTL/MR/MR within PU 11.15.	g
12.5	Llandanwg Dunes	Cardigan Bay North (C4) - Tremadog Bay (C5)	Split PU 12.5 into two policy units	**No.** The existing definition of PU 12.5 is proposed, as the intention is to manage the Llandanwg Dunes, both the seaward and landward sides as one unit.	h
12.7	The seaward side of Morfa Harlech sand dunes	Tremadog Bay (C5) -Glaslyn (T10)	Split PU 12.7 into two policy units.	**No.** PU 12.7 is an undefended sand dune peninsular and therefore it is not necessary to split into two policy units.	i
14.11	South West Lleyn	Cardigan Bay North (C5) - Caernarfon Bay South (C6)	Move the 14.9 - 14.11 PU boundary further north around the headland to Braich y Pwll.	**No.** Both policy units are undefended cliffs and therefore it is not deemed necessary to move the boundary on this occasion.	j
16.4	Morfa Dinlle	Caernarfon Bay South (C6) - Caernarfon Bay North (C7)	Move the 16.3 - 16.4 PU boundary further north by ca. 500m.	**No.** The existing definition of PU 16.13 represents the length of coast that fronts the community of Dinas Dinlle, which is to be defended in the first epoch. The present PU boundary is located between two different flood protection schemes.	k
16.4 & 16.7	Sand dunes north of Morfa Dinlle and seaward side of Abermenai Spit	Caernarfon Bay North (C7) - Menai Strait (C8)	Split both PUs 16.4 and 16.7 into two policy units in line with the water body boundaries.	**No.** The policy intent for PU 16.4 is for MR in the first two epochs so that the sand dunes are self sustaining with NAI in the long-term, therefore it is deemed that splitting this into two policies would not be effective. PU 16.7 is an undefended spit backed by high ground and it is therefore not necessary to split into two policy units.	l

Policy Unit	Policy Unit Description	Water Body Boundary Issue (C = coastal water body; T = transitional water body)	Potential Action	Is it possible / necessary to change the PU boundary?	Annex H-III Figure
16.5 & 16.11	Entrance of Foryd Bay	Menai Strait (C8) - Foryd Bay (T13)	Move the 16.4 - 16.5 PU boundary further east in line with the transitional water body boundary and split PU 16.11 into two policy units.	**Potentially / No**. It could be feasible to move the 16.4 - 16.5 PU boundary, since this area is undefended and there does not seem to be a reason for where it is at present. PU16.11 follows the coastal road from Ffordd Yr Aber to Afon Carog, which is to be held for the first two epochs and is to be treated as one policy unit.	m
16.11 & 16.12	Entrance of the Seiont Estuary	Menai Strait (C8) - Seiont (T16)	Move the 16.11 - 16.12 PU boundary further north-east.	**No.** Both policy units are defended coastline, with different policy suites and therefore the policy boundary is to be unchanged.	m
17.6 & 17.9	Rhosneigr and headland southeast of Rhoscolyn	Caernarfon Bay North (C7) - Cymyran Bay (C9)	Move the 17.5 - 17.6 PU boundary further north-west by ca. 250m and move the 17.9 - 17.10 PU boundary further east by ca. 500m.	**No.** The existing 17.5 - 17.6 PU boundary reflects the transition from sandy bay to rocky cliffs that have different policy suites. PU 17.10 is defined by the bay and surrounding cliffs of Borthwen so that it is a discreet unit. There are high cliffs in both PUs 17.9 and 17.10 with the same policy of MR in the first two epochs so it is not necessary to move the boundary.	n
17.8	Traeth Cymyran sand dunes	Cymyran Bay (C9) - Holyhead Strait (C11)	Move the 17.8 - 17.19 PU boundary further south by ca. 350m.	**No.** The present boundary reflects the transition from sandy foreshore backed by higher ground and the lower ground within Holyhead Strait.	n
17.17 & 17.23		Holyhead Strait (C11) - Holyhead Bay (C10)	Move the 17.16 - 17.17 PU boundary further east and split PU 17.23 into two policy units.	**No.** The 17.16 - 17.17 PU boundary reflects the transition from protected sandy bay to undefended rocky shore and therefore cannot be changed. PU 17.23 is a sandy bay with rocky outcrops with a policy of MR over the three epochs and splitting the policy unit would not be deemed necessary, particularly as PU 17.22 also has a policy of MR for all three epochs.	o
18.2	End of New Harbour Breakwater and within Porth Tywyn-mawr Bay	Holyhead Bay (C10) - Caernarfon Bay North (C7)	Split PU 18.2 into two policy units.	**No.** The boundaries of PU 18.2 reflect the transitional from rocky headlands to sandy bay, and this PU has a policy of NAI for all three epochs.	o

Policy Unit	Policy Unit Description	Water Body Boundary Issue (C = coastal water body; T = transitional water body)	Potential Action	Is it possible / necessary to change the PU boundary?	Annex H-III Figure
17.22	Afon Alaw	Holyhead Strait (C11) - Alaw (T18)	Both boundaries for PU 17.22 to be moved further inland down Alaw Estuary to the water body boundary	**No.** The PU boundaries have been set based on the influence of the local hydrodynamics and sediment transport pathways, though the policy for PUs 17.21, 17.22 and 17.23 is MR for three epochs, and therefore it is not necessary to change the boundaries.	p
18.1	Twyn Cliperau to Wylfa Head	Caernarfon Bay North (C7) - Skerries (C12)	Move the 18.4 - 18.1 PU boundary north by ca. 50m.	**No.** Both PUs 18.1 and 18.4 have a policy of NAI and the boundaries reflect the transition from cliffs to bay. The boundary discrepancy is sufficiently small to be acceptable, rather than modifying the boundary within the SMP2.	q
20.1	Gerizim	Menai Strait (C8) - Conwy Bay (C15)	Move the 20.1 - 20.2 PU boundary west by ca. 600m.	**No.** The policy boundary reflects the transition from privately owned and local authority owned defences along the railway and promenade sea front. Both policies are to HTL for all three epochs. It is neither feasible nor necessary to move this boundary.	r
20.13	Great Orme Head	Conwy Bay (C15) - Conwy (T19)	Move the 20.12 - 20.13 PU boundary north west by ca. 400m.	**Potentially.** Both PUs have a preferred policy of NAI for all three epochs and comprise narrow foreshore backed by higher ground. There appears to be no reason for the present boundary location.	r

Figure 4.4 **Location Map illustrating the Coastal and Transitional Water Body Boundary Issues in relation to the PDZs of the West of Wales SMP2**



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Nature Conservation Designation Sites

H4.1.15 There are a number of international and national nature conservation designations within the SMP area that have been assessed by the HRA (**Appendix I** of this SMP). The 40 Natura 2000 (Special Areas of Conservation – SACs and Special Protection Areas – SPAs) sites and one Ramsar site within the West of Wales SMP2 study area are illustrated in **Annex H-IV**, with an overview of the map locations in **Figure 4.5**. The relevant international nature conservation designations are presented in **Table 4.5** below.

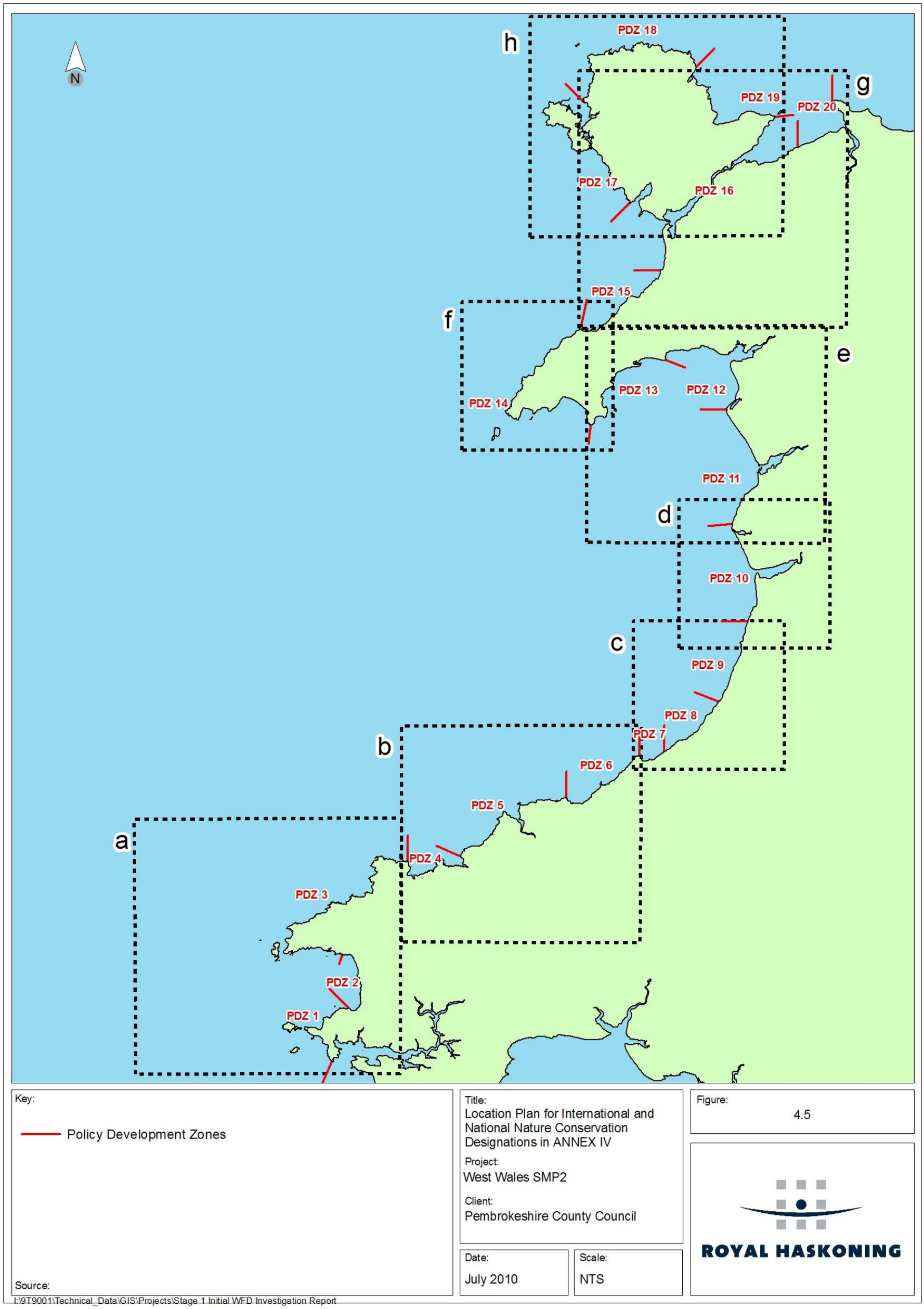
Table 4.5 International Nature Conservation Designations within the SMP2 study area

Nature Conservation Designation	Name of Designation	
	English	Welsh
SPA	Carmarthen Bay	Bae Caerfyrddin
	Castlemartin Coast	
	Dyfi Estuary	Aber Dyfi
	Aberdaron Coast and Bardsey Island	Glannau Aberdaron and Ynys Enlli
		Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal
	Ramsey and St David's Peninsula Coast	
	Skokholm and Skomer	
	Lavan Sands, Conway Bay	Traeth Lafan
	Ynys Feurig, Cemlyn Bay and The Skerries	
	Puffin Island	Ynys Seiriol
	Liverpool Bay (pSPA)	Bae Lerpwl
	Holy Island Coast	Glannau Ynys Gybi
SAC	Cors Fochno (and Dyfi)	
	Holy Island Coast	Glannau Ynys Gybi
	Menai Strait and Conwy Bay	Y Fenai a Bae Conwy
	Cleddau Rivers	Afonydd Cleddau
		Afon Gwyrfai a Llyn Cwellyn
	River Teifi	Afon Teifi
	Cardigan Bay	Bae Ceredigion
	Seacliffs of Lleyn	Clogwyni Pen Llyn
	Pembrokeshire Marine	Sir Benfro Forol
	Bae Cemlyn/ Cemlyn Bay	
	Carmarthen Bay Dunes	Twyni Bae Caerfyrddin
	Creuddyn Peninsula Woods	Coedwigoedd Penrhyn Creuddyn
		Glan-traeth
	Anglesey Coast: Saltmarsh	Glannau Môn: Cors heli
	Great Orme`s Head	Pen y Gogarth
	Limestone Coast of South West Wales	Arfordir Calchfaen de Orllewin Cymru
		Llyn Dinam
		Morfa Harlech a Morfa Dyffryn
	Pembrokeshire Bat Sites and Bosherston Lakes	Safleoedd Ystlum Sir Benfro a lynno
	St David`s	Ty Ddewi
	Abermenai to Aberffraw Dunes	Y Twyni o Abermenai i Aberffraw
		Coedydd Aber
	Lleyn Fens	Corsydd Llyn
	North West Pembrokeshire Commons	Comins Gogledd Orllewin Sir Benfro
	Lleyn Peninsula and the Sarnau	Pen Llyn a`r Sarnau

Nature Conservation Designation	Name of Designation	
	English	Welsh
	Carmarthen Bay and Estuaries	Bae Caerfyrddin ac Aberoedd
		Glynllifon
	Meirionnydd Oakwoods and Bat Sites	Coedydd Derw a Safleoedd Ystlumod Meirion
Ramsar sites	Cors Fochno (and Dyfi)	

H4.1.16 There are 160 SSSIs within the West of Wales SMP2 study area that have the potential to be affected by the SMP policies; these are illustrated in **Figure 4.5** (for further details refer to **Appendix I: HRA Stage 3 Report**).

Figure 4.5 **Location Map for the International and National Nature Conservation Designations in Annex H-IV for the West of Wales SMP2**



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H4.2 Step 2: Defining Features and Issues

H4.2.1 For the TraC Water Bodies in the West of Wales SMP2 area, the hydromorphological parameters that could potentially be affected by SMP2 policies and the BQEs that are dependent upon these are shown in **Assessment Table 1** (refer to **Annex H-V – Assessment Tables**). The key features and issues for each water body in the SMP2 area are then summarised in **Assessment Table 2**, together with the classification and Environmental Objectives for each TraC water body.

Coastal and Transitional Water Bodies

H4.2.2 The coastline within the SMP2 study area is extremely diverse, ranging from open exposed macrotidal areas, such as around St Brides Bay (which is within Pembrokeshire South (C1)), and Carmel Head (which is within The Skerries (C12)) to sheltered macrotidal and mesotidal areas, such as the Menai Strait (C8) and Conwy Bay (C15).

H4.2.3 The coastal habitats include rocky intertidal shores, sandy bays, sand banks, sand dune complexes, shingle beaches, seagrass beds, saltmarshes and sea caves. The southern part of the SMP2 area (i.e. Pembrokeshire South and Cardigan Bay South) is dominated by rocky foreshores colonised by diverse ranges of macroalgae with the occasional estuary and sandy bay supporting seagrass beds. Moving further north into Cardigan Bay Central, Cardigan Bay North and Tremadog the coastline becomes flatter and more dominated by sediment (sand and shingle) beaches, sand dunes and sand spits at the entrances of meandering natural estuaries like the Dyfi and Leri and at Mawddach. On the Lleyn Peninsular the coast becomes rocky with high cliffs and sea caves, intermingled with sandy bays, this is also typical of the coastline around to the entrance to the Menai Strait near Caernarfon, which consists of two prominent sand, shingle and dune spits. The coastline around the south west side of Anglesey consists of sandy beaches that support BQEs such as amphipods, burrowing worms and bivalves and rocky outcrops colonised by macroalgae that are backed by stable sand dune complexes that support annual and pioneer colonising plant species. Further north, the coast becomes rockier with more significant cliffs. Holy Island provides for a sheltered bay area with a large sandy intertidal foreshore.

H4.2.4 The 15 Coastal Water Bodies within the SMP2 study area have large stretches of undefended, undeveloped coastline with pockets of urban and defended shorelines protecting both communities and industry. Defences range from soft cliff protection structures (linear structures), beach erosion structures (groynes and offshore breakwaters) to beach nourishment, all of which have the potential to interrupt and manipulate hydrodynamics and sediment transport, which can affect the integrity of BQEs such as macroalgae, seagrass (angiosperm), benthic / macro invertebrates and fish. There are three HMWBs that have been designated for coast protection reasons.

H4.2.5 There are 19 Transitional Water Bodies within the SMP2 study area all of which are less than 30km^2. Many of these estuaries comprise extensive intertidal sand and mudflats, with sand bars reaching across the estuary mouths, which are backed by sand dunes, for example, Mawddach, Atro, Erch and Dyfi and Leri. Characteristic BQEs include bivalves, amphipods, burrowing worms, annual colonising dune plant species and migratory fish.

H4.2.6 Eight of these Water Bodies (Nyfer, Teifi, Dyfi and Leri, Mawddach, Glaslyn, Foryd Bay, Cefni and Conwy) are larger than the rest and comprise a complex array of SMP2 policies that defend the communities and assets that have developed around them (refer to **Annex H-II** table). It is in these Transitional Water Bodies that there is potential for the BQEs to be adversely affected, which could potentially prevent the Water Bodies from reaching Good Ecological Potential (GEP) / Status (GES).

H4.2.7 There are four Transitional Water Bodies with RBMP mitigation measures for them to attain GEP/GES that are relevant to the SMP2; these are Ystwyth/Rheidol, Dysynni, Cefni and Conwy. The mitigation measures include: managed realignment of flood defences, removing hard bank reinforcements, removing obsolete structures or replacement with soft engineering solutions, and retaining marginal and riparian habitats. Stage 2 of the WFD assessment will determine whether these mitigation measures have been able to be incorporated to ensure the improvement of water quality which will enhance the BQEs within these Transitional Water Bodies.

H4.2.8 Where there are stretches of coastline that are undeveloped and undefended and will continue to be that way with a policy of either 'Do Nothing' or 'No Active Intervention' then these policy units have been scoped out from any further assessment in Stage 2 of the WFD Assessment. It should be noted though that the influence of adjacent policy units will be taken into consideration (i.e. where hydrodynamics could affect the water quality further along the coast).

Freshwater Bodies

H4.2.9 There is a vast number of rivers that discharge along the West of Wales SMP2 coastline, however only a portion of these are likely to be affected by increasing tidal flooding with sea level rise over the next 100 years. The areas that are at greatest risk of increased tidal flooding in the future are around the existing larger estuaries such as Glaslyn, Cefni, Dyfi, Leri and Conwy Transitional Water Bodies. The land surrounding these estuaries is flat and has the potential for more extensive flooding than elsewhere in the study area. Where there are long stretches of defences protecting communities and assets, the associated rivers will be prevented from experiencing the full tidal prism. It is in these cases where these is potential for the BQEs to be affected, by for example, causing unnatural hydrodynamic processes and changes in salinity that could affect macrophytes and angiosperms, and interruption of migration routes for fish.

H4.2.10 There are two lakes within the SMP2 area, Llyn Coron and Llyn Dinam, both of which are in PDZ 17 on Anglesey. Llyn Coron is approximately 3km inland of the Aberffraw Sands and landward of an extensive dune system. It is sourced by the Ffraw River that discharges into the Ffraw transitional water body and could be affected by the SMP2 policies for PUs 17.2 and 17.3. The 1 in 1000 year tidal flood zone does not extend as far as the lake, which means there is less risk that the SMP2 policies in these units will impact upon the water quality. Llyn Dinam is approximately 1km inland of Holyhead Strait coastal water body and landward of the train line that runs parallel to the coast. The 1 in 1000 year tidal flood zone (currently and in 2105) is also ca. 1km from the nearest lake boundary, and therefore, there is little risk that the SMP2 policy will result in saline intrusion of this freshwater body.

Groundwater Bodies

H4.2.11 The SMP2 hinterland is underlain by a series of Groundwater Bodies primarily associated with Lower Palaeozoic rock with occasional areas of Precambrian rock (e.g. Anglesey, St. Davids and part of Lleyn Peninsular). There are seven SPZs associated with the hinterland, and only one of these areas extends close to the coastline, Lovesgrove SPZ, and still this is beyond the SMP2 coastal boundary, where it could be at risk from tidal flooding. All of the Groundwater Bodies are therefore classified as being 'not at risk' of saline intrusion.

H4.2.12 SMP policies have the potential to impact upon the chemical status of surface and groundwater bodies where a policy of NAI or landward realignment is implemented at a location where there is historic contamination (e.g. historic landfill) in close proximity to the coastline. There are a number close to the coast (e.g. Pontrug Landfill, Nant-y-garth, Bryn Maethlu Landfill), however, only two authorised landfill sites are within the SMP2 area and have the potential to be at risk of being tidally flooded. The first is Ffridd Rasus Landfill, which is within PDZ 12, and adjacent to Glaslyn transitional water body (PUs 12.7 and 12.8). It is currently on the boundary of being at risk from a 1 in 1000 yr tidal flood, and will definitely be at risk in the second and third epochs with sea level rise increasing the extent of the tidal flooding. The second is Tywyn Trewan Landfill, which is landward of policy unit 17.7 and 17.8. The landfill site is close (ca. 200m) to the existing 1 in 1000 yr tidal flood zone, and will become closer (ca. 100m) by 2105.

H4.2.13 Both of these sites present a potential contamination issue for both the surface and groundwater bodies within the area. It is considered unlikely that policies within West of Wales SMP2 have the potential to impact upon the chemical status of Water Bodies other than in PDZ 12 and 17. Chemical status has therefore only been considered further within the relevant policy section (i.e. PDZs 12 and 17) of the assessment.

H5 STAGE 1 CONCLUSIONS

H5.1.1 This **Stage 1 Initial WFD Investigation Report** has provided the first two steps of the WFD Assessment process of the West of Wales SMP2 review, so as to determine the scope of the assessment. The following surface and groundwater bodies have been scoped into the assessment:

Coastal Water Bodies

H5.1.2 Of the 16 Coastal Water Bodies 15 remain within the scope of this assessment. Grassholm Island and the Smalls coastal water body has been scoped out as the SMP2 policies are unlikely to affect the WFD Environmental Objectives due to its distance from the mainland.

H5.1.3 Within those 15 remaining Coastal Water Bodies there are some stretches of coast that are currently undefended. Where the draft preferred policies are NAI for all three epochs along these stretches of coastline it has been possible to scope out the relevant policy units since they will not result in either the failure or prevention of obtaining WFD Environmental Objective WFD Environmental Objective 2 "*No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential*". The policy units are given in **Table 5.1** below.

Table 5.1 Policy Units that can be scoped out further assessment for Coastal Water Bodies

WFD Assessment ID	Coastal Water Body Name	Scoped Out Policy Units
C1	Pembrokeshire South	1.1, 1.2, 1.3, 2.1, 2.3, 2.7, 2.9, 2.13, 3.1, 3.6, 3.7
C2	Cardigan Bay South	3.12, 4.1, 4.4, 4.8, 4.9, 4.11, 4.16, 4.17, 4.19, 5.1, 5.2, 5.9
C3	Cardigan Bay Central	5.15, 6.1, 6.3, 6.5, 6.7, 7.6, 8.1, 8.5, 8.7, 8.10
C4	Cardigan Bay North	9.1, 9.10, 9.12, 9.13, 11.20, 14.8
C5	Tremadog Bay	12.7, 12.19, 12.23, 12.25, 13.1, 13.9, 13.10, 13.16, 13.17
C6	Caernarfon Bay South	14.11,15.1, 15.4, 16.1, 16.2
C7	Caernarfon Bay North	17.1, 17.4, 17.14
C8	Menai Strait	16.6, 16.7, 16.13, 16.15, 16.16, 16.18, 16.20, 16.23, 16.25, 16.26, 16.30, 16.31
C9	Cymyran Bay	17.8
C10	Holyhead Bay	17.17, 18.1, 18.2
C11	Holyhead Strait	17.17
C12	The Skerries	18.1, 18.5
C14	Anglesey North	18.8, 18.12, 18.13, 18.18, 19.1, 19.3
C15	Conwy Bay	19.6, 19.8, 19.9, 19.11, 19.13, 19.15, 19.16, 19.17, 20.13, 19.6, 20.13

H5.1.4 It should be noted that in-combination effects (i.e. adjacent policies will be considered in the Step 3 Assessment).

Transitional Water Bodies

H5.1.5 Of the 19 Transitional Water Bodies present all remain within the scope of this assessment.

H5.1.6 Within those 19 Transitional Water Bodies there are some stretches of coast that are currently undefended. Where the draft preferred policies are NAI for all three epochs along these stretches of coastline it has been possible to scope out the relevant policy units since they will not result in either the failure or prevention of obtaining WFD Environmental Objective 2 "*No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential*". The policy units are given in **Table 5.2** below.

Table 5.2 Policy Units that can be scoped out from further assessment for Coastal Water Bodies

WFD Assessment ID	Transitional Water Body Name	Scoped Out Policy Units
T2	Gwaun	4.4, 4.8
T3	Nyfer	4.16, 4.17
T4	Teifi	5.2, 5.4, 5.6, 5.10
T14	Braint	16.6
T15	Cefni	16.8, 16.10
T17	Ffraw	17.2, 17.4
T19	Conwy	20.12, 20.13, 20.14

H5.1.7 It should be noted that in-combination effects (i.e. adjacent policies will be considered in the Step 3 Assessment).

Freshwater Bodies

H5.1.8 There are 63 FWBs that remain within the scope of this assessment.

H5.1.9 This includes two lakes within the SMP2 study area that are close to the coast and have the potential to be at risk of saline intrusion. These are Llyn Coron (GB31033337) and Llyn Dinam (GB31032948).

H5.1.10 Only those rivers within the SMP2 study area that are at risk of significant saline intrusion as a result of increased tidal flooding over the next 100 years have been included in the assessment. This resulted in 73 rivers being included within the assessment.

H5.1.11 Of these 73 rivers a further 12 rivers have been scoped out based on the fact that they discharge into areas of the coast that are currently undefended and will continue to be undefended as the preferred policy is NAI for all three epochs. This means any increases in tidal flooding will be natural and not due to any defences (or the removal of defences that were there previously), and will therefore not result in either the failure or prevention of obtaining WFD Environmental Objective 3 "*No changes which will permanently prevent or compromise the Environmental Objectives being met in other Water Bodies*".

Groundwater Bodies

H5.1.12 Of the ten GWBs present only one remains within the scope of this assessment.

H5.1.13 Of the ten GWBs that are within the West of Wales SMP2 study area, none are designated as ‘Poor Status’, ‘At Risk’ or ‘Probably At Risk’ from saline intrusion, all are ‘Good Status’ meaning saline intrusion is not presently or regarded a future issue within the SMP2 area.

H5.1.14 Seven SPZs were identified to be within the vicinity of the coast for the SMP2 study area, however, only one of these SPZs (Lovesgrove near Aberystwyth) is at risk of saline intrusion as it lies within Flood Zones 1 and 2; this is in Cleddau and Pembrokeshire GWB.

H5.1.15 As there is no risk of saline intrusion into the GWBs, only Cleddau and Pembrokeshire GWB will be assessed in Step 3 of the WFD Assessment.

H6 STAGE 2 RESULTS

H6.1 Assessment of SMP2 Policy against the Environmental Objectives

H6.1.1 **Assessment Table 3** in **Annex H-V** expands on the assessment of the SMP2 policies, indicating whether there is potential for environmental objectives to be compromised at a PU scale. Further to this, an assessment of the likelihood and effect of potential failure at the water body scale is made in **Assessment Table 4** below, as well as summarising the Western Wales RBMP mitigation measures that have been attained by the SMP policies. Both **Assessment Tables 3** and **4** identify potential for failure and consequently track the decisions that have been made within the SMP to meet conditions required to defend any later failure. The process enables key potential areas of concern to be flagged up and the essential need to refer to the Western Wales RBMP Programme of Measures during strategy or scheme level planning.

H6.1.2 The potential for the policies to affect FWBs (both designated as FWBs or not) should highlight the possible issues in defending those FWBs from tidal inundation and flooding through sea level rise.

Environmental Objective WFD1

H6.1.3 WFD1 is only applicable to High Status Water Bodies. None of the TraC Water Bodies in the West of Wales SMP2 area are classified as at High Status. Therefore, the potential of SMP2 policies to meet or fail WFD1 has not been considered further in this assessment.

Environmental Objective WFD2

H6.1.4 Eight of the 20 Policy Development Zones (PDZs) were identified as having potential to contribute to a failure to meet Environmental Objective WFD2 (i.e. no changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential) for ten TraC Water Bodies.

H6.1.5 Four of the eight PDZs have policies that affect four coastal water bodies (Cardigan Bay North, Caernarfon Bay South, Holyhead Bay and Anglesey North). Two of these PDZs (11 and 17) have HTL policies on the open coast (Cardigan Bay North and Holyhead Bay, respectively) that have the potential to result in habitat loss of intertidal sandy beaches and rocky foreshores as sea levels rise through coastal squeeze against the maintained defences. This could potentially impact benthic invertebrates, macroalgae and phytoplankton BQEs of the coastal water bodies, thus deteriorating the Ecological Status/Potential. PDZ 16 has a NAI policy on the open coast that has the potential to lead to increased coastal flooding of the landward fish farm and sewage works in PU 16.1. These two assets are already at risk of flooding from a 1 in 10 year flood and with increased flooding with sea level rises there would be an increased risk of greater contamination of both Caernarfon Bay South coastal water body, and the adjacent FWB. There would be an increase in nutrient levels which would reduce oxygen levels and light attenuation, and potentially causing localised eutrophication, thus impacting macroalgae, benthic invertebrates, phytoplankton and fish. There would also be potential for the spread of fish diseases. Finally, PDZ 18 has a MR policy on the open coast along a stretch where there is a disused chemical works that is a

potential contamination hazard for the Anglesey North coastal water body (as well as the adjacent FWB and GWB; see the sections below for more detail on these water bodies). If the defences are to be retreated or realigned there is potential for contamination issues, which would have detrimental impacts on the BQEs along this coast and would certainly result in the deterioration of both the Chemical and Ecological Status of this water body.

H6.1.6 There are six transitional water bodies that have the potential to fail Environmental Objective WFD2 as a result of five PDZs (9, 10, 12, 16 and 20). Four of the estuaries are HMWBs (Ystwyth / Rheidol, Dyfi and Leri, Cefni, Holyhead Bay and Conwy), all of which have Moderate Ecological Potential. The other two estuaries, Glaslyn and Seiont, have Good and Moderate Ecological Status, respectively. For all six of the estuaries, the primary SMP2 policy is of HTL in the short to medium term, often with HTL in the long term and on some occasions MR. As a result there could be changes in the hydrodynamics and tidal elevation leading to increased abrasion and changes in substrate conditions, which could potentially impact upon the macroalgae, phytoplankton, angiosperms (e.g. saltmarsh), benthic/macro invertebrates and fish BQEs (as identified in **Assessment Table 2**), as well as the loss of saltmarsh habitats and estuarine mudflats from sea level rise. Therefore, even where there have been mitigation measures such as managed realignment of parts of the estuary, there is still the possibility for deterioration in Ecological Potential/Status, with the potential to prevent the water body from attaining Good Ecological Potential.

Environmental Objective WFD3

H6.1.7 There are no freshwater lakes within the SMP2 area, although there are a large number of rivers that lie within the 1 in 1000 year flood zone. Many of these, however, outflow along stretches of coast that are undefended and will continue to do for the long term. The majority of these rivers will not be affected by the SMP2 policies. The saline intrusion to these rivers will increase over the next 100 years as sea levels rise and tidal flooding is able to extend further upstream. Where the mouths and tidal extent of these rivers are constrained by defences that support the coastal management they have the potential to deteriorate or prevent the achievement of Good Ecological Status or Potential; in total 112 rivers were assessed as they discharged out through policy units that had anything other than NAI for all three epochs.

H6.1.8 There are six PDZs (8, 10, 11, 12, 16, 18 and 20) that have the potential to fail to meet Environmental Objective WFD3 (i.e. no changes which permanently prevent or compromise the Environmental Objectives being met in other water bodies) for six TraC water bodies.

H6.1.9 Five of these potential failures result from HTL policies where rivers are discharging into either estuaries or the open coast and are being constrained by defences. In the worst case, the downstream section of the river is canalised with the mouth being held and flow being controlled by sluices, this is the case for the ‘unnamed tributary south of Afon Dyffryn-Gywn (PDZ 10) and the Cefni River (PDZ 16), and which will continue to be held in this manner. The other three are where the mouths are held in position, either preventing the longitudinal position from rolling back with sea level rise (e.g. River Aeron – PDZ 8) or constraining the natural morphology and flow of the river with a

distinct lack of angiosperms and mudflats (e.g. unnamed tributary near Afon Dysynni – PDZ 11, and unnamed Conwy Estuary West – PDZ 20). In all such cases, the associated BQEs such as macrophytes, benthic and macro invertebrates and fish are affected, either because they are unable to establish properly, or their extent or passage reduced. Therefore, there is a potential for these FWBs to either deteriorate or be prevented from achieving Good Ecological Status / Potential as sea levels rise and they are unable to adapt.

H6.1.10 Two FWBs have the potential to fail the Environmental Objective WFD3 because of NAI and MR policies. In PDZ 16, the NAI policy for all three epochs has the potential to cause saline and fluvial inundation of a sewage works that sits on the bank of the River Llyfni and the Caernarfon Bay South coastal water body. Any flooding of the sewage works has the potential to then cause contamination of the FWB and TraC water body through the addition of large quantities of nutrients, which will lower the oxygen levels of the river and quite possibly cause eutrophication, having a serious detrimental effect on the macrophyte, benthic and macro invertebrate and fish BQEs of the river. Similarly, the MR policy in PDZ 18 could cause further contamination of the River Goch Amlwch that already flows through the old chemical works, thus either deteriorating the Ecological Potential and certainly preventing it from achieving Good Ecological Potential.

Environmental Objective WFD4

H6.1.11 The preferred policy of two PDZs in the West of Wales SMP2 area has the potential to result in deterioration in groundwater status of the Ynys Mon (Anglesey) Minor GWB (GB41002G204400), which is Poor Status at present. In PDZ 17, the preferred SMP2 policy is NAI in PU 17.8, which will see the retreat of the shoreline and increase the coastal flooding landward. There is a current and historic landfill site (Tywyn Trewan Landfill) landward of this policy unit and in the 3rd epoch the site is at risk of flooding from a 1 in 10 year flood. Such flooding has the potential for contaminants to leach into the GWB. Secondly, in PDZ 18, the preferred MR in PU 18.16 could result in the leaching of contaminants from the old chemical works into the Ynys Mon (Anglesey) Minor GWB. Both of these policies have the potential to result in the failure to meet good groundwater status or result in a deterioration of groundwater status).

Water Framework Directive Summary Statements

H6.1.12 A water body by water body summary of achievement (or otherwise) of the Environmental Objectives for the SMP2 policies is shown in **Assessment Table 4**. This table indicates that completion of a Water Framework Directive Summary Statement is necessary for thirteen of the Water Bodies. These Summary Statements can be found in **Tables 5a** to **5m**. A colour key highlighting the RBMP achievements of the SMP2 mitigation measures is provided below and corresponds to the last column of **Table 4**.

	Not achieved
	Achieved
	Partly achieved

Assessment Table 4 **Summary of achievement of WFD Environmental Objectives and RBMP Mitigation Measures for each water body in the West of Wales SMP2 area (colour shading relates to the shaded Water Bodies in Assessment Table 3)**

Water body (and relevant PDZ)	**Environmental Objectives met?**				**WFD Summary Statement required?**	**Achievement of Any South East RBMP Mitigation Measures?**	**Details on how the specific South East RBMP Mitigation Measures have been attained** (dark green = achieved; light green = partly achieved & red = not achieved)
	WFD 1	**WFD2**	**WFD3**	**WFD4**			
Pembrokeshire South (Coastal – C1) (PDZ 2 and part 3) (MAN 2, 3 and part 4)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Solfach (Transitional – T1) (PDZ part 3) (MAN part 4)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Cardigan Bay South (Coastal – C2) (PDZs 3,4 and 5) (MAN part 4, 5, 6, 7, 8, 9 and 10)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Gwaun (Transitional – T2) (PDZ part 4) (MAN part 5)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Nyfer (Transitional – T3) (PDZ 4) (MAN part 6 and 7)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Teifi (Transitional – T4) (PDZ part 5) (MAN 9 and 10)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Cardigan Bay Central (Coastal) (PDZs 6, 7 and 8) (MAN 12,13,14,15 and 16)	N/A	✓	**x** **(PDZ 8)**	✓	**Yes** – Environmental Objective WFD3 may not be met because of the SMPs policy in PDZ 8 (MAN 15).	There were no relevant measures to the SMP2 for this water body.	N/A
Cardigan Bay North (Coastal) (PDZs 9, 10, 11, part 12, part 13 and 14.) (MAN 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, part 26, 33, 34, 35, 36 and 37)	N/A	**x** **(PDZ 10, 11)**	**x** **(PDZ 10, 11)**	✓	**Yes** – Environmental Objectives WFD 2 and 3 may not be met because of the SMPs policy in PDZ 10 (MAN 20), PDZ 11 (MAN 21).	There were no relevant measures to the SMP2 for this water body, though there are for the affected FWBs.	Mitigation measures for the FWB (GB110064048310), of which none have been implemented within the SMP2: • Increase in-channel morphological diversity; • Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works; • Operational and structural changes to locks, sluices, weirs, beach control, etc; • Selective Vegetation Control Regime; • Appropriate Vegetation Control Technique; • Appropriate timing (Vegetation control); • Appropriate Techniques (Invasive Species); and

Water body (and relevant PDZ)	**Environmental Objectives met?**				**WFD Summary Statement required?**	**Achievement of Any South East RBMP Mitigation Measures?**	**Details on how the specific South East RBMP Mitigation Measures have been attained** (dark green = achieved; light green = partly achieved & red = not achieved)
	WFD 1	**WFD2**	**WFD3**	**WFD4**			
							• Retain marginal aquatic and riparian habitats (channel alteration).
Ystwyth/ Rheidol (Transitional) (PDZ part 9) (MAN part 17)	N/A	**x** **(PDZ 9)**	✓	✓	**Yes** – Environmental Objective WFD2 may not be met because of the SMPs policy in PDZ 9 (MAN 17).	**Yes (partly)** – One of the six relevant mitigation measures for this water body has been implemented, which then provides potential for other measures to be put in place.	• **Managed realignment of flood defence** – MR of the south side of Rheidol Valley (**PU 9.5**) will allow the estuary to roll back and create further intertidal habitats. • **Bank rehabilitation / re-profiling** – could be implemented as part of the MR. • **Remove obsolete structure** – if there are obsolete structures in place along the MR location these could be removed. • **Retain marginal aquatic and riparian habitat** – MR will result in creating marginal habitats. • **Offsetting measures** – not considered. • **Operation and structural changes to locks etc** – not feasible.
Dyfi & Leri (Transitional) (PDZ part 10) (MAN part 19 and part 20)	N/A	**x** **(PDZ 10)**	✓	✓	**Yes** – Environmental Objective WFD2 may not be met because of the SMPs policy in PDZ 10 (MANs 19 & 20).	There were no relevant measures to the SMP2 for this water body.	N/A
Dysynni (Transitional) (PDZ part 10) (MAN part 20)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	**Yes (partly)** – One of the seven relevant mitigation measures for this water body has been implemented, which then provides potential for other measures to be put in place.	• **Managed realignment of flood defence** – MR where there are defences both public and private (**PU 10.18**) will allow the estuary to roll back and create further intertidal habitats. • **Remove obsolete structure** – if there are obsolete structures in place along the MR location these could be removed. • **Retain marginal aquatic and riparian habitat** – MR will result in creating marginal habitats. • **Increase morphological diversity** – MR will result in this measure inadvertently being put in place. • **Removal of hard bank reinforcement or replace with soft engineering** – the former option may be required as part of the MR. • **Offsetting measures** – not considered. • **Operation and structural changes to locks etc** – not feasible.
Mawddach (Transitional) (PDZ part 11) (MAN part 22, 23 and 24)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Atro (Transitional) (PDZ part 12) (MAN part 26)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Glaslyn (Transitional) (PDZ part 12) (MAN 27 and 28)	N/A	**x** **(PDZ 12)**	✓	✓	**Yes** – Environmental Objective WFD2 may not be met because of the SMPs policy in PDZ12 (MAN 28).	There were no relevant measures to the SMP2 for this water body.	N/A
Dwyfor (Transitional) (PDZ part 12) (MAN part 30)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are a benefit.	There were no relevant measures to the SMP2 for this water body.	N/A

Water body (and relevant PDZ)	**Environmental Objectives met?**				**WFD Summary Statement required?**	**Achievement of Any South East RBMP Mitigation Measures?**	**Details on how the specific South East RBMP Mitigation Measures have been attained** (dark green = achieved; light green = partly achieved & red = not achieved)
	WFD 1	**WFD2**	**WFD3**	**WFD4**			
Tremadog Bay (Coastal) (PDZ part 12, part 13) (MAN part 26, 27, 28, 29, 30, 31, 32 and part 33)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Erch (Transitional) (PDZ part 13) (MAN part 31)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Caernarfon Bay South (Coastal – C6) (PDZ 15 and part 16) (MAN 39, 40 and part 41)	N/A	**x** **(PDZ 16)**	**x** **(PDZ 16)**	✓	**Yes** – Environmental Objectives WFD2 and WFD3 may not be met because of the SMPs policy in PDZ16 (MAN 41).	There were no relevant measures to the SMP2 for this water body.	N/A
Caernarfon Bay North (Coastal – C7) (PDZ part 16, part 17and part 18) (MAN part 41, part 48, 49, part 50 and part 53)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Menai Strait (Coastal – C8) (PDZ part 16, part 17and part 20) (MAN part 41, 42, 43, 44, 45, 46, 47 and 59)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	**Yes (partly)** – One of the three relevant mitigation measures for this water body has been implemented, which then provides potential for one of the other measures to be put in place.	• **Managed realignment of flood defence -** MR within the following policies: **PU 16.4, 16.5, 16.11, 16.17** will allow the coastline to be more sustainable and adaptive to sea level rise. • **Removal of hard bank reinforcement -** could be implemented as part of the MR. • **Modify structure or reclamation.**
Foryd Bay (Transitional) (PDZ part 16) (MAN part 41)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Braint (Transitional) (PDZ part 16)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Cefni (Transitional) (PDZ part 16) (MAN 42)	N/A	**x** **(PDZ 16)**	**x** **(PDZ 16)**	✓	**Yes** – Environmental Objectives WFD2 and 3 may not be met because of the SMP policy in PDZ16 (MAN 42).	None of the relevant mitigation measures have been able to be implemented by the SMP2.	• **Retain marginal and riparian habitat.** • **Managed realignment of flood defence.** • **Increase in-channel morphological diversity.**
Seiont (Transitional) (PDZ part 16) (MAN part 43)	N/A	**x** **(PDZ 16)**	✓	✓	**Yes** – Environmental Objective WFD2 may not be met because of the SMP policy in PDZ16 (MAN 43).	There were no relevant measures to the SMP2 for this water body.	N/A

Water body (and relevant PDZ)	**Environmental Objectives met?**				**WFD Summary Statement required?**	**Achievement of Any South East RBMP Mitigation Measures?**	**Details on how the specific South East RBMP Mitigation Measures have been attained** (dark green = achieved; light green = partly achieved & red = not achieved)
	WFD 1	**WFD2**	**WFD3**	**WFD4**			
Fraw (Transitional – T17) (PDZ part 17) (MAN 47)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Cymyran Bay (Coastal – C9)	N/A	✓	✓	**x** **(PDZ 17)**	**Yes** – Environmental Objective WFD4 may not be met because of the SMPs policy in PDZ17 (MAN 48).	There were no relevant measures to the SMP2 for this water body.	N/A
Holyhead Bay (Coastal – C10) (PDZ part 17) (MAN part 50, part 52)	N/A	**x** **(PDZ 17)**	✓	✓	**Yes** – Environmental Objective WFD3 may not be met because of the SMPs policy in PDZ17 (MAN 50).	**Yes (partly)** – One of the six relevant mitigation measures for this water body has been implemented, which then provides potential for other measures to be put in place.	• **Managed realignment of flood defence** – MR of Penrhos Bay (**PU 17.16**) will allow the bay to roll back and create a deeper beach (with the exception of private defences e.g. aluminium works). • **Bank rehabilitation / re-profiling** – could be implemented as part of the MR. • **Removal of hard bank reinforcement** – if there are obsolete structures in place along the MR location these could be removed. • **Modify structure or reclamation** – this is likely to be referring to the Holyhead area and this has not been implemented.
Holyhead Strait (Coastal) (PDZ part 17) (MAN part 50, 51 and part 52)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Alaw (Transitional) (PDZ part 17) (MAN part 52)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
The Skerries (Coastal) (PDZ part 18) (MAN part 53)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Cemlyn Lagoon (Coastal) (PDZ part 18) (MAN part 53)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A
Anglesey North (Coastal) (PDZs part 18 and 19) (MAN 54, 55, 56, 57 and 58)	N/A	**x** **(PDZ 18)**	**x** **(PDZ 18)**	**x** **(PDZ 18)**	**Yes** – Environmental Objectives WFD2, 3 and 4 may not be met because of the SMP policy in PDZ18 (MAN 55).	There were no relevant measures to the SMP2 for this water body.	N/A
Conwy Bay (Coastal) (PDZ part 20) (MAN 59)	N/A	✓	✓	✓	**No** - not necessary as delivery of the WFD Environmental Objectives will not be prevented by the SMP policies and in some cases will ensure they are of benefit.	There were no relevant measures to the SMP2 for this water body.	N/A

Water body (and relevant PDZ)	**Environmental Objectives met?**				**WFD Summary Statement required?**	**Achievement of Any South East RBMP Mitigation Measures?**	**Details on how the specific South East RBMP Mitigation Measures have been attained** (dark green = achieved; light green = partly achieved & red = not achieved)
	WFD 1	**WFD2**	**WFD3**	**WFD4**			
Conwy (Transitional) (PDZ 20) (MAN 60, 61 and 62)	N/A	**x** **(PDZ 20)**	**x** **(PDZ 20)**	✓	**Yes** – Environmental Objectives WFD2 and 3 may not be met because of the SMP policy in PDZ20 (MANs 60 & 62).	**Yes (partly)** – One of the six relevant mitigation measures for this water body has been implemented, which then provides potential for other measures to be put in place.	• **Managed realignment of flood defence** - MR within the following: **PU 20.9, 20.18, 20.19** will allow the coastline to be more sustainable and adaptive to sea level rise. • **Removal of hard bank reinforcement -** could be implemented as part of the MR; **or replacement with soft engineering solution.** • **Preserve ecological value of marginal habitat, banks and riparian;**

Assessment Table 5a: Cardigan Bay Central Coastal Water Body (C4)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Cardigan Bay Central (Coastal – C4) **PU 8.3** (WFD 3)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this coastal water body. **Other potential mitigation measures that could be required:** • Undertake a study to investigate the integrated spatial planning options to deal with coastal and fluvial flooding for Aberaeron town and harbour. This would be to investigate how to manage the flooding and coastal erosion risks more sustainably, so that the local hydrodynamics and sediment transport pathways are not interrupted and the mouth of the Aeron River is not constrained so that it is able to adapt to sea level rise without tidal locking and to minimise loss of the benthic invertebrates, macrophytes and ensure the successful migration of fish.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	MR and NAI are not options for Aberaeron is these would fail to protect the harbour, community and assets, which eventually result in the loss of the town altogether. The policy of HTL around Aberaeron is required to protect the community of this town, which is one of the larger along the Ceredigion coast, and houses some important assets, such as the Local Authority for the area. This policy is still not ideal since maintaining and increasing the defences does not completely protect the town and therefore detailed planning in the long term may be required to protect this area. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on	NAI is not a practicable option since this would cease to protect Aberaeron Harbour and the surrounding town from erosion and tidal flooding. Furthermore, if the road (North Road) were lost this would result in not only those properties and assets being lost along the north side of the town but would restrict access along the coast. MR is to be considered in the long term along Aberaeron South Beach since there is not a coastal flooding issue, however, this is not an option elsewhere. Advancing the line is unrealistic, unnecessary and it would be working against the natural processes at work along coast, thus resulting in further interruption of the long shore drift and cause further intertidal habitat loss.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the grounds of being either technically unfeasible or disproportionately costly?	As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. The only freshwater body within the vicinity is Aeron River, which discharges into this coastal water body. The mouth of this river is constrained because of the SMP2 policy and has the potential to compromise the Environmental Objectives of the WFD for this river water body, by preventing GES being achieved. It is considered unlikely that the Teifi and Ceredigion GWB will be impacted as a result of the SMP2 policies as there is no current evidence of saline intrusion (see **Assessment Table 3** in **Annex H-V** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body only includes two environmental designations, Cardigan Bay SAC and Aberarth – Carreg Wylan SSSI. These two designations do not extend to within the harbour, only stopping at the end of the northern breakwater. The effect of the preferred policies on Cardigan Bay SAC have been assessed within the Habitats Regulations Assessment, which concluded that there will be no adverse effect on the integrity of the site (refer to **Appendix I of this SMP2**).

Assessment Table 5b: Cardigan Bay North Coastal Water Body (C5)

Water body, relevant PU and failed WFD Environmental Objectives	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Cardigan Bay North (Coastal – C4) **PU10.17** (WFD 2 & 3) **PU11.1** (WFD 2) **PU11.3** (WFD 2 & 3)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this coastal water body. • There are however mitigation measures for the FWB (unnamed tributary south of Afon Dyffryn-Gywn: GB110064048310) that is affected by PU 10.17 within this coastal water body: - Increase in-channel morphological diversity; - Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works; - Operational and structural changes to locks, sluices, weirs, beach control, etc; - Selective Vegetation Control Regime; - Appropriate Vegetation Control Technique; - Appropriate timing (Vegetation control); - Appropriate Techniques (Invasive Species); and - Retain marginal aquatic and riparian habitats (channel alteration). However, none of these were able to be implemented as part of the SMP2. **Other potential mitigation measures that could be required:** • Examine feasible options for relocating the railway which runs along much of the coast, especially landward of policy units 10.17, 11.1 and 11.3, as well as maintaining protection to the sewage works landward of PU10.17 without canalising the unnamed tributary south of Afon Dyffryn-Gywn (GB110064048310). This needs to be done in conjunction with the North West Wales Catchment Flood Management Plan. • It may be that the Tywyn sewage works on the Unnamed tributary south of Afon Dyffryn-Gywn (PU10.17) will need relocating in the long term as risk of saline intrusion and contamination risks to the adjacent water bodies increases in the long term.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies	MR and NAI are not options for the frontage between Tywyn and the entrance of the Dysynni Estuary (**PU10.17**) as it would fail to protect the railway line that runs along the shore and sewage works. This is also the case at Rola and along the Friog Cliffs. The policy of HTL is required to protect the important

Water body, relevant PU and failed WFD Environmental Objectives	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	transport link through to Aberystwyth. Furthermore, the defences protecting the railway also prevent the the freshwater and coastal water bodies from being contaminated by nutrient rich waste that would occur if the sewage works were not protected within PU10.17. This policy is still not ideal as maintaining and increasing the defences will become increasingly difficult with sea level rise and increasing risk of breaches during storms, which would cause damage to the railway and result in contamination issues to the surrounding coastal and freshwater bodies. Therefore, in the long term it is necessary to consider at a regional level the implications and expense of relocating the railway, as this would allow natural adaptation of both the TraC and FWBs, however there would be implications for the defence of the sewage works in the future. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	NAI is not a practicable option since this would cease to protect the railway and the adjacent sewage works from erosion and tidal flooding. MR has also not been considered in the long term since as long as the railway needs to take the current route there is no room to carry out a managed realignment or retreat. Advancing the line is unrealistic, unnecessary and it would be working against the natural processes at work along coast, thus resulting in further interruption of the long shore drift and causing further intertidal habitat loss. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There are two freshwater bodies within the vicinity: - Unnamed tributary south of Afon Dyffryn-Gywn (GB110064048310); and - Unknown tributary near Afon Dysynni (GB110064048460).

Water body, relevant PU and failed WFD Environmental Objectives	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	Both of these FWBs discharge into this coastal water body. For the former FWB, the mouth to ca. 2.5km inland is canalised because of a combination of the SMP2 policy and the North West Wales CFMP so as to reduce both coastal and fluvial flooding, which therefore has the potential to compromise the Environmental Objectives of the WFD for this FWB, by preventing GEP being achieved (as it is a HMWB). It is considered unlikely that the Meirionydd GWB will be impacted as a result of the SMP2 policies as there is no current evidence of saline intrusion (see **Assessment Table 3** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body includes three environmental designations: Lleyn Peninsula and the Sarnau SAC (PU10.17, 11.1 & 11.3), Broadwater SSSI (PU10.17), Glannau Tonfanau I Friog SSSI (PUs 11.1 & 11.3). The Habitats Regulations Assessment concluded for both PDZs 10 and 11 that there would be an adverse effect on the integrity of the SAC from loss of sandflats through coastal squeeze with the defences protecting the railway. For more details refer to **Appendix I of this SMP2**.

Assessment Table 5c: Ystwyth / Rheidol Transitional Water Body (T5)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Ystwyth / Rheidol (Transitional – T4) **PUs 9.3, 9.4, 9.6 & 9.7** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • One of the mitigation measures in the Western Wales RBMP for this transitional water body is to be implemented through the SMP2 policies within PDZ 9, which is the MR of the south side of inner Rheidol Estuary ('Rheidol Valley south'). This will allow the natural realignment of this part of the estuary enabling the estuary to adapt and evolve in response to sea level rise, by eroding back and accreting sediments along the foreshore, and thus improve the benthic invertebrate communities within the estuary. In the long term there could also be potential for the establishment of saltmarsh habitats. This policy also has the potential to achieve other mitigation measures, though this will depend on how the MR is determined, for example, bank rehabilitation / re-profiling, preserve and where possible enhance ecological value of marginal aquatic habitats, banks and riparian zone, and retain marginal aquatic and riparian habitats (channel alteration). • Furthermore, the long term MR and NAI at Tan y Bwlch will allow the Ystwyth to realign and flow through the centre of this bay, which will result in the improvement of the morphology and flow of this river and improve associated BQEs such as benthic invertebrates, saltmarsh and migratory fish pathways. This policy will have inadvertently put in place the following RBMP mitigation measures: removal of hard bank / revetment, preserve, and where possible restore historic aquatic habitats, and increase in-channel morphological diversity. **Other potential mitigation measures that could be required:** • Undertake a study/strategy to investigate the time frame and options for MR at Tan y Bwlch, as well as undertake consultation with key stakeholders (i.e. landowners of the land around the Ystwyth River mouth. • Undertake a study to investigate the MR options on the south side of the Rheidol inner estuary to determine how this policy can best implement the RBMP mitigation measures to ensure that Good Ecological Potential can be achieved by 2027.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public	MR and NAI are not options along the majority of the Rheidol estuary since this would fail to protect the harbour, town, community and assets, with both the coastal erosion and tidal flooding of the floodplain. The policy of HTL both along the coastal front and within the estuary is required to protect the community of this town, which is the largest coastal town within the SMP2 area, with important regional

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	and local historical and community assets. This policy is still not ideal since maintaining and increasing the defences does not completely protect the town (for example, along Glanrafon Terrace) and therefore detailed planning in the long term will be required to protect this area. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	Though NAI would be the most environmental option, since it would result in the natural roll back of the coast, natural morphology of the river mouths of both the Ystwyth and Rheidol rivers, as well as improve the Ecological Potential of the water body, it is not a practicable option since this would cease to protect Aberystwyth from both coastal erosion and tidal flooding. The economic loss of this important town would be felt not only by the local area but by region and Wales itself and is therefore not a viable option. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. The are two freshwater rivers that flow into this estuary, Rheidol and Ystwyth have both been assessed and it has been concluded that the SMP2 policies within this management unit will not compromise the Environmental Objectives of the WFD, by preventing GES/GEP being achieved. It is considered unlikely that the North Ceredigion Rheidol GWB will be impacted as a result of the SMP2 policies, both because there is no current evidence of saline intrusion, nor will the MR of the Rheidol Valley south cause saline intrusion of Lovesgrove Source Protection Zone, which is ca. 1.5-2km from the 100yr flood extent (see **Assessment Table 3** in **Annex H-V** and **Section K4.1**).

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body includes part of Allt Wen A Traeth Tanybwlch SSSI along the coastal front adjacent to the mouth of the Ystwyth River (i.e. landward of Tan Y Bwlch), and which is designated for its complex geological structures in the cliffs. This designation does not extend within the harbour and is not affected by the HTL policies. There are no Natura 2000 sites within or adjacent to the estuary.

Assessment Table 5d: Dyfi and Leri Transitional Water Body (T6)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Dyfi and Leri (Transitional – T6) **PU10.5, 10.6, 10.7, 10.8, 10.11** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this transitional water body. **Other potential mitigation measures that could be required:** • Undertake a regional/national study of the economic justification for relocating the railway landward in the various locations where it is at risk of erosion or flooding in the long term if the defences were not to be held. • Associated with a railway relocation study, a study/strategy to investigate options around the mouth of the estuary, especially around Cors Fochno, since presently maintaining the railway protects the rare raised bog which is designated as a Natura 2000 site. There is potential for conflict between the conservation requirements of the different Natura 2000 sites and a detailed study and consultation with CCW will be necessary.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	HTL for PUs 10.5 to 10.8, and 10.11 will maintain the integrity of the railway line that runs between Aberystwyth, Machynlleth and Porthmadog, as it runs close to Dyfi and Leri Estuary on both the north and south sides. Without maintaining the defences this important infrastructure transport link would cut off the main train link. HTL does however prevent the estuary from adapting to sea level rise by allowing the natural roll back and flooding of the surrounding flood plain. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be	NAI or MR would be the most environmental options, as they would result in the natural roll back of the coast, and a more natural morphology for the river mouth of the estuary, as well as improve the Ecological Potential of the water body. However, it is presently not a practicable option since this would cease to protect the railway from both coastal erosion and tidal flooding. MR would require significant

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	capital investment, as well as a number of technical studies (e.g. sustainability of the Cors Fochno raised bog) in order to relocate the railway. This assessment should only be done at a regional and even national level as this railway line affects other locations along the West of Wales coast. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. The are a number of freshwater rivers that flow into this estuary, which have been assessed and it has been concluded that the SMP2 policies within this management unit will not compromise the Environmental Objectives of the WFD, by preventing GES being achieved. It is considered unlikely that the Meirionydd GWB will be impacted as a result of the SMP2 policies because there is no current evidence of saline intrusion (see **Assessment Table 3** in **Annex H-V** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body includes a number of designations, including four Natura 2000 sites: Dyfi Estuary SPA, Lleyn Peninsula and the Sarnau SAC, Cors Fochno SAC and Cors Fochno and Dyfi Ramsar site, and one SSSI – the Dyfi SSSI. The Habitats Regulations Assessment concluded that there would be No Adverse Effect on the Cors Fochno SAC by maintaining the existing defences to the railway line. However, the HTL would cause an adverse effect on the intertidal sandflats, saltmarsh and improved grassland of the other Natura sites as a result of coastal squeeze. Refer to **Appendix I of this SMP2** for further details.

Assessment Table 5e: Glaslyn Transitional Water Body (T10)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Glaslyn (Transitional – T10) **PU12.13 & 12.14** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this transitional water body. **Other potential mitigation measures that could be required:** • Management of the defences upstream of the Cob need to be examined further, which is also indicated in the North West Wales CFMP. • Investigate the possibility of raising the road between Porthmadog and Borth-y-Gest where necessary with a bridged section or re-routing it around to the east.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	There is economic justification to HTL across the Cob and around Porthmadog, as this will ensure that the integrity of this significant town (i.e. community and amenities), the local Ffestiniog railway that runs across the Cob embankment to Porthmadog, as well as the A470 road are maintained. Whilst, HTL for PU12.14 at Borth-y-Gest is to maintain the access to this village from Porthmadog. Without maintaining the defences this important town and its infrastructure transport links would not be maintained and would have both a local and regional impact. HTL does however prevent the estuary from adapting to sea level rise by not allowing the natural roll back and flooding of the surrounding Glaslyn Estuary and flood plain. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which	Either NAI or MR would be better environmental options, since they would result in the natural roll back of the coast and the flooding of part of Glaslyn Estuary that is presently restricting the full tidal prism from being realised. This would result in a gain of intertidal habitats, allow the natural morphology of the river mouths of both the upper Glaslyn and Gaseg rivers, as well as improve the Ecological Potential of this TraC Water Body. However, this is not a practicable option since this would cease to protect Porthmadog from both coastal erosion and tidal flooding. The economic loss of this important town

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	would be felt not only by the local area but by the region and is therefore not a viable option. However, it should be noted that there are other areas within the estuary that are to be allowed to adapt more naturally than they have previously which will go some way to mitigating for the HTL policies in these two areas. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There are several FWBs that flow into this estuary and these have been assessed, alongside the adjacent coastal water body. It has been concluded that the SMP2 policies within this management unit will not compromise the Environmental Objectives of the WFD, by preventing GES/GEP being achieved. Furthermore, it is considered unlikely that the Llyn and Eryi GWB will be impacted as a result of the SMP2 policies because there is no current evidence of saline intrusion (see **Assessment Table 3** in **Annex H-V** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body includes and is adjacent to a number of designations, including three Natura 2000 sites: Lleyn Peninsula and the Sarnau SAC, Meirionnydd Oakwoods and Bat Sites SAC, Morfa Harlech a Morfa Dyffryn SAC and two SSSIs – the Morfa Harlech SSSI and Glaslyn SSSI. The Habitats Regulations Assessment concluded that there would be No Adverse Effect on the Morfa Harlech a Morfa Dyffryn SAC and Meirionnydd Oakwoods and Bat Sites SAC. However, the HTL would cause an adverse effect on the intertidal sandflats and saltmarsh of the Lleyn Peninsula and the Sarnau SAC as a result of coastal squeeze. There is a conflict of interest here, as maintaining the Cob Embankment protects a significant area of freshwater habitat whilst it prevents the natural morphology and hydrology of the estuarine water body and associated BQEs. Refer to **Appendix I of this SMP2** for further details.

Assessment Table 5f: Caernarfon Bay South Coastal Water Body (C6)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Caernarfon Bay South (Coastal – C6) **PU16.1** (WFD 2 & 3)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this Coastal Water Body. **Other potential mitigation measures that could be required:** • Undertake consultation with key stakeholders (i.e. Environment Agency Wales, fish farm owners and Sewage Works owners) to advise that the defences will not be held and that there will be imminent implications for the integrity of the both the sewage works and fish farm at Pontllyfni, with detrimental effects on both the adjacent FWB and TraC water bodies if there were to be saline inundation. • Determine the extent of pollution if the fish farm and sewage works were to flood and who would be responsible.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	Defences cannot be justified on a national economic basis. NAI supports the natural functioning of the coast and mitigates for the potential loss of intertidal habitat due to coastal squeeze in areas of HTL along other stretches of the coast. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which	HTL or MR in the short term would allow a strategy or plan to be investigated and implemented for the future of both the sewage works and fish farm (i.e. relocation or private defences). However, there is no national or regional economic justification for this, and therefore this will have to be privately funded. If this cannot be privately funded there will be an issue of polluting the adjacent Freshwater and Coastal Water Bodies. The political and financial ramifications of a pollution event caused by the fish farm and/or the sewage farm are unknown; this will need to be investigated further.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There is one freshwater river that discharges out into this Coastal Water Body, the Llyfni River. The policy for the coastal frontage at PU16.1 is intrinsically linked with this FWB as discussed earlier in this table and therefore the NAI has the potential to fail the WFD Environmental Objective 3. This FWB has been classified as being heavily modified, and of Moderate Ecological Potential and there are a number of mitigation measures within the Western Wales RBMP: • Maintain sediment management regime to avoid degradation of the natural habitat characteristics of the downstream river; • Provide flows to move sediment downstream; • Ensure that good status of dissolved oxygen levels is being achieved downstream of the impounding works; and • Ensure that the thermal regime in waters downstream of the impounding works is consistent with good status conditions. However, none of these mitigation measures have been implemented as part of the SMP2 policy, as they are all beyond the remit of the SMP2 but rather for the CFMP and other mechanisms to implement them. It is considered unlikely that the Llyn & Eryri GWB will be impacted as a result of the SMP2 policies because there is no current evidence of saline intrusion (see **Assessment Table 3** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	There are no Natura 2000 sites or SSSIs within this section of the SMP, or in the adjacent policy units.

Assessment Table 5g: Cefni Transitional Water Body (T15)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Cefni (Transitional – T15) **PU 16.9** (WFD 2 and 3)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • This TraC Water Body is classified as being heavily modified because of flood protection, and there are a number of potential mitigation measures that will aid in improving the Ecological Potential; these are to retain marginal and riparian habitat; managed realignment of flood defence; and increase in-channel morphological diversity. However, none of these mitigation measures have been achieved. Even though the remaining estuary is to be allowed to adapt naturally with sea level rise and roll back, there were previously no defences and so nothing has changed. The flood defence along the embankment will continue with poor in-channel morphological diversity along the River Cefni landward of the embankment. **Other potential mitigation measures that could be required:** • Investigation into the possibilities of adapting the channel of the River Cefni so it reduces fluvial flooding in the long term with combined sluice management, so as to retain and improve the marginal and riparian habitats around the embankment at Malltraeth – this may be more the responsibility of the CFMP than the SMP2. • Undertake a study to investigate the MR options and options to raise the road and rail so that the estuary can be opened up and adapt more naturally in the long term, this could be considered for the next SMP2.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the	There is economic justification to HTL of The Embankment and the village of Malltraeth in PU16.9, as this will ensure the integrity of transport infrastructure (both road and rail). Maintaining the defences incidentally allows the continued defence of the village of Malltraeth, which alone would be unlikely to be economically justifiable in the long term. However, by continuing to HTL there is a need to control the levels of freshwater flow through the sluices to ensure there is no excessive fluvial flooding. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	maintenance of health and safety or to sustainable development?	
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	NAI or MR would open up a major new area for saline and transitional habitat. However, this would result in the loss of designated wet meadows and damp grasslands landward of the defences, as well as have a significant impact on the transport infrastructure (road and rail) that serves the northwest of the island. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There is one freshwater river that flows into this estuary, the River Cefni, which has been assessed within the Assessment Table 4. It has been concluded that the SMP2 policies within this management unit have the potential to compromise the Environmental Objectives of the WFD, by preventing GEP being achieved. Particularly, since the downstream end near the mouth of the river will continue to be constrained within a straight channel and the flow into the estuary managed through sluices; this gives little opportunity to improve the marginal aquatic and riparian habitats or the geomorphology of the channel. It is considered unlikely that the Ynys Mon (Anglesey) Minor GWB will be impacted as a result of the SMP2 policies because there is no current evidence of saline intrusion (see **Assessment Table 3** and **Section K3.3**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This TraC Water Body includes part of the Anglesey Coast: Saltmarsh SAC. There are also two SSSIs, the first is Newborough Warren – Ynys Llanddwyn SSSI within the main part of the estuary, which is designated primarily for its large sand-dune and estuarine systems that control the physical influences of the dunes. The second is Malltraeth Marsh SSSI on the landward side of the stone pitched embankment and sluice, which is designated primarily for its breeding bird community of lowland damp grassland and wet meadows. NAI or MR would impinge on the quality of the habitats within the

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
		Malltraeth Marsh SSSI, resulting in more saline habitats such as saltmarsh and mudflats. The Habitats Regulations Assessment concluded that though there will be an alteration in the extent of different estuary habitats, the overall balance within the estuary will be maintained, though there will be an adverse effect on the integrity of the intertidal mudflats within the Anglesey Coast Saltmarsh SAC with the HTL policy in PU16.9. Refer to **Appendix I of this SMP2** for further details.

Assessment Table 5h: Seiont Transitional Water Body (T15)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Seiont (Transitional – T15) **PU 16.11 & 16.12 (part)** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this Transitional Water Body. **Other potential mitigation measures that could be required:** • Undertake a study to investigate ways of reducing tidal locking and subsequent fluvial flooding of the River Cadnant and Seiont-lower that flow into the Seiont Estuary. • Investigation into the implications of a MR along the west river bank of the estuary for the Afon Seiont SSSI.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	The policy of HTL in PU 16.12 will maintain the integrity and safety from tidal flooding of the important historic town of Caernarfon, which is on the east bank. Furthermore, these defences will prevent contamination issues since the HTL policy will protect assets including a sewage works, an old disused tip and industrial estates. The HTL policy in PU16.11 for the short to medium term will allow the adaptation of the properties and infrastructure along the west bank with the view to managed realignment / retreat in the long term, which will allow the estuary to adapt to long term sea level rise. Therefore in the future the functioning of the estuary is likely to improve, however in the short term it is likely that the SMP2 policies will prevent Good Ecological Status from being achieved. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on	As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives, however, it was felt that neither NAI nor MR were possibilities for the east bank (PU16.12) of the estuary where the town of Caernarfon is located, as these would not protect this historic town from flooding. On the west bank (PU 16.11) there could be a possibility for MR along the mid-section in the short to medium term. This would help the estuary adapt to sea level rise, however it would result in the loss of valuable arable farmland. Furthermore, it is unlikely to totally prevent tidal locking since it is further upstream where the river is constrained between the sewage works on the east

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the grounds of being either technically unfeasible or disproportionately costly?	bank and Coed Helen Lane on the west bank, as well as the road and rail crossing the river. Further detail on the Policy Development and Appraisal can be found in **Appendix E**, and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There are four freshwater rivers that flow into this estuary, all of which have been assessed within Assessment Table 3. There will be increased saline intrusion upstream of these rivers as a result of sea level rise and the containment of the estuary, with the potential to modify the BQEs from more freshwater to transitional. However, it has been concluded that the SMP2 policies within this management unit will not compromise the Environmental Objectives of the WFD, by preventing GES/GEP being achieved. The estuary also borders the Menai Strait Coastal Water Body and it was considered that the HTL policy within this estuary is unlikely to affect its Ecological Potential. Furthermore, it is considered unlikely that the Llyn and Eryri GWB will be impacted as a result of the SMP2 policies, both because there is no current evidence of saline intrusion, and because the HTL policy is preventing the saline intrusion of contaminated areas (e.g. sewage works, disused tip and industrial estate) (see **Assessment Table 3** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	This water body includes part of the Menai Strait and Conwy Bay SAC up to the Aber Bridge at the entrance to the estuary. The Habitats Regulations Assessment deemed that there will be some loss of intertidal sandflats within PU 16.11 as a result of coastal squeeze against the defences with sea level rise. This combined with other losses along the Menai Strait will result in an adverse effect on the integrity of the SAC. Refer to **Appendix I of this SMP2** for further details. There is also the Afon Seiont SSSI, which covers the estuary from Slate Quay to where the railway passes over the River Seiont south of the sewage works. The SSSI is designated for strata which are exposed in the west river bank (cliff), rather than for biological reasons. Any MR along this west bank may result in the loss of some of this strata with exposure further back.

Assessment Table 5i: Cymyran Bay Coastal Water Body (C9)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Cymyran Bay (Coastal – C9) **PU17.8** (WFD 4)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this Coastal Water Body. **Other potential mitigation measures that could be required:** • The landfill site and local council to be aware of the future risk of tidal flooding to the landfill site to a 1 in 1000 year flood and the implications this could have on the GWB.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	NAI for PU 17.8 (Traeth Crigyll and Traeth Cymyran) may experience saline intrusion of the valley of the River Crigyll in the third epoch, which encroaches into the southern half of a current and historic landfill site (Tywyn Trewan landfill). If this were to occur this could result in the contamination of the Ynys Mon (Anglesey) Minor GWB. The policy of NAI for this stretch of coast is because there are presently no defences and the SMP2 is supporting the continued adaptation and roll back of the dunes along this stretch of coast. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on	HTL/ATL would result in the loss of intertidal habitat and the landward dunes with sea level rise and be uneconomically viable. MR is also not feasible. NAI is the best environmental option, with attention needed in the long term by the landfill site to protect itself from the potential risk of saline intrusion from a 1 in 10 year flood. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E**

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the grounds of being either technically unfeasible or disproportionately costly?	and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. SMP2 policies for policy units in nearby TraC and Fresh Water Bodies have also been assessed within this report for potential to cause deterioration in Status/Potential. For Cymyran Bay, the other water body is the underlying groundwater body, which could be affected if the Tywyn Trewan Landfill (PU17.8), as well as a historic landfill were flooded due to the NAI policy. The action plan recognises that this particular area requires development of a detailed management plan.
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	There are no Natural 2000 sites for this policy unit or within the adjacent policy units. The only area that is designated is the Traeth Cymyran headland, which is a SSSI (Ynys Feurig). The NAI policy will support this policy.

Assessment Table 5j: Holyhead Bay Coastal Water Body (C10)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Holyhead Bay (Coastal – C10) **PU17.15** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • One of the mitigation measures in the Western Wales RBMP for this transitional water body is to be implemented through the SMP2 policies within PU 17.16 at Penrhos Bay, which will allow the bay to roll back and create a deeper beach. This will allow a more natural realignment of this part of the coast enabling adaptation in response to sea level rise, by eroding back and accreting sediments along the foreshore, and thus improve the benthic invertebrate communities. This policy also has the potential to achieve other mitigation measures, though this will depend on how the MR is determined, for example, bank rehabilitation / re-profiling and removal of hard bank reinforcement for any obsolete structures.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	PU 17.15 has a preferred policy of HTL to protect the conurbation of Holyhead and the ferry terminals, lifeboat station and marina inside the breakwater. Holyhead is the key economic centre for a large proportion of Anglesey with many key assets and services that need to be protected from tidal flooding and coastal erosion. Continuing to HTL is justified on economic grounds due to the high value of the assets at risk. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on	MR or NAI would not offer the required level of protection to the assets at risk and would result in the increase in erosion and flood risk. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives and HTL is the most appropriate option. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the grounds of being either technically unfeasible or disproportionately costly?	
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. SMP2 policies for policy units in nearby TraC Water Bodies (Caernarfon Bay North and Holyhead Strait) have also been assessed within this report (**Assessment Table 3**) for potential to cause deterioration in Ecological Status. However, for Holyhead Bay, there are no discharging rivers and the groundwater bodies are not at risk, as such the preferred SMP policies will not have an impact on other water bodies outside of the SMP2 area.
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	There are no Natura 2000 sites or SSSIs adjacent to or within the vicinity of PU 17.15.

Assessment Table 5k: Anglesey North Coastal Water Body (T6)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Anglesey North (Coastal – C14) **PU18.16** (WFD 2, 3 & 4)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • There were no mitigation measures in the Western Wales RBMP for this Coastal Water Body. **Other potential mitigation measures that could be required:** • The local council could undertake a study/strategy to investigate the re-development possibilities for the old chemical works and if not, Environment Agency Wales how to remedy the contamination issue by the use of innovative passive treatment technologies. • Undertake environmental and chemical monitoring of the designated sites. • Ensure the SMP2 policies and flood and erosion risks are accounted for in the next revisions of land use plans.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	The preferred policy at Trwyn Costog (PU 18.16) is MR for all three epochs. This comprises a rocky headland from which the River Goch Amlwch flows down through the old chemical works and a small narrow estuary with steep cliffs either side on which Amlwch harbour is located. The old chemical works is presently protected by defences, and the idea behind the SMP2 policy of MR is to stimulate the understanding that this site cannot continue to be held but that a plan as to whether the site will be re-developed or de-contaminated needs to be determined. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on	HTL would be a better environmental option so as to prevent tidal flooding and causing contamination of the coastal water body. However, HTL is not economically sustainable for this policy unit but it may be necessary until the contamination issue has been resolved. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	the grounds of being either technically unfeasible or disproportionately costly?	
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There is one freshwater river that flows through this policy unit and across the contaminated old chemical works – this is the River Goch Amlwch. The MR policy would also likely result in compromising the Environmental Objectives of the WFD for this river by deteriorating the Ecological Potential through further contamination. It is also considered that there may be a risk of contamination to the Ynys Mon (Anglesey) Minor GWB if there is the potential for tidal flooding in the future, which would cause further deterioration to this already poor quality GWB (see **Assessment Table 3** and **Section K4.1**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	There are no Natura 2000 sites or SSSIs adjacent to or within the vicinity of PU 17.15.

Assessment Table 5I: Conwy Transitional Water Body (T19)

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
Conwy (Transitional – T19) **PUs 20.3 – 20.10** (WFD 2) **PU 20.5** (WFD 3) **PUs 20.16 – 20.17** (WFD 2)	**Mitigation measures:** have all practicable mitigation measures been incorporated into the preferred SMP policies that affect this water body in order to mitigate the adverse impacts on the status of the water body? If not, then list mitigation measures that could be required.	**RBMP mitigation measures incorporated into SMP policies:** • One of the mitigation measures in the Western Wales RBMP for this transitional water body is to be implemented through the SMP2 policies within PUs 20.9, 20.18 and 20.19, which will allow the coastline to be more sustainable and adaptive to sea level rise. The rivers banks will be able to accrete sediments along the foreshore, and thus improve the benthic invertebrate communities. This policy also has the potential to achieve one other mitigation measure, though this will depend on how the MR is determined, for example, removal of hard bank reinforcement for any obsolete structures. **Other potential mitigation measures that could be required:** • Develop a more sustainable coastal management plan/strategy for the estuary to take account the coastal processes and flood risk linkages between the open coast and the Conwy Estuary. • Undertake environmental monitoring of the designated sites. • Ensure the SMP2 policies and flood and erosion risks are accounted for in the next revisions of land use plans.
	Overriding public interest: can it be shown that the reasons for selecting the preferred SMP policies are reasons of overriding public interest (ROPI) and/or the benefits to the environment and to society of achieving the Environmental Objectives are outweighed by the benefits of the preferred SMP policies to human health, to the maintenance of health and safety or to sustainable development?	The middle section of the Conwy Estuary (PUs 20.3 – 20.10) is to be HTL in the short to medium term followed by MR, with some areas being HTL for all three epochs. This is to protect the large conurbation of Conwy, which sprawls across either side of the estuary. Continuing to HTL is justified on economic grounds due to the high value of the assets at risk. However, the SMP2 does note the need for a strategic plan to develop a more sustainable coastal management plan that can deal with sea level rise and reduce the effect on the integrity of the estuary and its habitats. The HTL policies at Glan Conwy to Tal-y-Cafn (PUs 10.16-17) are to maintain the railway line that runs close to the eastern bank of the inner estuary. Refer to the 'Policy Statements' for further detail on the economic viability (cost/benefit analysis) and sustainability of the preferred SMP policies can be found in **Appendix H** (Economics Appraisal / Sensitivity Testing) **of this SMP2 document**.

Water body (including the PUs that affect it)	WFD Summary Statement checklist	A brief description of decision making and reference to further documentation within the SMP
	Better environmental options: have other significantly better options for the SMP policies been considered? Can it be demonstrated that those better environmental policy options which were discounted were done so on the grounds of being either technically unfeasible or disproportionately costly?	MR or NAI would not offer the required level of protection to the assets at risk and would result in the increase in erosion and flood risk. As part of the SMP2 process various policy packages were explored for this section of coast against the SMP Objectives and predominantly HTL (with some MR in the long term) is the most appropriate option. Further detail on the Policy Development and Appraisal can be found in **Appendix E** and the Policy Scenario Testing can be found in **Appendix G of this SMP2 document**.
	Affect on other Water Bodies: can it be demonstrated that the preferred SMP policies do not permanently exclude or compromise the achievement of the objectives of the Directive in Water Bodies within the same River Basin District that are outside of the SMP2 area?	The Environment Agency Flood Map application, Groundwater maps and the Western Wales RBMP have been consulted to check for landward freshwater and groundwater bodies that potentially could be impacted by SMP2 policies. There are two FWBs that discharge into this TraC Water Body. It was considered that the mouth of the 'unnamed Conwy Estuary west (PU20.5)' river is constrained because of the SMP2 policy and has the potential to compromise the Environmental Objectives of the WFD for this river water body, by preventing GES being achieved. It is unlikely that the integrity or Ecological Status of the Gyffin River (PU20.6) will be compromised. The assessment also concluded that the Conwy GWB will be not be impacted as a result of the SMP2 policies as there is no current evidence of saline intrusion (see **Assessment Table 3** and **Section K3.3**).
	Other issues: Can it be shown that there are no other over-riding issues that should be considered (e.g. designated sites, recommendations of the Appropriate Assessment)?	The outer and part of the middle section of the estuary is designated as part of the Menai Strait and Conwy Bay SAC, with much of the estuary also being designated as the Aber Afon Conwy SSSI, which is of special interest for its marine and terrestrial invertebrate biology. The Habitats Regulations Assessment concluded that the HTL policies for PUs 20.3 to 20.10, and 20.16 and 20.17 would not result in causing an adverse impact on the integrity of the SAC.

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H7 OVERALL DISCUSSIONS AND CONCLUSIONS

H7.1.1 The majority of the SMP2 policies in the West of Wales SMP2 study area will not see deterioration in Ecological Status or Potential of the water bodies and therefore will not fail the WFD Environmental Objectives.

H7.1.2 The WFD assessment of the SMP2 policies for each PDZ (**Assessment Table 3**) and the water body summary of achievement of WFD Environmental Objectives (which includes what RBMP mitigation measures have been attained; **Assessment Table 4**) identified that some of the preferred policies within policy units have the potential to fail in meeting WFD2, WFD3 and WFD4 Environmental Objectives as highlighted in **Figure 7.1**. Where this is the case, Summary Statements have been completed (**Assessment Tables 5a-m**), which assess the preferred SMP2 policy against Article 4.7 of the WFD. In this table, future mitigation measures are proposed and the reasons for policy selection are outlined.

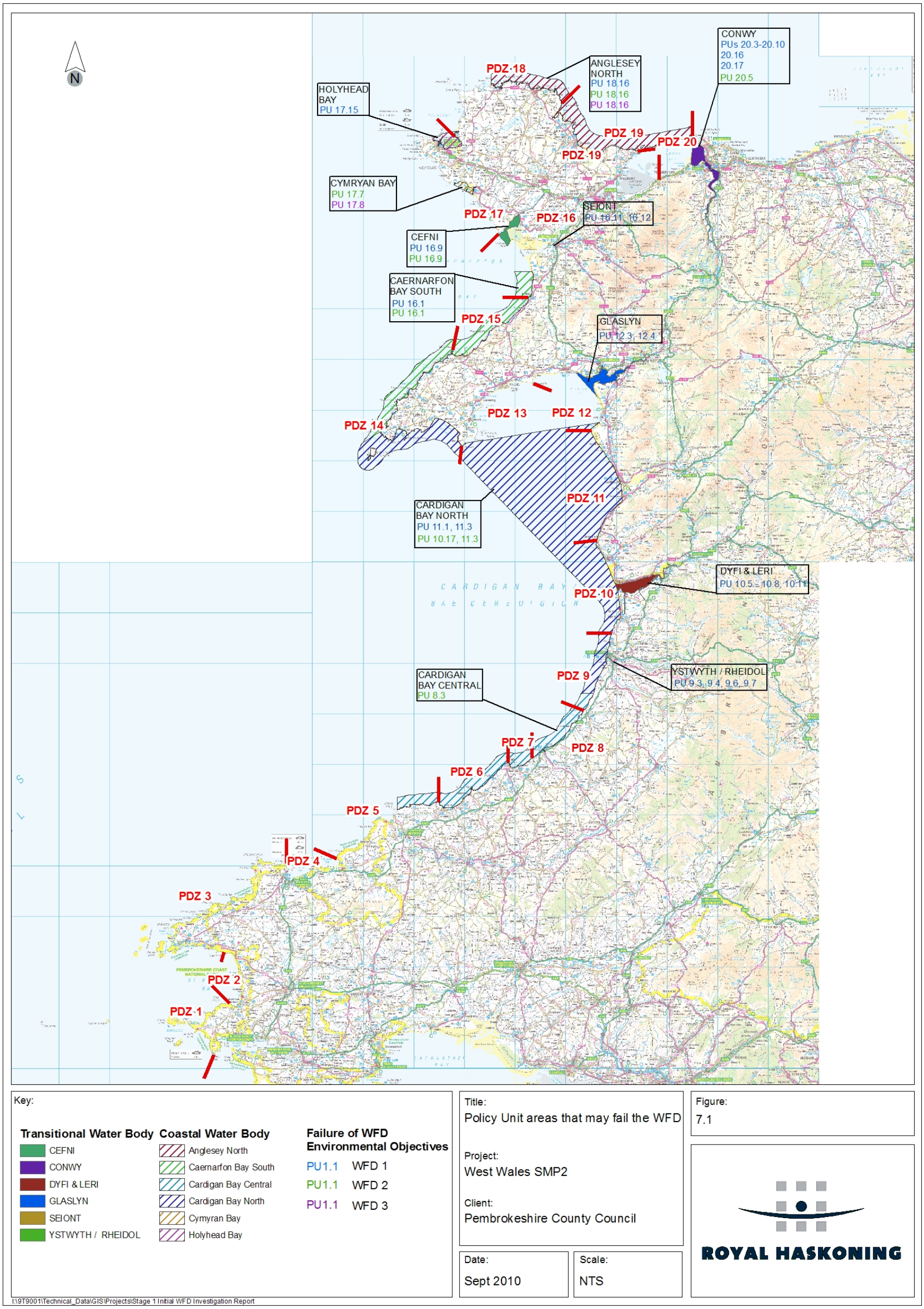
H7.1.3 There is potential that Environmental Objectives WFD2 and/or WFD3 may not be met in thirteen of the TraC water bodies, which are given in **Table 7.1** below.

Table 7.1 **Summary of the Policy Units that have the potential to fail the WFD Environmental Objectives** (MEP – Moderate Ecological Potential, MES = Moderate Ecological Status, GES = Good Ecological Status)

Water Body	TraC Type	Current Ecological Status / Potential	WFD 2	WFD3	WFD4
Cardigan Bay Central	Coastal	GES		8.3	
Ystwyth / Rheidol	Transitional	MEP	9.3, 9.4, 9.6, 9.7		
Dyfi and Leri	Transitional	MEP	10.5, 10.6, 10.7, 10.8, 10.11		
Cardigan Bay North	Coastal	GES	11.1, 11.3	10.17, 11.3	
Glaslyn	Transitional	GES	12.13, 12.14		
Caernarfon Bay South	Coastal	GES	16.1	16.1	
Cefni	Transitional	MEP	16.9	16.9	
Seiont	Transitional	MES	16.11, 16.12		
Cymyran Bay	Coastal	GES			17.8
Holyhead Bay	Coastal	MEP	17.15		
Anglesey North	Coastal	GES	18.16	18.16	18.16
Conwy	Transitional	MEP	20.3 – 20.10, 20.16, 20.17	20.5	

H7.1.4 However, it must be noted that this assessment is based upon a precautionary approach where it has been determined that there is potential for SMP2 policies to result in deterioration of Ecological Status or Potential of a water body and hence potential for failure to meet WFD Environmental Objectives. Therefore, a precautionary check has been made against the conditions outlined in Article 4.7 of the Directive. The Summary Statements outline the reasons behind selecting the preferred SMP2 policy and any mitigation measures that have been incorporated into policies (which are also shown in **Assessment Table 4**), or that must be included in the SMP2 Action Plan so that all strategy or schemes must incorporate the relevant Western Wales RBMP mitigation measures to ensure that Good Ecological Potential/Status is achieved by either 2015 or 2027 at the latest.

Figure 7.1 Location Map of the Policy Units that may potentially fail the WFD as a result of the West of Wales SMP2 policies



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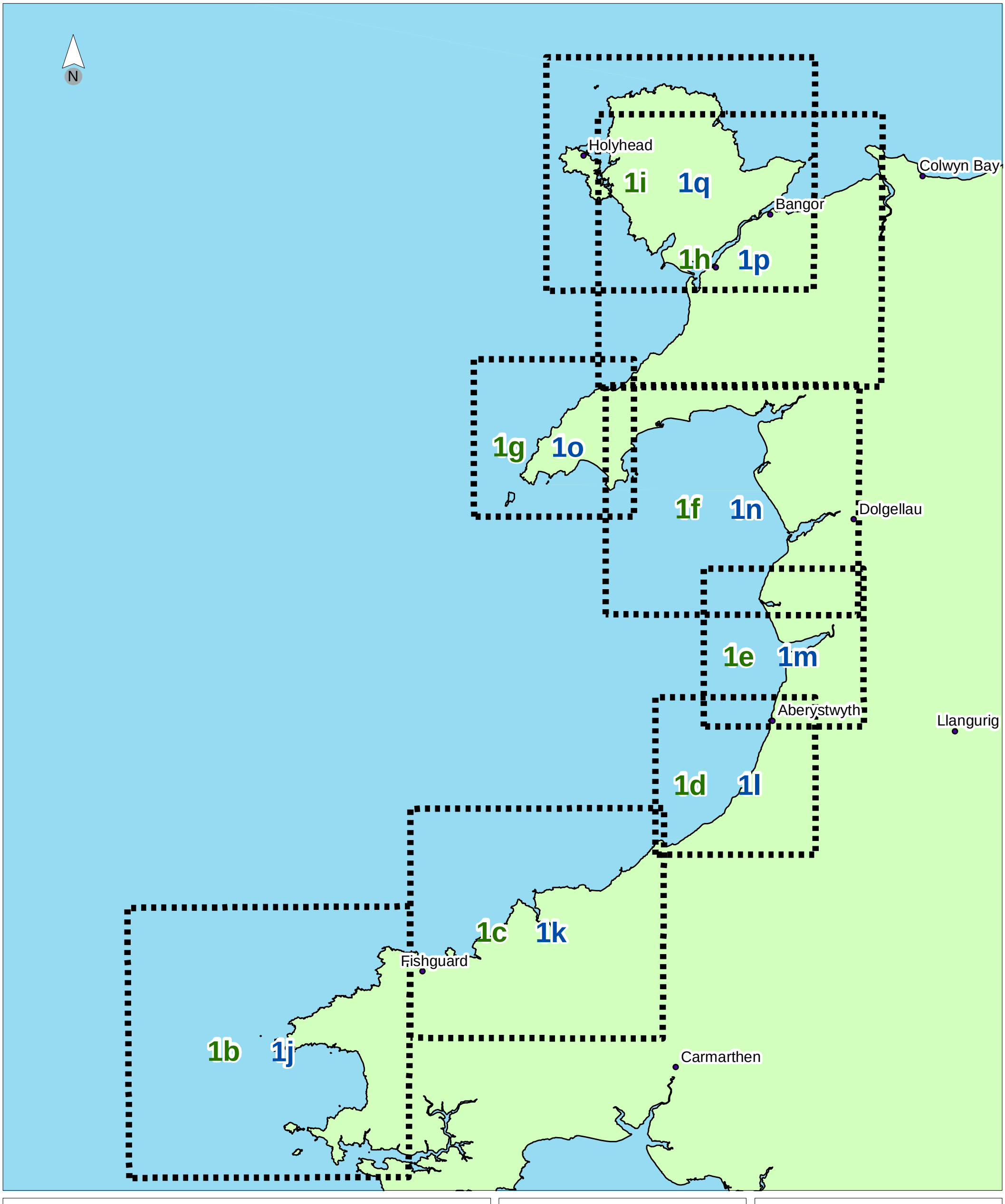
Annex I: Maps illustrating the surface and groundwater bodies alongside the SMP2 boundaries



Key:

1b Transitional and Coastal Waterbodies Figure Reference

1b Freshwater Bodies Figure Reference

Source:
I:\9T9001\Technical_Data\GIS\Projects\Stage 1 Initial WFD Investigation Report

Title:
Location Plan for Transitional and Coastal Waterbodies and Freshwater Bodies Figures

Project:
West Wales SMP2

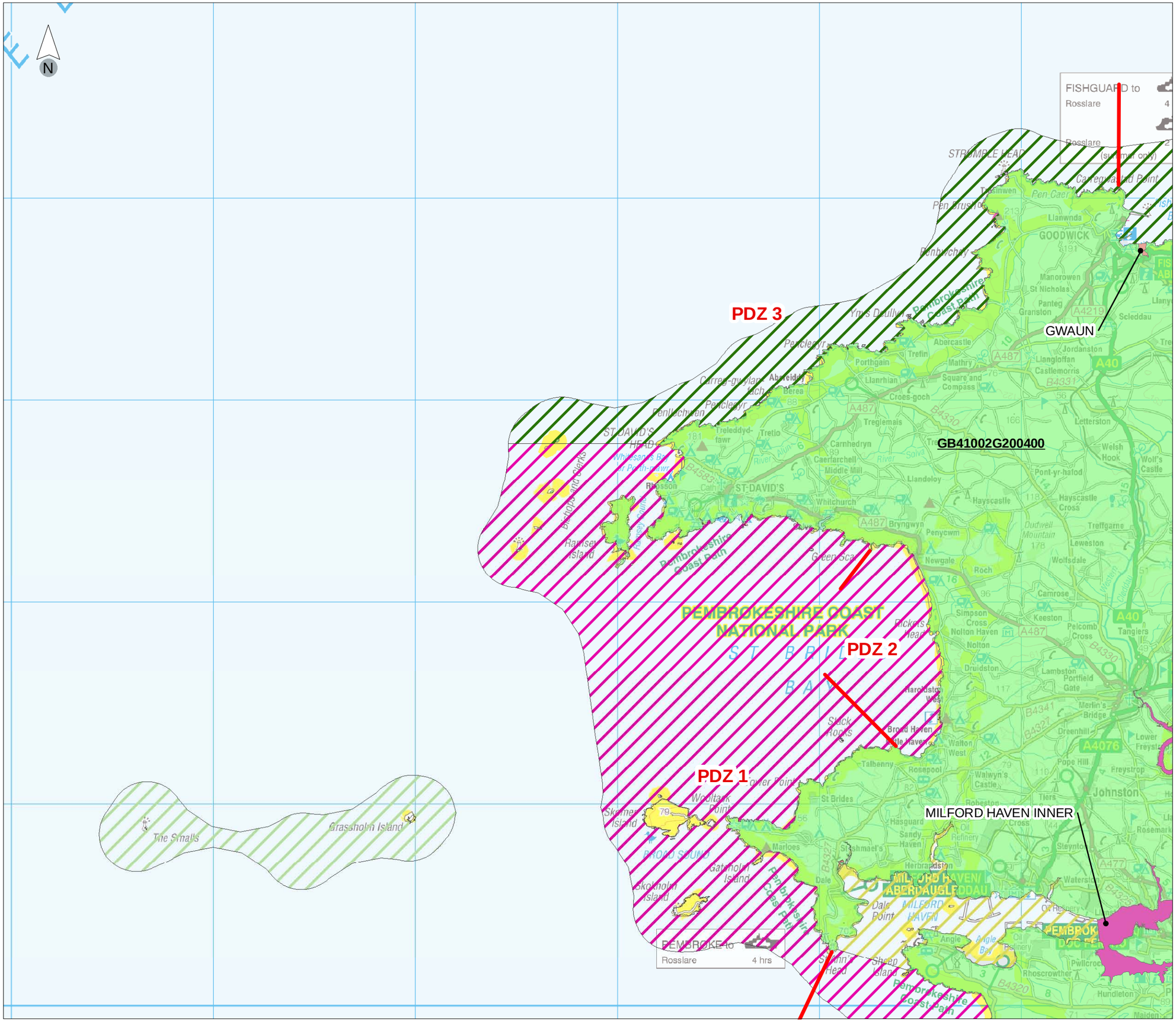
Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1a

ROYAL HASKONING



Key:

Groundwater Body

Overall Current Status

- Good
- Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

- Grassholm Island & The Smalls
- Pembrokeshire South
- Cardigan Bay South

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:
Transitional and Coastal Waterbodies
PDZs 1, 2, 3
in the West Wales SMP2 Area

Project:
West Wales SMP2

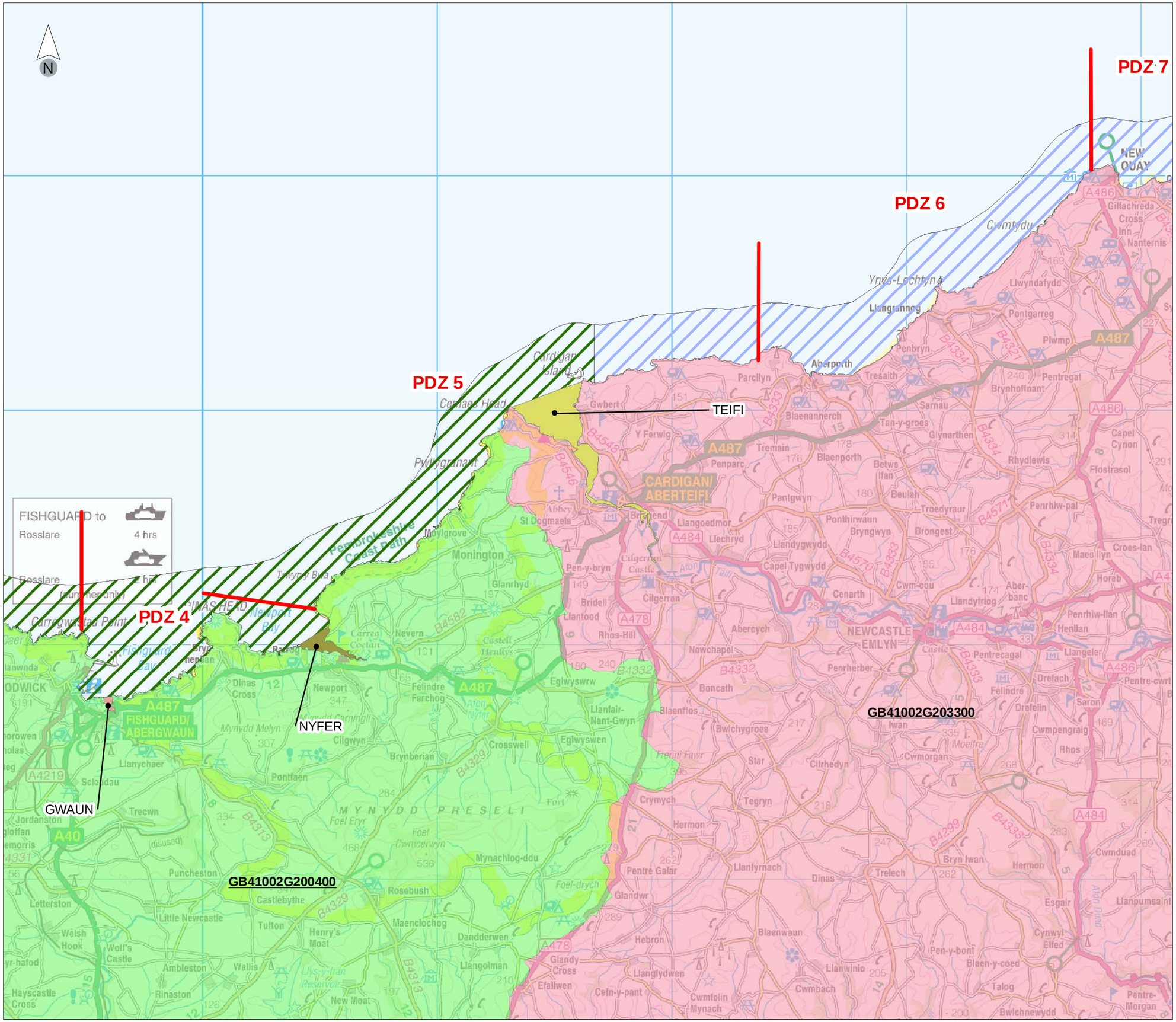
Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1b

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WED Appendix



Key:

Groundwater Body Overall Current Status

🟩 Good

🟥 Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

▨ Cardigan Bay Central

▨ Cardigan Bay South

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:

Transitional and Coastal Waterbodies PDZs 4, 5, 6 in the West Wales SMP2 Area

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:

ANNEX 1c

ROYAL HASKONING

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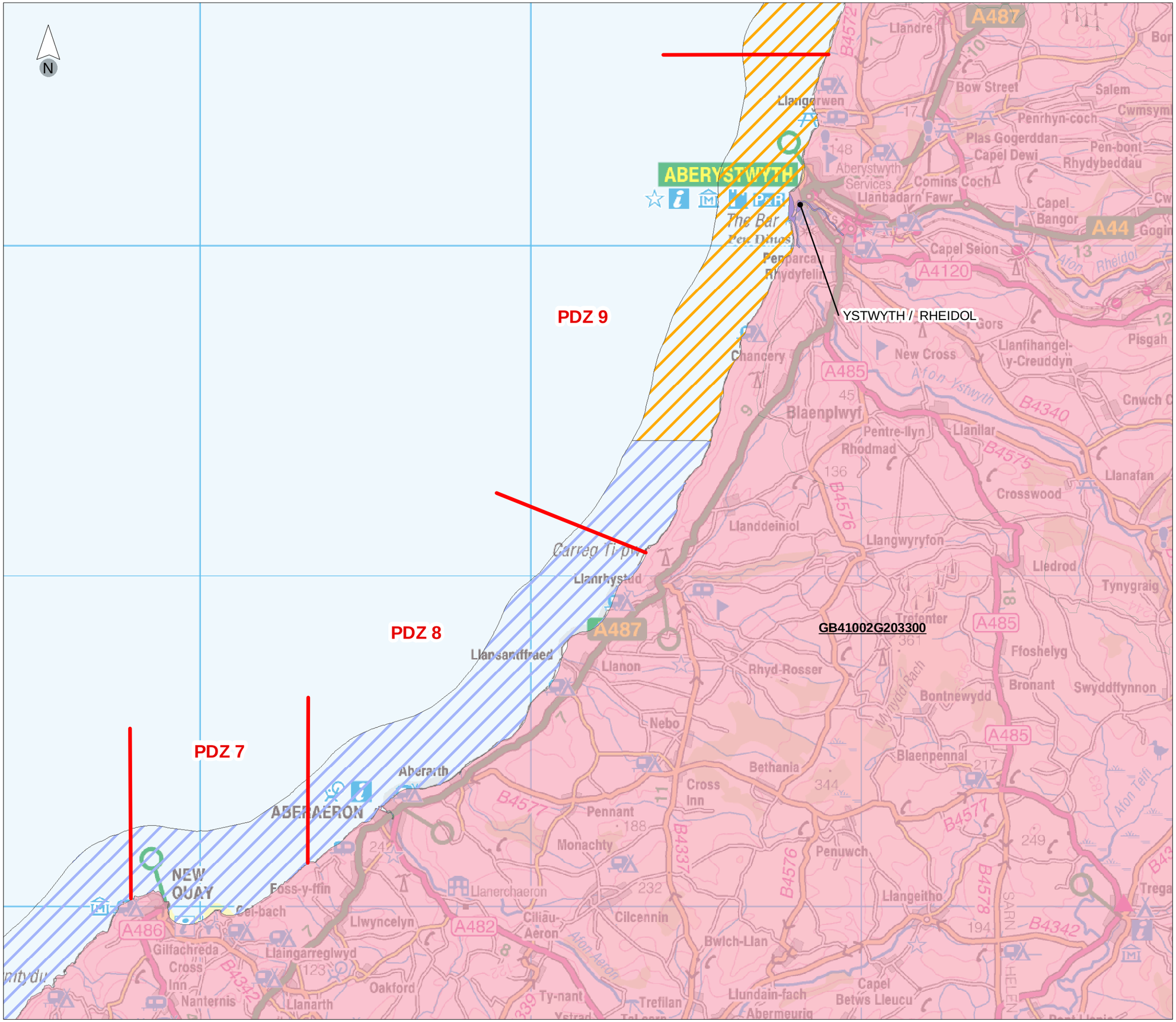

Key:

Groundwater Body

Overall Current Status

- Good
- Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

- Cardigan Bay Central
- Cardigan Bay North

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:
Transitional and Coastal Waterbodies
PDZs 7, 8, 9
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1d

ROYAL HASKONING

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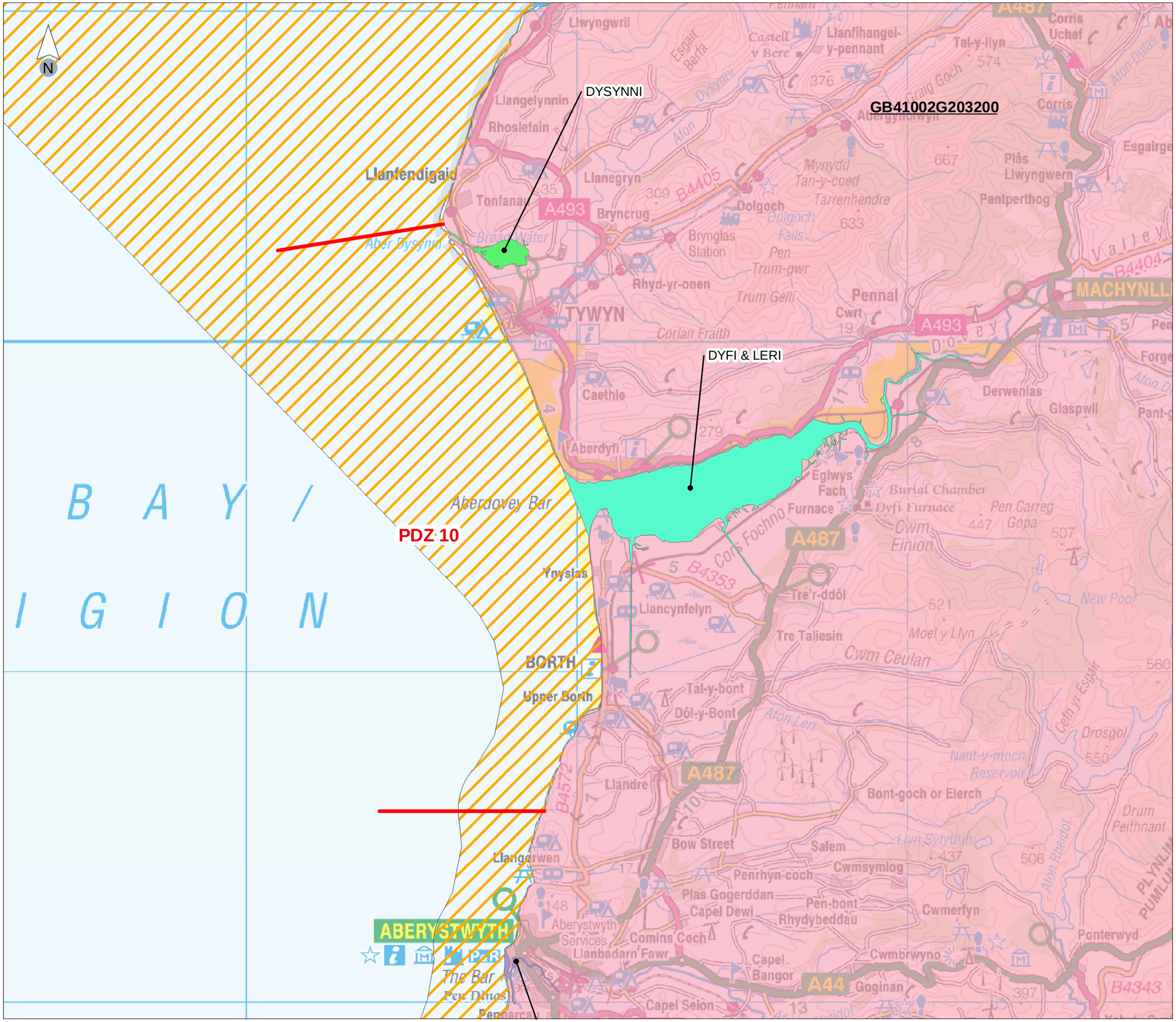

Key:

Groundwater Body

Overall Current Status

Good

Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

Cardigan Bay North

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:

Transitional and Coastal Waterbodies
PDZs 10
in the West Wales SMP2 Area

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:

ANNEX 1e

ROYAL HASKONING

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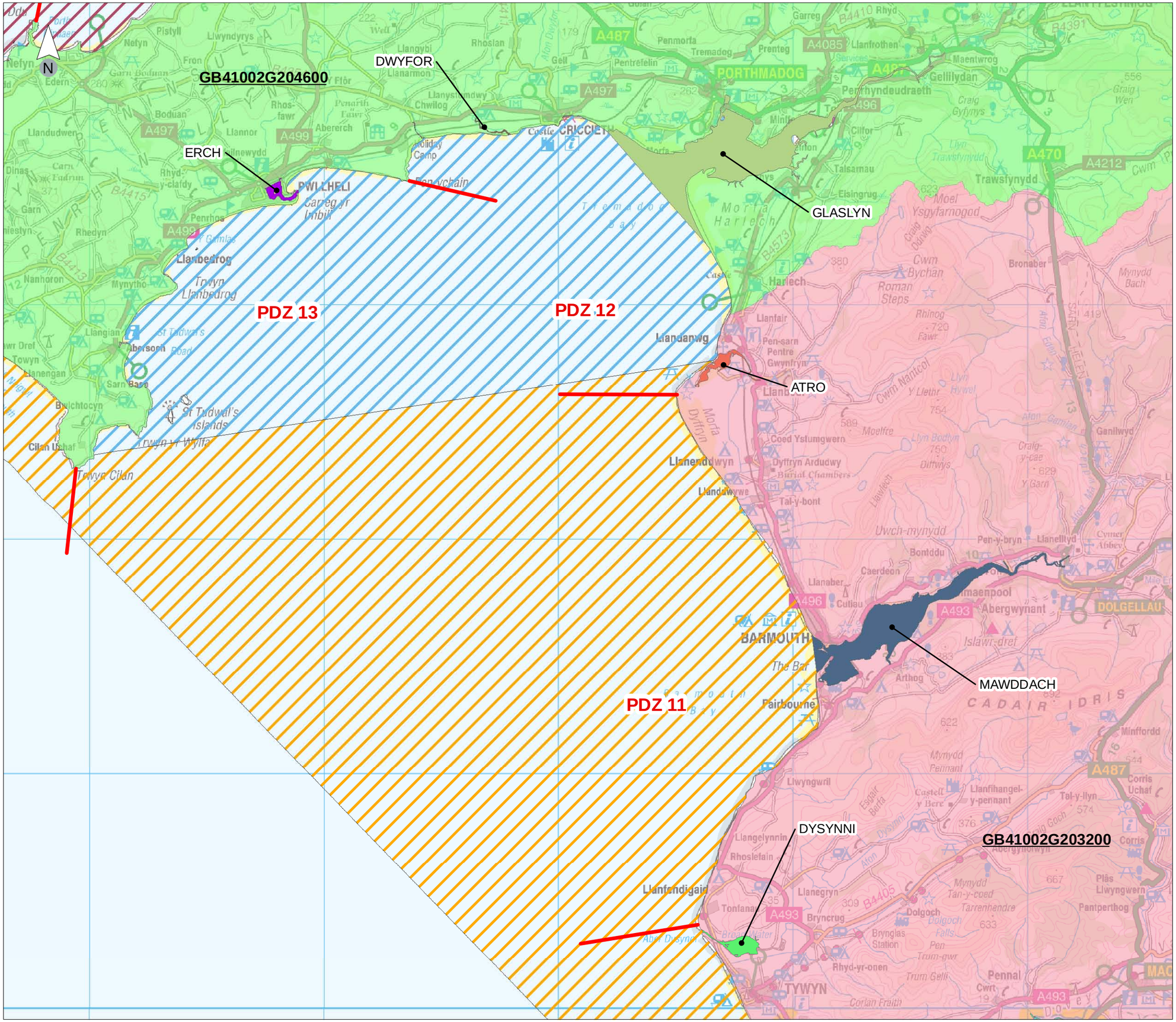

Key:

Groundwater Body
Overall Current Status

🟩 Good
🟥 Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

▨ Cardigan Bay North
▨ Tremadog Bay

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:
Transitional and Coastal Waterbodies PDZs 11, 12, 13 in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1f

ROYAL HASKONING

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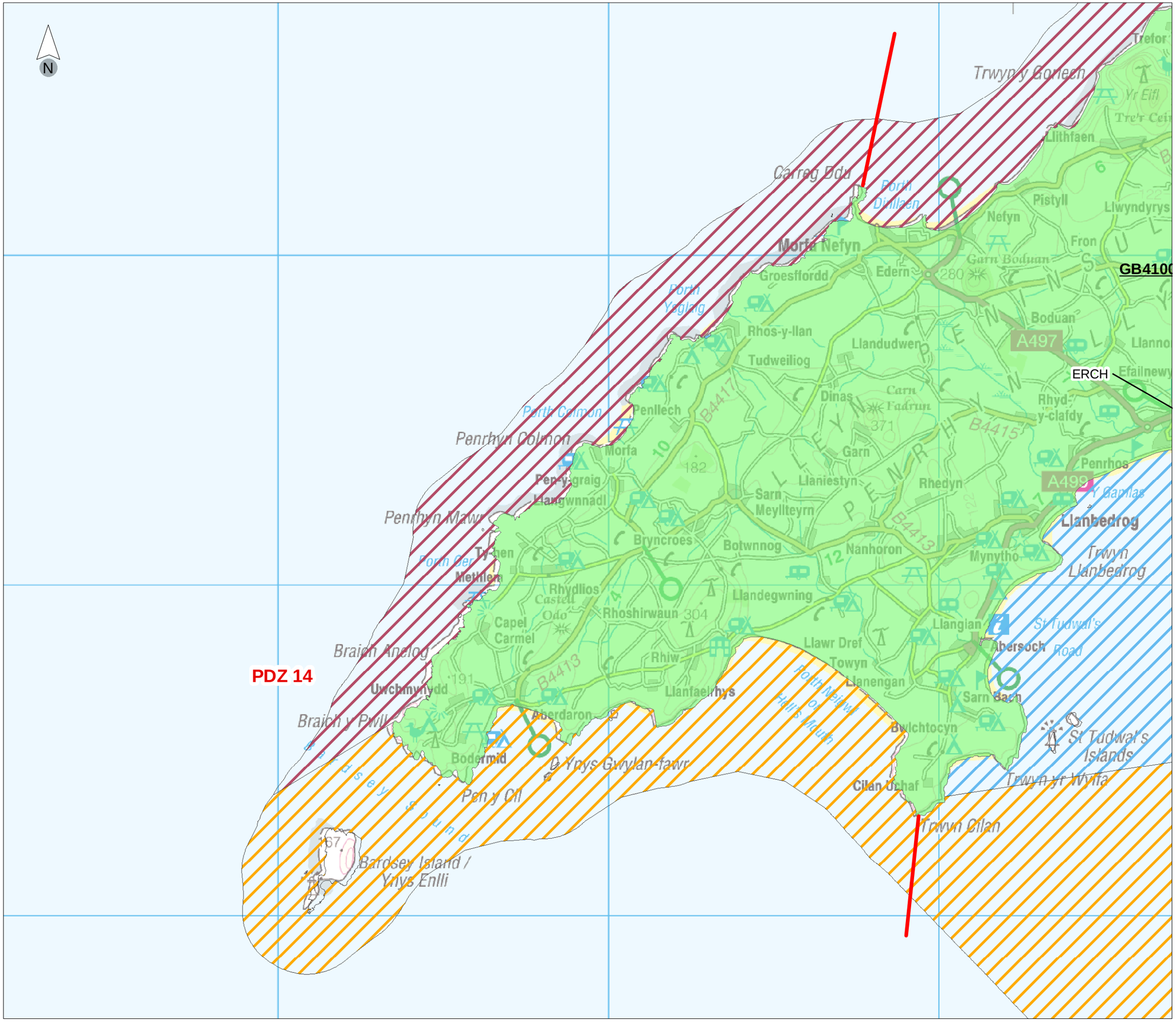

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PDZs 14
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1g

ROYAL HASKONING

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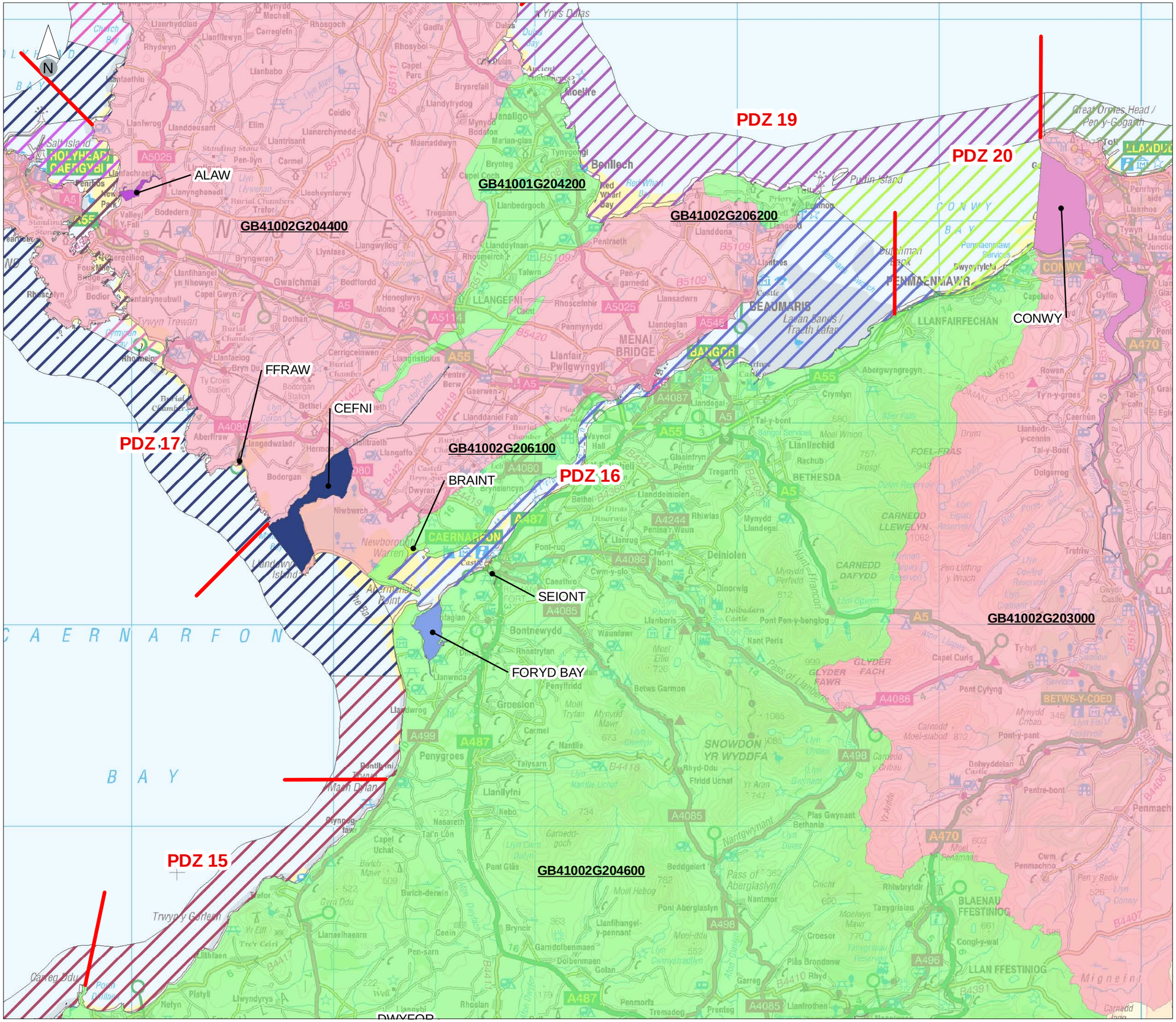

Key:

Groundwater Body

Overall Current Status

- Good
- Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

- Caernarfon Bay North
- Menai Strait
- Caernarfon Bay South
- Conwy Bay

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:
Transitional and Coastal Waterbodies
PDZs 15, 16, 20
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX1h

ROYAL HASKONING

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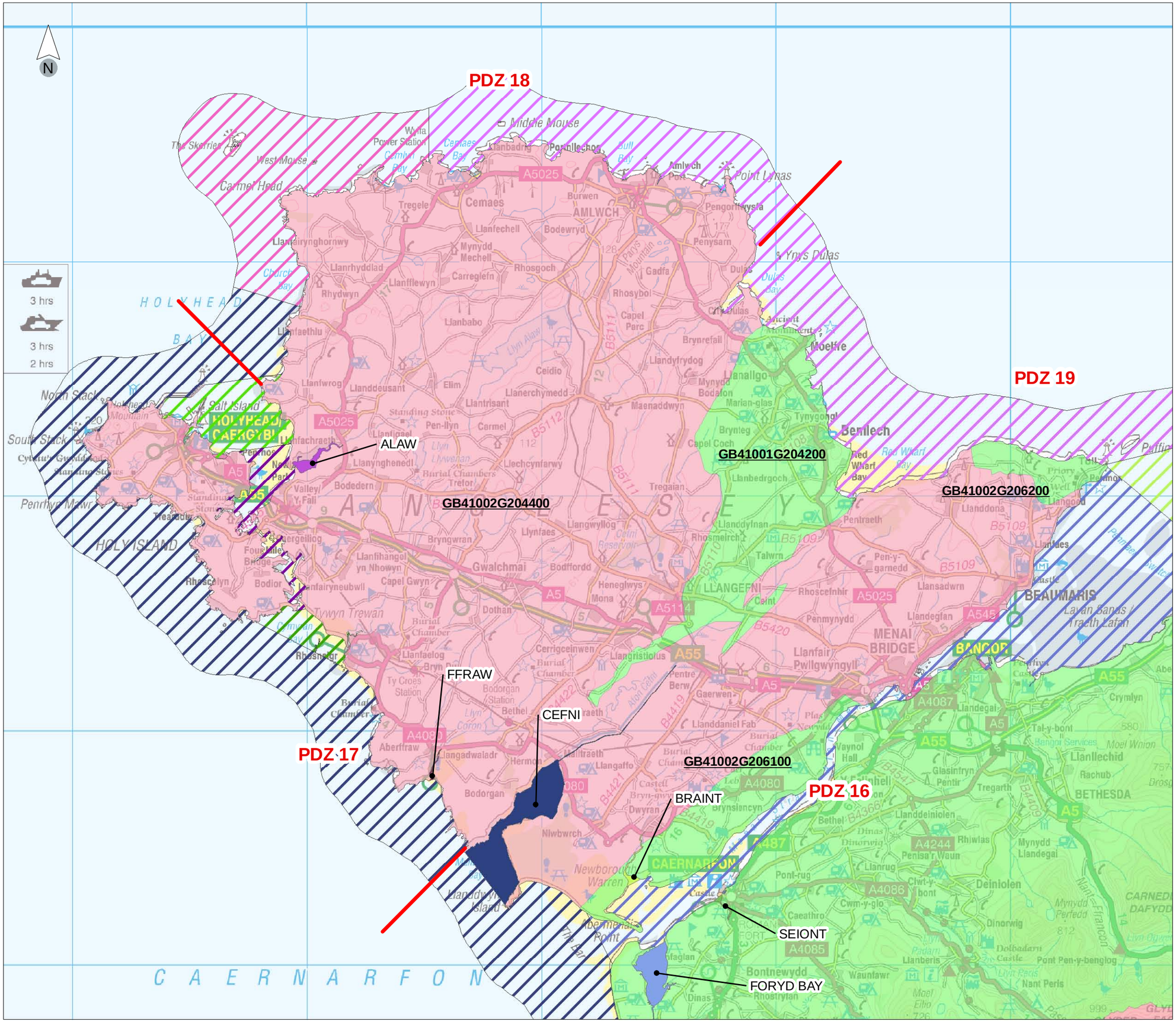


Key:

Groundwater Body

Overall Current Status

Good

Poor

GB12345G6789 Groundwater Body ID

Coastal Water Bodies

Caernarfon Bay North

Menai Strait

The Skerries

Anglesey North

Holyhead Bay

Holyhead Strait

Cymyran Bay

SOLFACH Transitional Water Bodies

PDZ boundaries

Title:

Transitional and Coastal Waterbodies
PDZs 17, 18, 19
in the West Wales SMP2 Area

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:

July 2010

Scale:

NTS

Figure:

ANNEX 1i

ROYAL HASKONING

I:\19790011\Technical_Data\GIS\Projects\WFD Appendix

Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 1, 2, 3
in the West Wales SMP2 Area

Project:
West Wales SMP2

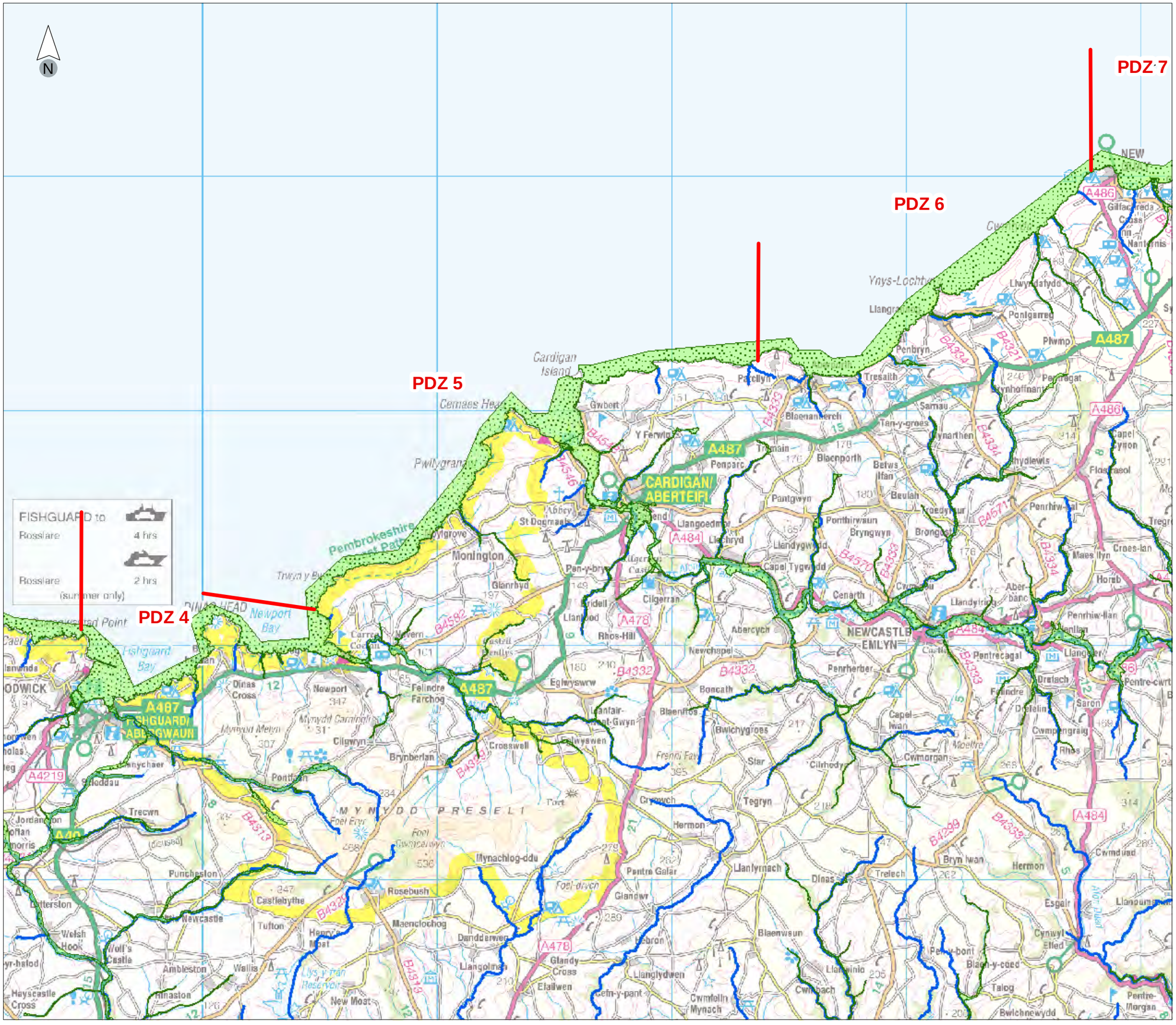
Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1j

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix



Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 4, 5, 6
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1k

ROYAL HASKONING

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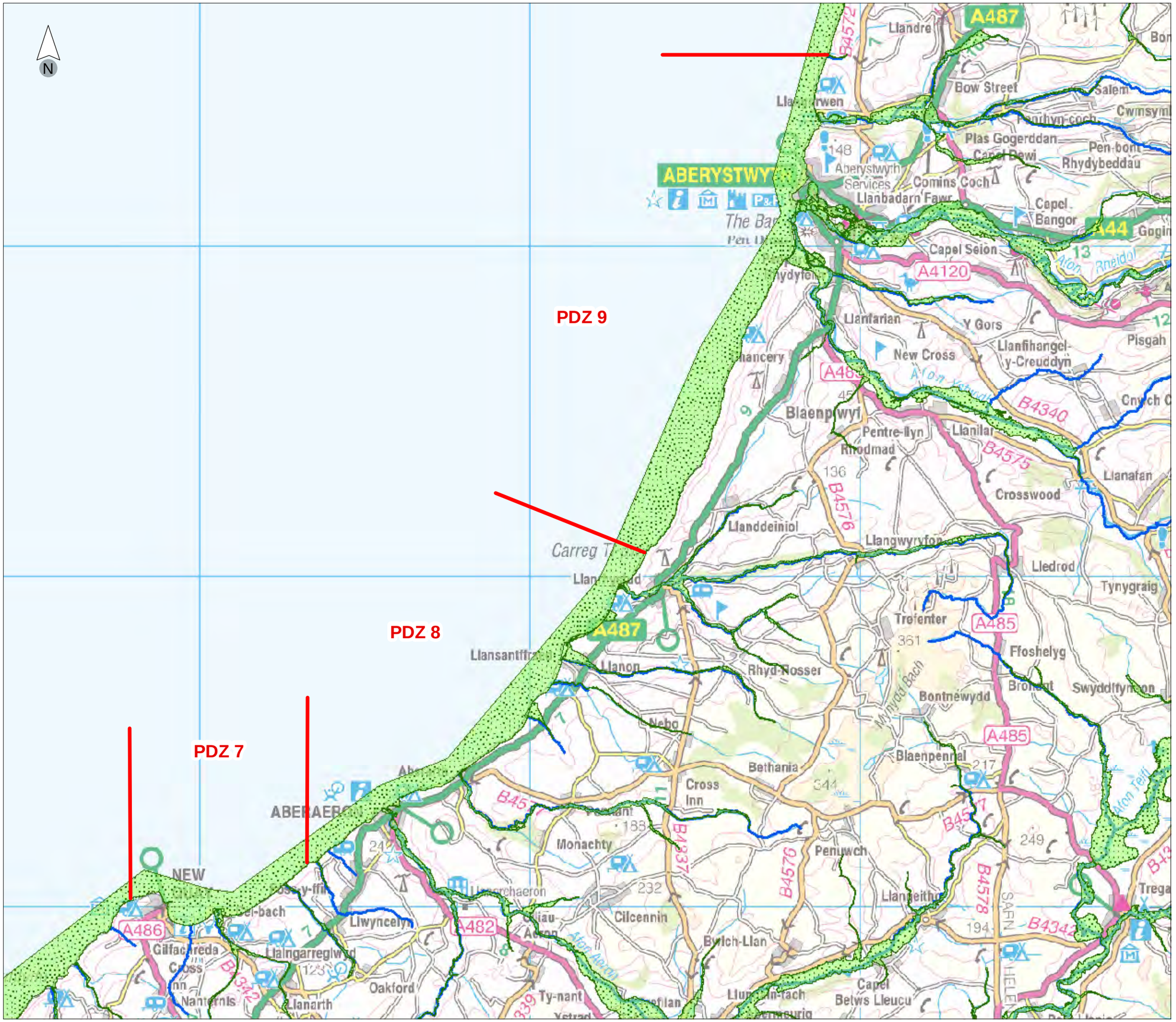

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Flood Extents

🟩 Floodzone 2

▨ Floodzone 3

— Freshwater Bodies

— PDZ boundaries

Title:
Freshwater Bodies for PDZs 7, 8, 9 in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1l

ROYAL HASKONING

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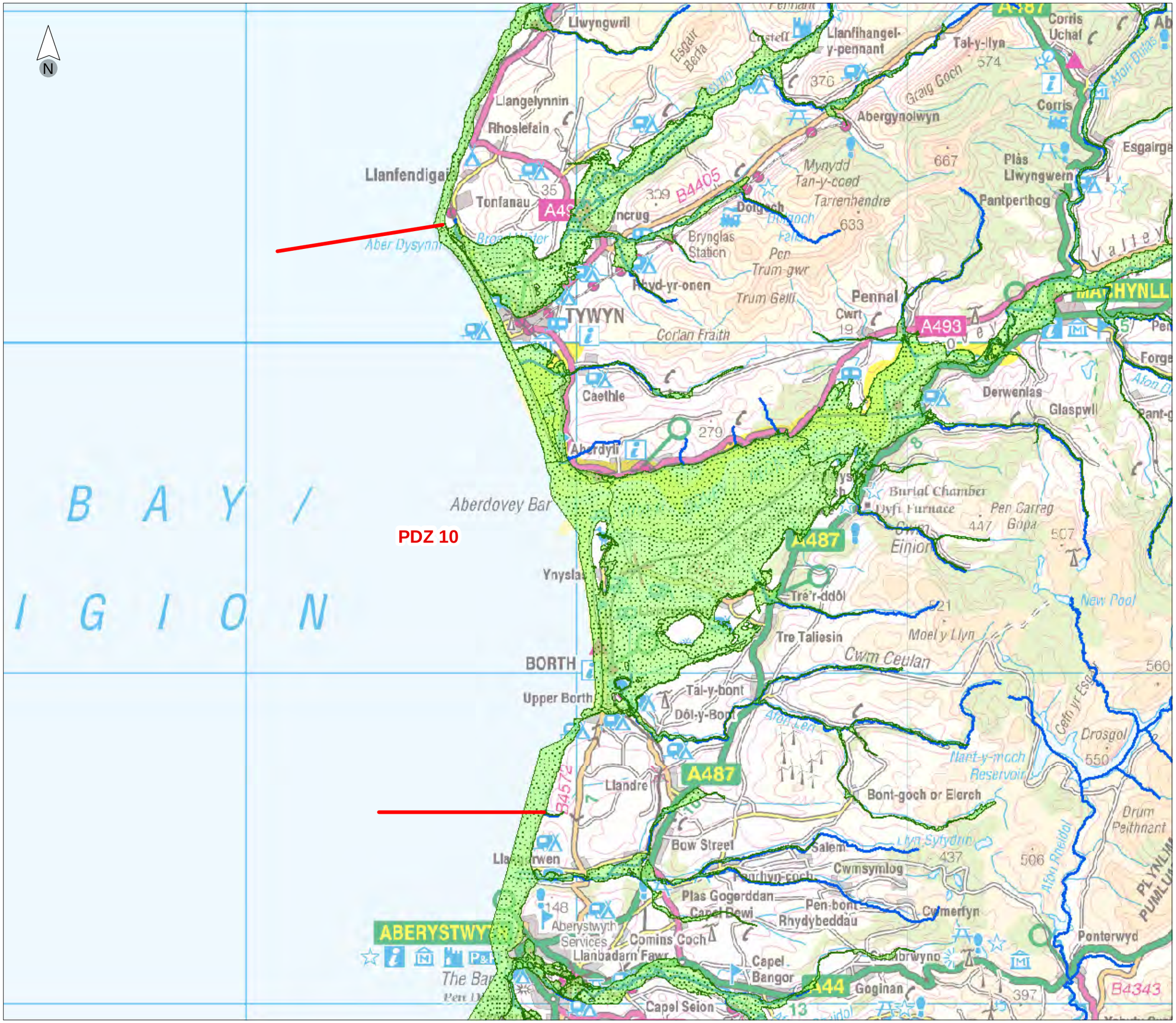

Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 10
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1m

ROYAL HASKONING

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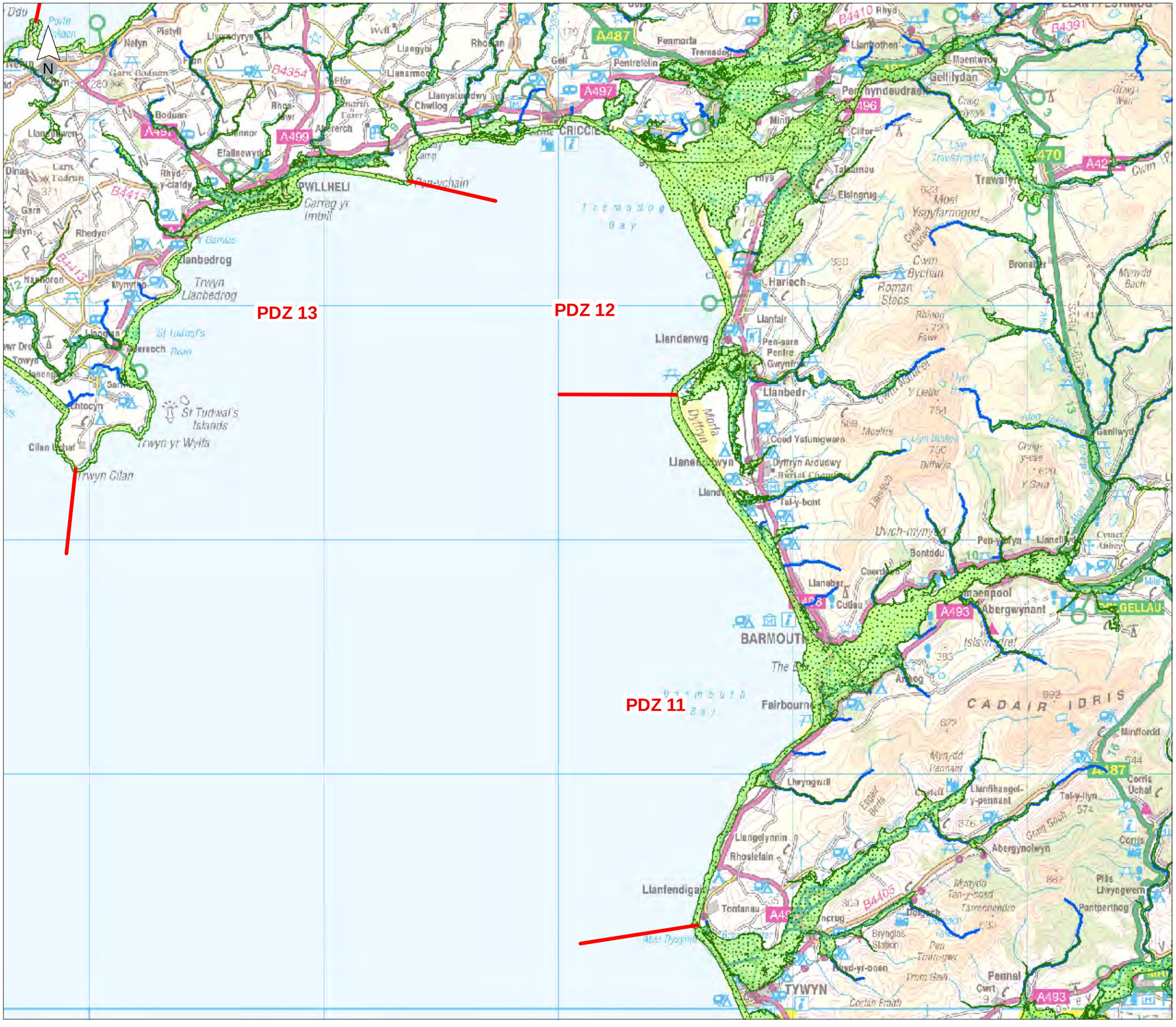

Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 11, 12, 13
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1n

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 14
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1o

ROYAL HASKONING

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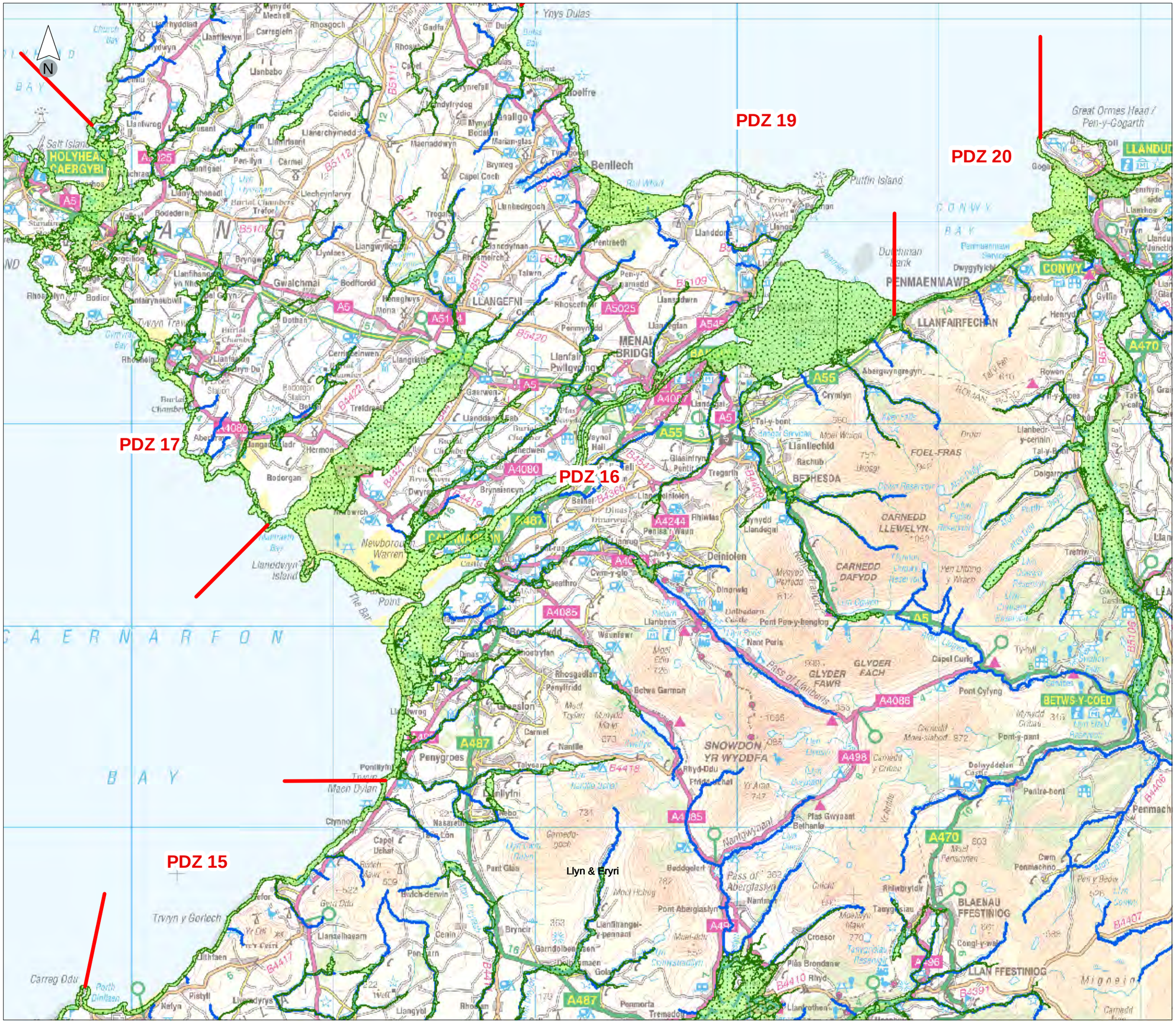

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Flood Extents

🟩	Floodzone 2
▨	Floodzone 3
—	Freshwater Bodies
—	PDZ boundaries

Title:
Freshwater Bodies for
PDZs 15, 16, 20
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX 1p

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

Key:

Flood Extents

- Floodzone 2
- Floodzone 3
- Freshwater Bodies
- PDZ boundaries

Title:
Freshwater Bodies for
PDZs 17, 18, 19
in the West Wales SMP2 Area

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX 1q

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

Annex II: SMP Policy Units & Relevant Water Bodies

Annex H-II Table 1: SMP2 Policy Boundaries, Preferred Policies, the Relevant Surface and Groundwater Bodies and Existing Coastal Management

Note: Policies in Black Italics indicate where present management is an undefended coast and the preferred policy is NAI for the next three epochs

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
1	1	**PU1.1**	Mainland	Local access issues.	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**Do Nothing (DN)/DN**	mostly rocky cliffs, couple of sandy bays
		PU1.2	St Bride's	Management of loss of wall and access	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**DN/DN**	rocky cliffs, some soft cliffs and various coves / sandy bays
		PU1.3	Skokhom and Skomer	Access issues	***NAI***	***NAI***	***NAI***	Pembrokeshire South				**DN/DN**	Rocky cliffs.
2	2	**PU2.1**	Borough Hd. to the Point	Possible need to realign road to Little Haven.	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**DN/DN**	Degraded cliffs, vegetated with rocky foreshore, few rocky bays, steeper cliffs in the north
		PU2.2	Little Haven	Improvement to defences standard would not be anticipated over the short and medium term. The use and structure of the lower village would need to be examined.	HTL	HTL	MR	Pembrokeshire South			Cleddau and Pembrokeshire	HTL/HTL	Sandy mouth of stream
		PU2.3	The Settlands	Potential long term loss of coast road.	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**DN/deferred**	Snady bay, some degraded cliffs and rocky headlands
		PU2.4	Southern and central Broad Haven	Consider options for realignment in the area of Broadhaven Bridge.	HTL	HTL	MR	Pembrokeshire South			Cleddau and Pembrokeshire	HTL/HTL	Sandy bay with sea wall frontage
		PU2.5	Broad Haven North	Lost of road.	HTL	MR	NAI	Pembrokeshire South		Haroldstone Stream	Cleddau and Pembrokeshire	HTL/HTL	Sandy bay, mouth of stream
		PU2.6	Haroldston Hill	Maintain access from the north.	HTL	HTL	MR	Pembrokeshire South			Cleddau and Pembrokeshire	DN/DN	Rocky cliffs, mixture of degraded and steep cliffs
	3	**PU2.7**	Haroldston Cliff		***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**DN/DN**	Steep and degraded cliffs and sandy beach
		PU2.8	Nolton Haven	The intent is to maintain access with local works to sustain the road.	HTL	MR	MR	Pembrokeshire South		Nolton Stream	Cleddau and Pembrokeshire	HTL/HTL	Sandy cove with rocky foreshore and mixed steep and sloping degrading cliffs
		PU2.9	Rickets Head		***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**DN/DN**	Steep , sloping and degraded cliffs with rocky foreshore becoming sandy beach backed by degraded cliffs in the north
		PU2.10	Newgale Sands south	Manage the realignment and loss to road, while protecting access from the south.	MR	MR	MR	Pembrokeshire South		Bathesland	Cleddau and Pembrokeshire	HTL/deferred	Sandy bay backed by dunes / rough ground. No cliffs
		PU2.11	Newgale Sands north	Manage shingle on the road but with the long term intent of allowing the shingle ridge to behave naturally.	MR	MR	NAI	Pembrokeshire South		Brandy Brook	Cleddau and Pembrokeshire	DN/DN	Sandy bay backed by dunes / rough ground. No cliffs
		PU2.12	Newgale village	Manage the cliffs and position of the stream to sustain the upper village.	HTL	MR	MR	Pembrokeshire South		Brandy Brook	Cleddau and Pembrokeshire	Ntural sea defence	River mouth across beach, rocky cliffs to the north, partly degraded

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU2.13	Penycwm cliffs		***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**Natural sea defence**	Rocky bays, rocky cliffs and headlands, occasional sandy bay / cove
3	**4**	**PU3.1**	Dinas Fach to Pen Anglas	Overarching policy unit setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Pembrokeshire South, Cardigan Bay South	Solfach	Unnamed - headwaters to tidal limit, Aberbach, nr Abermawr	Cleddau and Pembrokeshire	**Natural sea defence**	Rocky cliffs, rocky bays, degraded cliffs in places. Occasional sandy bays
		PU3.2	Lower Solva	Adaptation planning for the area needs to be developed.	HTL	HTL	MR		Solfach	Solva		HTL/HTL	Shallow river banks, vegetated southern bank.
		PU3.3	Solva Harbour	This policy would be subject to a collaborative approach to funding.	HTL	HTL	HTL		Solfach			HTL/HTL	Gently sloping into estuary, hard waterfronts eg quays
		PU3.4	Porth Clais outer	This would not preclude local management subject to normal approvals.	HTL	NAI	NAI	Pembrokeshire South				SHTL/SHTL	Steep cliffs, degraded
		PU3.5	Porth Clais inner	This policy would require collaborative planning and funding.	HTL	HTL	HTL	Pembrokeshire South		Alun		SHTL/SHTL	Steep cliffs, degraded
		PU3.6	St Justinian's	This policy would not preclude management of the RNLI Station and ferry service subject to normal approvals.	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Cleddau and Pembrokeshire	**Natural sea defence**	Rocky bay with small sandy area and lifeboat station
		PU3.7	Ramsey Island	This policy would not preclude improvement to maintain access, subject to normal approvals.	***NAI***	***NAI***	***NAI***	Pembrokeshire South			Ramsey Island	**Natural sea defence**	Steep degraded cliffs with occasional sandy bays
		PU3.8	Whitesands bay	Managed long term process of retreat.	HTL	MR	MR	Pembrokeshire South			Cleddau and Pembrokeshire	SHTL/R	Sandy bay backed by dunes
		PU3.9	Abereiddi	Managed long term process of retreat.	MR	MR	MR	Cardigan Bay South		Unnamed - headwaters to tidal limit, Abereiddi	Cleddau and Pembrokeshire	Natural sea defence	Rocky foreshore and sandy bay with no cliffs
		PU3.10	Porth Gain	Significant funding issues.	HTL	HTL	HTL	Cardigan Bay South			Cleddau and Pembrokeshire	HTL/HTL	Harbour with quay walls and sandy bay therein
		PU3.11	Aber Castle	Maintain the use of the area and support the local community be setting back local defences.	HTL	MR	MR	Cardigan Bay South			Cleddau and Pembrokeshire	DN/HTL	Shallow sandy bay, gentle rocky slopes
		PU3.12	Aber Mawr	Monitor as an example of natural response to Sea Level Rise.	***NAI***	***NAI***	***NAI***	Cardigan Bay South		Unnamed - headwaters to tidal limit, Abercastle	Cleddau and Pembrokeshire	**DN/DN**	Sandy bay backed by low lying fields
4	**5**	**PU4.1**	Pen Anglas to Pen Cw	.	***NAI***	***NAI***	***NAI***	Cardigan Bay South			Cleddau and Pembrokeshire	**DN**	Sloping degraded cliffs grassed. Small rocky and sandy bays
		PU4.2	Fishguard Harbour	Maintain operation of the port and improve defences. Potential for advance the line to improve sustainability of the head of the harbour through possible joint funding.	HTL	HTL	HTL/AL	Cardigan Bay South			Cleddau and Pembrokeshire	HTL/HTL	Modified - quays, rock revetment, pier, breakwater
		PU4.3	The Parrog and Goodwick Moor	Potential for opening up the estuary with the road taken across as a bridge.	HTL	MR	MR	Cardigan Bay South		Goodwick Brook	Cleddau and Pembrokeshire	HTL	Sand beach with groynes backed by dunes
		PU4.4	Penyraber		***NAI***	***NAI***	***NAI***	Cardigan Bay South	Gwaun		Cleddau and Pembrokeshire	**DN/deferred**	Low soft cliffs, occasional sandy / rocky bay

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		PU4.5	Hill Terrace	Support to coastal slope.	HTL	HTL	HTL		Gwaun		Cleddau and Pembrokeshire	HTL	Low soft cliffs, possible masonry wall and small sandy bay
		PU4.6	Lower Town centre	Redesign of river entrance and development plan for the core of the village in association with highway authority. Subject to joint funding.	HTL	HTL	MR		Gwaun	Gwaun	Cleddau and Pembrokeshire	Natural sea defence	Small sandy beach backed by quay, includes river outlet
		PU4.7	Lower Town Quay	Subject to joint funding.	HTL	HTL	HTL		Gwaun		Cleddau and Pembrokeshire	Natural sea defence	Quay over estuary muds and sands.
		PU4.8	Castle Point Cliffs		***NAI***	***NAI***	***NAI***	Cardigan Bay South	Gwaun		Cleddau and Pembrokeshire	**Natural sea defence**	Low and degraded vegetated cliffs, and rocky headland
	6	**PU4.9**	Castle Point to Pwllgwaelod	.	***NAI***	***NAI***	***NAI***	Cardigan Bay South			Cleddau and Pembrokeshire	**Natural sea defence**	Steep cliffs, ocassional sandy bays
		PU4.10	Pwllgwaelod Bay	Local maintenance prior to removal of defence	HTL	NAI	NAI	Cardigan Bay South			Cleddau and Pembrokeshire	DN/R	Bay, no cliffs
		PU4.11	Dinas Head		***NAI***	***NAI***	***NAI***	Cardigan Bay South			Cleddau and Pembrokeshire	**DN**	Steep cliffs, degraded
		PU4.12	Cwm-yr-Eglwys	Subject to funding, with the intent to manage and improve the beach and foreshore.	HTL	HTL	HTL	Cardigan Bay South			Cleddau and Pembrokeshire	HTL/HTL	Bay, no cliffs
		PU4.13	Cwm-yr-Eglwys to Carreg Germain		***NAI***	***NAI***	***NAI***	Cardigan Bay South	Nyfer (part of PU)		Cleddau and Pembrokeshire	**DN/DN**	Steep cliifs, occasional bays
	7	**PU4.14**	Newport Parrog West	Support local private defence.	MR	MR	MR		Nyfer		Cleddau and Pembrokeshire	DN/DN	Steep cliffs in west, becoming shallow towards estuary
		PU4.15	Newport Parrog	Subject to further detailed study. The default policy in the third Epoch would be NAI	HTL	HTL	MR		Nyfer		Cleddau and Pembrokeshire	HTL/HTL	Shallow slopes at estuary
		PU4.16	Nyfer Estuary	This would not preclude local management.	***NAI***	***NAI***	***NAI***		Nyfer	Nyfer	Cleddau and Pembrokeshire	SHTL/SHTL	Shallow slopes at estuary
		PU4.17	The Bennet		***NAI***	***NAI***	***NAI***		Nyfer		Cleddau and Pembrokeshire	**Natural sea defence**	Foreshore, no cliffs
		PU4.18	Newport Sands	Retreat defence line in balance with roll back of the Bennet.	HTL	MR	NAI		Nyfer		Cleddau and Pembrokeshire	SHL/R	Foreshore, no cliffs, some flood protection at properties
		PU4.19	Newport Bay Cliffs	Maintaing natural function of Cliffs and SSSI	***NAI***	***NAI***	***NAI***	Cardigan Bay South	Nyfer		Cleddau and Pembrokeshire	**Natural sea defence**	Steep cliffs, rocky foreshore
5	**8**	**PU5.1**	Pen-y-Bal to Cemaes Head		***NAI***	***NAI***	***NAI***	Cardigan Bay South		Ceibwr	Cleddau and Pembrokeshire, Teifi and Coastal Ceredigion	**DN**	Steep cliffs, some degraded
	9	**PU5.2**	Cemaes Head to Trwyn Carreg-ddu	This would not preclude local management of the jetty at Penrhyn Castle	***NAI***	***NAI***	***NAI***	Cardigan Bay South	Teifi		Teifi and Coastal Ceredigion	**DN**	Steep cliffs, some degraded
		PU5.3	Poppit Dunes and Pen-yr-Ergyd	Requirement for a detailed integrated management plan. Default policy of NAI	MR	MR	MR		Teifi	Un-named - HW to TL, Teifi Est., S. Side near Poppit	Teifi and Coastal Ceredigion	Natural sea defence	Shallow slopes at estuary
		PU5.4	Inner Estuary west		***NAI***	***NAI***	***NAI***		Teifi		Teifi and Coastal Ceredigion	**DN**	Shallow slopes at estuary
		PU5.5	St Dogmaels north	With the intent to maintain access road.	HTL	HTL	HTL				Teifi and Coastal Ceredigion	Natural sea defence	Shallow slopes at estuary
		PU5.6	Bryn-y-mor		***NAI***	***NAI***	***NAI***		Teifi		Teifi and Coastal Ceredigion	**Natural sea defence**	Shallow slopes at estuary

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU5.7	Coronation Drive	Adaptive approach to support fringe habitat development	HTL	HTL	MR		Teifi		Teifi and Coastal Ceredigion	Natural sea defence	Shallow slopes at estuary
		PU5.8	Gwbert Road		HTL	HTL	HTL		Teifi		Teifi and Coastal Ceredigion	Natural sea defence	Shallow slopes at estuary
		PU5.9	Gwbert Cliffs		***NAI***	***NAI***	***NAI***	Cardigan Bay South	Teifi		Teifi and Coastal Ceredigion	HTL	Steep cliffs, occasional sandy bay
	10	**PU5.10**	St Dogmaels and Castle Farm		***NAI***	***NAI***	***NAI***		Teifi		Teifi and Coastal Ceredigion	**Natural sea defence**	No cliffs
		PU5.11	Cardigan North	Requirement for planning control and consideration of flood risk issues in redevelopment of the area.	HTL	HTL	HTL		Teifi	Mwidan	Teifi and Coastal Ceredigion	Natural sea defence	No cliffs
		PU5.12	Cardigan South	Requirement for planning control and consideration of flood risk issues in redevelopment of the area.	HTL	HTL	HTL		Teifi		Teifi and Coastal Ceredigion	HTL	No cliffs
		PU5.13	Upstream of bridge north	Retired defence to road.	MR	MR	MR		Teifi		Teifi and Coastal Ceredigion	HTL	No cliffs
		PU5.14	Upstream of bridge north	Subject to nature conservation interest	MR	MR	MR		Teifi	Piliau	Teifi and Coastal Ceredigion	Natural sea defence	No cliffs
	11	**PU5.15**	Mwnt and Aberporth Cliffs	Adaptive management of access and facilities at Mwnt.	***NAI***	***NAI***	***NAI***	Cardigan Bay South, Cardigan Bay Central			Teifi and Coastal Ceredigion	**Natural sea defence**	Predominantly steep cliffs, degraded. One sandy bay with no cliffs
6	**12**	**PU6.1**	Aberporth Cliffs	Overarching policy setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	**DN**	Steep cliffs, 2 sandy bays
		PU6.2	Aberporth		HTL	HTL	HTL	Cardigan Bay Central		Honwi	Teifi and Coastal Ceredigion	HTL	Sandy bays, no cliffs
		PU6.3	Aberporth to Ynys –Lochtyn, cliffs	Overarching policy setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	**Natural sea defence**	Steep cliffs, degraded
		PU6.4	Tresaith	Potential removal of defences to southern end.	HTL	MR	MR	Cardigan Bay Central			Teifi and Coastal Ceredigion	R	Sandy bay
		PU6.5	Penbryn	Adapt access	***NAI***	***NAI***	***NAI***	Cardigan Bay Central		Hoffnant	Teifi and Coastal Ceredigion	**DN**	High ground, rocky foreshore
		PU6.6	Llangrannog	Integrated approach to re-development of the village sea front	HTL	MR	MR	Cardigan Bay Central		Hawen	Teifi and Coastal Ceredigion	HTL	River mouth, backed by high ground
		PU6.7	Ynys-Lochtyn to New Quay Head	Overarching policy setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Cardigan Bay Central		Soden	Teifi and Coastal Ceredigion	**Natural sea defence**	Steep cliffs, degraded
		PU6.8	Cwmtydu	Further discussion with respect to historic environment.	HTL	HTL	NAI	Cardigan Bay Central		Ffynnon	Teifi and Coastal Ceredigion	HTL	River mouth,. Foreshore
7	**13**	**PU7.1**	New Quay Head to Traeth Dolau	MR this would not preclude private defence to the fish factory + may require minor works to maintain road. Private works to stabilise cliff would be subject to appropriate approvals	MR	MR	NAI	Cardigan Bay Central			Teifi and Coastal Ceredigion	HTL	Steep cliffs.
		PU7.2	Traeth y Dolau, New Quay Harbour to Penpolian.		HTL	HTL	HTL	Cardigan Bay Central			Teifi and Coastal Ceredigion	HTL	Rocky foreshore , quays, walls
		PU7.3	New Quay Bay	Manage the retreat of this cliff, Local cliff drainage and local defence could allow adaptation.	MR	MR	MR	Cardigan Bay Central			Teifi and Coastal Ceredigion	Natural sea defence	Large bay backed by dense vegetation. Sand dunes?

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		PU7.4	Llanina Point	Managing this headland as sea levels rise to ensure it behaves as a control point for the bay.	MR	MR	MR	Cardigan Bay Central			Teifi and Coastal Ceredigion	R	River mouth, rocky foreshore. No cliffs
	14	**PU7.5**	Cei Bach	Maintaining existing defences in the short term, gradually allowing natural processes to deepen the bay in the longer term.	HTL	HTL	MR	Cardigan Bay Central			Teifi and Coastal Ceredigion	HTL	Foreshore. Groynes
		PU7.6	Carreg Ddu		***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	**Natural sea defence**	Foreshore. No cliffs
8	**15**	**PU8.1**	Gilfach yr Halen to Pen y Gloyn	Currently undefended, undeveloped cliffs	***DN***	***DN***	***DN***	Cardigan Bay Central			Teifi and Coastal Ceredigion	**Natural sea defence**	Cliffs, degraded. Rocky foreshore
		PU8.2	Aberaeron South Beach	Maintain defences, consider realignment southern end of the defence in the future. Long term management of this area would be linked to long term management of Aberaeron North.	HTL	HTL	MR	Cardigan Bay Central			Teifi and Coastal Ceredigion	HTL	Modified - groynes. Rocky foreshore
		PU8.3	Aberaeron Harbour	Maintain and raise existing defences over the period of the SMP. Future management would need to consider the real possibility of major change in this approach. The need for such change would critically depend on the rate of sea level rise.	HTL	HTL	HTL	Cardigan Bay Central		Aeron	Teifi and Coastal Ceredigion	HTL	Modified. Harbour
		PU8.4	Aberaeron North Beach	As above	HTL	HTL	HTL	Cardigan Bay Central			Teifi and Coastal Ceredigion	HTL	Largely modified. Groynes, retaining wall.
		PU8.5	Aberaeron to Aberarth		***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	Natural sea defence	Forshore, no cliifs
		PU8.6	Aberarth	Maintain and amend defence around the mouth of the Arth, allow southern coast to erode back	HTL	MR	MR	Cardigan Bay Central		Arth	Teifi and Coastal Ceredigion	R	Some modifications - groynes, retaining wall
	16	**PU8.7**	North Aberarth to Morfa Mawr	Undefended, undeveloped cliffs allow cliff retreat with the potential need to realigning the road	***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	R	Some degraded cliffs
		PU8.8	Llanon and Llansantffraid	This would not preclude time limited private defence as part of managing retreat of the shoreline, subject to normal approvals.	MR	MR	MR	Cardigan Bay Central		Cledan	Teifi and Coastal Ceredigion	R	Rocky foreshore. No cliffs but high ground
		PU8.9	Llanrhystud Bay	This would not preclude time limited private defence as part of managing retreat of the shoreline, subject to normal approvals.	MR	MR	MR	Cardigan Bay Central		Wyre	Teifi and Coastal Ceredigion	R	Rocky foreshore. No cliffs but high ground
		PU8.10	Llanrhystud bay to Carreg Ti Pw		***NAI***	***NAI***	***NAI***	Cardigan Bay Central			Teifi and Coastal Ceredigion	**DN**	Some cliffs, degraded. Rocky foreshore
9	**17**	**PU9.1**	Carreg Ti Pw to Allt Wen		***NAI***	***NAI***	***NAI***	Cardigan Bay Central, Cardigan Bay North			Teifi and Coastal Ceredigion, North Ceredigion Rheidol Area	**DN**	Cliffs, degraded. Rocky foreshore. Occasional bays
		PU9.2	Tan y Bwlch	The long term intent would be to allow a breach through to the Ystwyth but to manage this initially in discussion with landowners with respect to long term management of the new inlet.	MR	MR	NAI	Cardigan Bay North	Ystwyth/ Rheidol	Ystwyth	North Ceredigion Rheidol Area	HTL	Bay, defended by flood bank
		PU9.3	Aberystwyth Harbour	This would be subject to joint funding and involve adaptation of operational use.	HTL	HTL	HTL		Ystwyth/ Rheidol	Rheidol	North Ceredigion Rheidol Area	HTL	Shallow slopes at estuary bordering river

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		PU9.4	Glanrafon Terrace	There will need to be a planned response to development of the Trefechan area.	HTL	HTL	MR		Ystwyth/ Rheidol	Rheidol	North Ceredigion Rheidol Area	HTL	Shallow slopes at estuary bordering river
		PU9.5	Rheidol Valley south	Local adaptation to increased risk.	MR	MR	MR		Ystwyth/ Rheidol	Rheidol	North Ceredigion Rheidol Area	HTL	Shallow slopes at estuary bordering river
		PU9.6	Rheidol Valley north	This would include raising defences but beyond the period of the SMP there may need to be further adaptation.	HTL	HTL	HTL		Ystwyth/ Rheidol	Rheidol	North Ceredigion Rheidol Area	HTL	Shallow slopes at estuary bordering river
		PU9.7	South Marine Terrace	Management approach is expected to change to managing the alignment of the shoreline and committing to beach recharge.	HTL	HTL	HTL		Ystwyth/ Rheidol		North Ceredigion Rheidol Area	HTL	Rocky foreshore backed by promenade
		PU9.8	Castle Hill	Management approach is expected to change to managing wave exposure.	HTL	HTL	HTL	Cardigan Bay North			North Ceredigion Rheidol Area		Modified. Retaining walls
		PU9.9	Marine Terrace and Victoria Terrace	Management approach is expected to change to managing the alignment of the shoreline and committing to beach recharge, with the possible opportunity for reclaiming land to control the shoreline..	HTL	HTL	HTL/A	Cardigan Bay North			North Ceredigion Rheidol Area	HTL	Modified. Retaining walls
		PU9.10	Constitution Hill to Clarach		***NAI***	***NAI***	***NAI***	Cardigan Bay North			North Ceredigion Rheidol Area	**Natural sea defence**	Cliffs
	18	**PU9.11**	Clarach Bay	This would require working with the local community and landowners to allow adaptation.	MR	MR	MR	Cardigan Bay North		Clarach	North Ceredigion Rheidol Area	R	Rocky foreshore backed by flood bank
		PU9.12	Glan y Mor Cliffs		***NAI***	***NAI***	***NAI***	Cardigan Bay North			North Ceredigion Rheidol Area	**Natural sea defence**	Rocky foreshore. Cliffs in southern end
		PU9.13	Wallog	No active intervention, but does not preclude private works to Wallog House in the short term subject to necessary approvals	***NAI***	***NAI***	***NAI***	Cardigan Bay North			North Ceredigion Rheidol Area	**DN**	Cliffs and raised ground.
10		**PU10.1**	Upper Borth	A suitable buffer zone would be established to allow future cliff recession.	MR	MR	MR	Cardigan Bay North			North Ceredigion Rheidol Area, Meirionydd	R	Cliffs and raised ground.
		PU10.2	Borth Village	Increase width and resilience of the shoreline behaviour	HTL	HTL	MR	Cardigan Bay North			Meirionydd	HTL	Modified - sea walls
		PU10.3	Borth Golf Course	Manage the transition between the southern section of the shoreline and the Ynyslas dunes.	HTL	MR	MR	Cardigan Bay North			Meirionydd	HTL	Modified - sea walls
		PU10.4	Ynyslas		MR	NAI	NAI	Cardigan Bay North	Dyfi & Leri		Meirionydd	R	Natural high ground - sand dunes
	19	**PU10.5**	Afon Leri	Manage flood defence initially with the intention of allowing failure in the third epoch, subject to caveats given in the text.	HTL	HTL	MR		Dyfi & Leri	Leri - lower	Meirionydd		Estuary - no cliifs
		PU10.6	Cors Fochno	Manage flood defence initially with the intention of allowing failure in the third epoch, subject to caveats given in the text.	HTL	HTL	MR		Dyfi & Leri	Leri - lower, Clettwr	Meirionydd		Estuary - no cliifs
		PU10.7	Dyfi Junction	With the intent to maintain the transport routes.	HTL	HTL	MR		Dyfi & Leri	Llyfnant	Meirionydd	HTL	Estuary - no cliifs
		PU10.8	Morben Hall		HTL	HTL	HTL		Dyfi & Leri	Dyfi	Meirionydd		Estuary - no cliifs
		PU10.9	Machynlleth		HTL	MR	MR		Dyfi & Leri	Dyfi	Meirionydd		Estuary - no cliifs
	20	**PU10.10**	Pennal valley	.	MR	MR	MR		Dyfi & Leri	Pennal	Meirionydd		Estuary - no cliifs

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11		PU10.11	Gogarth		HTL	HTL	HTL		Dyfi & Leri		Meirionydd	HTL	Estuary - no cliifs
		PU10.12	Dyfi North	Management of road and rail defences	HTL	HTL	HTL		Dyfi & Leri		Meirionydd	HTL	Estuary - no cliifs
		PU10.13	Aberdyfi		HTL	HTL	HTL		Dyfi & Leri		Meirionydd	HTL	Modified - walls
		PU10.14	Aberdyfi Dunes	Support natural dune defence and adapt use within the Golf Course	MR	MR	MR	Cardigan Bay North	Dyfi & Leri	Unnamed trib south of Afon Dyffryn-Gwyn	Meirionydd	R	High ground, rocky foreshore
		PU10.15	Penllyn	Allow natural function of the seaward face. Maintain defence to the railway line and road.	MR	MR	MR	Cardigan Bay North			Meirionydd	R	Natural sand dunes, rock armour at the northern end
		PU10.16	Tywyn		HTL	HTL	HTL	Cardigan Bay North			Meirionydd	HTL	Sea wall
		PU10.17	Dysynni railway	Consideration of future managed realignment to entrance to the Dysynni	HTL	HTL	HTL	Cardigan Bay North			Meirionydd	HTL	Rock armour to railway, rocky foreshore
		PU10.18	Dysynni Estuary	Developed with land owners	HTL	MR	MR	Cardigan Bay North	Dysynni	Fathew, Dysynni - lower	Meirionydd	HTL	Shallow slopes at estuary
		PU10.19	Tonfanau		MR	MR	NAI	Cardigan Bay North			Meirionydd	DN	Rocky foreshore, no cliffs
	21	PU11.1	Rola	This relates specifically to defence of the railway line.	HTL	HTL	HTL	Cardigan Bay North			Meirionydd	HTL	Rocky foreshore, high ground
		PU11.2	Llwyngwril	This realignment is in relation to facilitating realignment of land use, with the intent to maintain the natural function of the shoreline.	MR	MR	MR	Cardigan Bay North		Gwril	Meirionydd	R	Rocky foreshore, high ground
		PU11.3	Friog Cliffs		HTL	HTL	HTL	Cardigan Bay North			Meirionydd	HTL	Rocky foreshore, high ground
	22	PU11.4	Ro Wen coast	This would involve relocation of property owners and businesses from Fairbourne	HTL	MR	NAI	Cardigan Bay North		Unnamed tributary near Afon Dysynni	Meirionydd	HTL	Bay protected by sea wall
		PU11.5	Ro Wen Spit		MR	MR	NAI	Cardigan Bay North	Mawddach		Meirionydd	Natural defence: sea wall tying into natural dune system	Sea wall
		PU11.6	Fairbourne Embankment		HTL	MR	NAI		Mawddach		Meirionydd		No cliffs, estuary
		PU11.7	Friog	This refers to the railway line behind Fairbourne.	HTL	HTL	HTL		Mawddach		Meirionydd		No cliffs, estuary
		PU11.8	Morfa Mawddach	This would secure a cut off defence to the back of the area to the rear of Fegla Islands.	HTL	HTL	HTL		Mawddach		Meirionydd	HTL	No cliffs, estuary
		PU11.9	Fegla	Local consideration would be given to defence of properties on the Fegla Islands and to Arthog	HTL	MR	MR		Mawddach	Arthog	Meirionydd		Estuary - no cliifs. Small sections of sea wall
	23	PU11.10	Mawddach south		MR	MR	MR		Mawddach	Mawwdach estuary south	Meirionydd		No cliffs, estuary
		PU11.11	Penmaenpool		HTL	HTL	HTL		Mawddach		Meirionydd	Sea defence (man made)	Sea wall
		PU11.12	Upper estuary	This would require further investigation.	HTL	MR	MR		Mawddach	Mawdach lower, Whion lower	Meirionydd	HTL	No cliffs, estuary
		PU11.13	Mawddach north	The intent is solely to manage risk to the road.	MR	MR	MR		Mawddach		Meirionydd		No cliffs, estuary
	24	PU11.14	Barmouth South		HTL	HTL	HTL	Cardigan Bay North	Mawddach		Meirionydd	Sea defence (man made).	Wide foreshore protected by sea wall
		PU11.15	Barmouth North	This may include relocation of properties	HTL	MR	MR	Cardigan Bay North			Meirionydd	HTL	Foreshore, backed by groynes and sea wall
		PU11.16	Llanaber	This needs to be considered in term of management to the above policy unit.	HTL	HTL	HTL	Cardigan Bay North			Meirionydd	HTL	No cliffs, natural high ground

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
	25	**PU11.17**	Egryn Marsh		MR	NAI	NAI	Cardigan Bay North		Mawddach estuary north, unnamed tributary near Afon Dysynni	Meirionydd	Sea defence (natural). Shingle bank to south of Sunysands Caravan Park offers some protection to low quality agricultural land	Shingle embankment protecting caravan site (part of frontage)
		PU11.18	Sunnysands	Suggested time-stepped approach involving time/impact limited defence approval.	MR	MR	MR	Cardigan Bay North		Mawddach estuary north	Meirionydd	Private defence which protects several residential caravans. Sunnysands Sea Defence	No cliffs, embankment
		PU11.19	Islawffordd	Suggested time-stepped approach involving time/impact limited defence approval.	MR	MR	MR	Cardigan Bay North		Ysgethin	Meirionydd	DN	No cliffs, high ground.
		PU11.20	Morfa Dyffryn		***NAI***	***NAI***	***NAI***	Cardigan Bay North			Meirionydd	**Sand dunes**	Sandy foreshore backed by sand dunes
12	26	**PU12.1**	Mochras	Relocation of assets during epoch 2	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Meirionydd	Cliff face with some rock armour by Marina	Foreshore backed by sand dunes. No cliffs
		PU12.2	Artro Southern Spit	Maintain control of the spit while considering overall management plan	HTL	MR	MR	Cardigan Bay North	Atro		Meirionydd	Cliff face with some rock armour by Marina	Foreshore backed by high ground. No cliffs
		PU12.3	Artro Estuary south	Local management of defences subject to developing a management plan. The default policy would be for NAI.	HTL	MR	MR		Atro	Unnamed tributary near Afon Artro	Meirionydd	Natural channel	No cliffs, shallow slopes. Estuary
		PU12.4	Artro Estuary East	Maintain defence to the road and railway.	HTL	HTL	HTL		Atro	Artro, Artro upper	Meirionydd		No cliffs, shallow slopes. Estuary
		PU12.5	Llandanwg Dunes	Local management of defences subject to developing a management plan. The default policy would be for NAI.	MR	MR	MR	Cardigan Bay North, Tremadog Bay	Atro		Meirionydd	High ground and dunes	No cliffs. High ground
		PU12.6	Llandanwg Headland		HTL	HTL	HTL	Tremadog Bay			Meirionydd, Llyn and Eryi	High ground and dunes	Rocky sandy foreshore. Backed by high ground. Railway line
	27	**PU12.7**	Morfa Harlech	This would preclude any actions to intervene with natural processes.	***NAI***	***NAI***	***NAI***	Tremadog Bay	Glaslyn		Llyn and Eryi	Sand dunes, rollover embankment consisting of a section of concrete 1m square blocks	Large bay backed by sand dunes.
		PU12.8	Harlech Valley	Develop a water level and spatial management plan, considering drainage issues, potential for habitat recreation and long term sustainable management of flood risk at Lower Harlech	HTL	HTL	HTL		Glaslyn	Dwyryd estuary south	Llyn and Eryi		No cliffs, shallow slopes. Estuary
		PU12.9	Talsarnau	Realignment either to railway line in the north or to the old cliff line.	HTL	MR	MR		Glaslyn	Dwyryd estuary south	Llyn and Eryi		No cliffs, shallow slopes. Estuary
		PU12.10	Briwet and Dwyryd Gorge	Maintain toll road and railway line	***NAI***	***NAI***	***NAI***		Glaslyn		Llyn and Eryi		No cliffs, shallow slopes. Estuary
		PU12.11	Upper Dwyryd Estuary	Local management of defences to maintain main roads	MR	NAI	NAI		Glaslyn		Llyn and Eryi		No cliffs, shallow slopes. Estuary
		PU12.12	Penrhyndeudraeth Headland	This might not preclude local private management of defences subject to normal approvals.	***NAI***	***NAI***	***NAI***		Glaslyn		Llyn and Eryi		No cliffs, shallow slopes. Estuary

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
	28	**PU12.13**	The Cob and Porthmadog	Further investigation of improving defences to town as identified by the CFMP.	HTL	HTL	HTL		Glaslyn	Glaslyn lower	Llyn and Eryi	Sea wall / embankment	Rocky foreshore protected by engineering
		PU12.14	Borth-y-Gest	Consideration of adapting road to ensure long term safe access to community	HTL	HTL	HTL		Glaslyn		Llyn and Eryi	Sea defence (natural). High ground and man made structures	High ground, rocky foreshore
		PU12.15	Samson Bay		***NAI***	***NAI***	***NAI***		Glaslyn		Llyn and Eryi	Sea defence (natural). High ground and man made structures	High ground, rocky foreshore
		PU12.16	Morfa Bychan	Sustain natural dune defence with management of access. Develop a long term management plan for adaptation within Holiday Park area and potential future requirement of management of flood risk to village,.	MR	MR	MR	Tremadog Bay	Glaslyn	Unnamed to Glaslyn estuary north	Llyn and Eryi	Beach and sand dunes	High ground, rocky foreshore
	29	**PU12.17**	Criccieth Shingle Banks	Consideration of potential to realign the railway	HTL	MR	MR	Tremadog Bay			Llyn and Eryi	Sea defence (natural).	High ground, rocky foreshore
		PU12.18	Criccieth Harbour	Look to realign the shoreline to the frontage through development of the Harbour pier and eastern end of The Esplanade to retain the beach.	HTL	HTL	MR	Tremadog Bay			Llyn and Eryi	Sea defence (natural). High ground and sea front	High ground, rocky foreshore
		PU12.19	Castle Headland		***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn and Eryi	Sea defence (natural). High ground and sea front	High ground, rocky foreshore
	30	**PU12.20**	Criccieth West	.	HTL	HTL	HTL	Tremadog Bay			Llyn and Eryi	Sea defence (natural). High ground and sea front	High ground, rocky foreshore
		PU12.21	Y Dryll		***NAI***	***NAI***	***NAI***	Tremadog Bay		Unnamed tributary Tremadog Bay	Llyn and Eryi	**Sea defence (natural). High ground**	High ground, rocky foreshore
		PU12.22	Dwyfor	Consider impact on railway	MR	NAI	NAI	Tremadog Bay	Dwyfor		Llyn and Eryi	Sea defence (natural). High ground. Rock armour at northern end	High ground, rocky foreshore
		PU12.23	Glanllynnau Cliffs	Maintain geological exposure	***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn and Eryi	Sea defence (natural). Railway embankment and high ground and some rock armour	High ground, rocky foreshore
		PU12.24	Afon Wen	Concerns over long term sustainability. Consider possible realignment in land of the railway.	HTL	MR	MR	Tremadog Bay			Llyn and Eryi	Sea defence (natural). Railway embankment and high ground	High ground, rocky foreshore
		PU12.25	Pen ychain east	This might not preclude local private management of defences subject to normal approvals.	***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn and Eryi	Sea defence (man made). High ground	High ground, rocky foreshore
13	**31**	**PU13.1**	Pen ychain and western section of the bay		***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn & Eryri	**Sea defence (natural). Sand dunes and high ground**	Rocky foreshore backed by sand dunes
		PU13.2	Abererch	Subject to national consideration of railway	HTL	MR	MR	Tremadog Bay			Llyn & Eryri	Coastal protection (man made). Sand dunes but badly eroded.	Railway line next to shore. Coastal protection
		PU13.3	Glan Y Don	Allow buffer zone for natural behaviour of the dunes	HTL	HTL	HTL	Tremadog Bay			Llyn & Eryri	Sea defence (natural). High ground	Bay backed by sand dunes

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU13.4	Pwllheli Harbour and entrance	.	HTL	HTL	HTL	Tremadog Bay	Erch			Sea defence (natural). High ground and rock cliffs	River mouth. Natural high ground
		PU13.5	Pwllheli Centre	Spatial planning for potential long term adaptation	HTL	HTL	HTL		Erch				River mouth. Natural high ground
		PU13.6	South Beach	Allow and manage development of the dunes.	HTL	HTL	HTL	Tremadog Bay			Llyn & Eryri	Sea defence (natural). Sand dunes	Rocky foreshore backed by promenade
		PU13.7	Golf Course	Detailed study to allow transition between Traeth Crugan and South Beach	HTL	MR	MR	Tremadog Bay			Llyn & Eryri	Sea defence (natural). Sand dunes, sea defence (man made) natural sand dunes protected by rock armour	Rocky foreshore, no cliffs
		PU13.8	Traeth Crugan	Intent to create new entrance estuary to the Afon Penrhos and to manage new defence to the core of Pwllheli	HTL	MR	MR	Tremadog Bay			Llyn & Eryri	Sea defence (man made), rock revetment and embankment.	Rocky foreshore, no cliffs. High ground
		PU13.9	Llanbedrog	This would not preclude local management of the slipway area.	***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn & Eryri	**Sea defence natural. High ground**	Foreshore. No cliffs
	32	**PU13.10**	Mynydd Tir cwmwd		***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn & Eryri	**Sea defence natural. Sand dunes and high ground**	Hgh ground. Cliff
		PU13.11	The Warren	Progressive management of the retreating shoreline	HTL	MR	MR	Tremadog Bay			Llyn & Eryri	Sea defence natural. Sand dunes and high ground	River mouth,. Sandy foreshore. No cliff. Natural high ground
		PU13.12	Abersoch	Consider opening up tidal flooding of the Afon Soch and planning of future use of the entrance	HTL	MR	MR	Tremadog Bay		Soch	Llyn & Eryri	Sea defence natural. High ground and man made structures	River mouth,. Sandy foreshore. No cliff. Natural high ground
		PU13.13	Penbennar	Local private management of defences	HTL	HTL	HTL	Tremadog Bay			Llyn & Eryri	Sea defence natural (high ground / sand dunes)	Headland. No cliff
		PU13.14	Borth Fawr Central	Opportunity for adaptation	HTL	MR	NAI	Tremadog Bay		Unnamed near Soch catchment, Soch	Llyn & Eryri	Sea defence (natural). High ground and sand dunes	Rocky foreshore, no cliffs. High ground
		PU13.15	Machroes	This would not preclude local management of the road.	HTL	MR	NAI	Tremadog Bay			Llyn & Eryri	Sea defence (natural). High ground and sand dunes	Rocky foreshore, cliffs. High ground
		PU13.16	Machroes headland		***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn & Eryri	**Sea defence (natural). High ground**	Steep cliffs, degraded.
	33	**PU13.17**	ST Tudwal's islands		***NAI***	***NAI***	***NAI***	Tremadog Bay				**Sea defence (natural). High ground**	Steep cliffs
		PU13.18	Porth Ceiriad		***NAI***	***NAI***	***NAI***	Tremadog Bay			Llyn & Eryri	**Sea defence (natural). High ground**	Bay backed by sand dunes and high ground
		PU13.19	Cilan Headland		***NAI***	***NAI***	***NAI***	Tremadog Bay, Cardigan Bay North			Llyn & Eryri	**Sea defence (natural). High ground**	Cliffs and rocky foreshore
14	**34**	**PU14.1**	Mynydd Cilan west	.	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence (natural). High ground**	Very steep cliffs, degraded
		PU14.2	Hells Mouth south	Local readjustment and dune management	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence (natural). High ground and sand dunes**	Rocky foreshore. High ground
		PU14.3	Hells Mouth centre		***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence natural (high ground / sand dunes)**	Rocky foreshore. High ground

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU14.4	Hells Mouth north	Future realignment or loss of road	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence natural (high ground / sand dunes)**	High ground and cliffs, degraded
		PU14.5	Rhiw		***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence natural (high ground / sand dunes)**	Rocky forehsore,. High ground, cliffs
	35	**PU14.6**	Ysgo		***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence natural (high ground / sand dunes)**	Rocky forehsore,. High ground, cliffs. Occastional bays
	36	**PU14.7**	Aberdaron East	Consider how the transition between Aberdaron Village frontage and this unit is managed to allow adaptation.	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence natural (high ground)**	Bay backed by high ground and degraded cliffs
		PU14.8	Aberdaron Village and coastal slope	Develop Managed Realignment within a framework for sustainable development of the village. Address transport issues.	HTL	MR	HTL	Cardigan Bay North			Llyn & Eryri	Sea defence (natural). High ground, some coast protection walls	River mouth. Natural high ground
		PU14.9	Mynydd Uwch		***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence (natural). High ground.**	Cliffs, degraded
	37	**PU14.10**	Ynys Enlli	Consider adaptation to landing stage	***NAI***	***NAI***	***NAI***	Cardigan Bay North			Llyn & Eryri	**Sea defence (natural). High ground.**	Cliffs, degraded. Occasional sandy bays
	38	**PU14.11**	South West Lleyn	Local management would not be precluded to allow adaptation of use within a principle of allowing natural evolution of the coast.	***NAI***	***NAI***	***NAI***	Cardigan Bay North, Caernarfon Bay South			Llyn & Eryri	**Sea defence (high ground)**	Cliffs, degraded. Occasional sandy bays
15	**39**	**PU15.1**	Carreg Ddu to Trwyn y Tal	Overarching policy setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Caernarfon Bay South			Llyn & Eryri	**Coastal protection (natural). High ground**	Steep cliff and sandy bay
		PU15.2	Porth Dinllaen, including Morfa Nefyn	This would require detailed planning for adaptation at Porth Dinllaen and managed retreat at the access at Morfa Nefyn	HTL	MR	MR	Caernarfon Bay South			Llyn & Eryri	SHTL	Foreshore backed by steep clif
		PU15.3	Porth Nefyn West	Overarching policy setting the base intent for the zone.	HTL	HTL	MR	Caernarfon Bay South			Llyn & Eryri	Coastal protection (natural). High ground	Steep cliff.. Modified with wall
	40	**PU15.4**	Trwyn y Tal to Trwyn Maen Dylan	Overarching policy setting the base intent for the zone.	***NAI***	***NAI***	***NAI***	Caernarfon Bay South			Llyn & Eryri	**Coastal protection (natural). High ground**	Cliff
		PU15.5	Trefor	A detailed local plan would be needed to sustain amenity value of the area.	MR	MR	MR	Caernarfon Bay South			Llyn & Eryri	SHTL	Rocky foreshore, cliffs. High ground
		PU15.6	Aberdesach	Local management of the shingle bank and river discharge to sustain natural defence of the area.	MR	MR	MR	Caernarfon Bay South			Llyn & Eryri	Coastal protection (natural). High ground	Rocky foreshore, cliffs. High ground
16	**41**	**PU16.1**	Pontllyfni	This would not preclude maintenance of private defence during the first epoch. Review flood risk to main road and sewage works	***NAI***	***NAI***	***NAI***	Caernarfon Bay South		Llyfni	Llyn & Eryri	**Coastal protection (natural). Shingle beach**	Bay backed by shingle beach and high ground
		PU16.2	Pontllyfni to Dinas Dinlle	Maintain sediment supply to the north	***NAI***	***NAI***	***NAI***	Caernarfon Bay South		Llifon	Llyn & Eryri	**Coastal protection (natural). Shingle beach.**	High ground. Cliff at northern end
		PU16.3	Dinas Dinlle	Manage transition between Dinas Dinlle Head and open coast with the intent to manage flood risk to village on higher ground.	HTL	MR	MR	Caernarfon Bay South			Llyn & Eryri	HTL	Sea wall

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU16.4	Morfa Dinlle	Develop management to self sustaining dune frontage. This would not specifically preclude management of the local area at Fort Belan subject to normal approvals.	MR	MR	NAI	Caernarfon Bay South, Caernarfon Bay North, Menai Strait			Llyn & Eryri	Sea defence (natural). Sand dunes on shingle. Raised embankment carrying relocated minor road. Part of manged retreat section of FAS	No cillfs, natural high ground
		PU16.5	Foryd Bay	Manage flood defence initially with the intention of returning the bay to a naturally functioning system.	HTL	MR	NAI	Menai Strait	Foryd Bay	Carrog	Llyn & Eryri	SHTL	Flood embankment around estuary
		PU16.6	Traeth Abermenai	This would include further examination of potential flood risk to Dwyran, with the intent to provide defence.	***NAI***	***NAI***	***NAI***	Menai Strait	Braint		Ynys Mon Southern Carboniferous Limestone	Coastal protection (natural). High ground. Sea defence (man made).	Shallow slopes at estuary, no cliffs
		PU16.7	Abermenai Spit and Traeth Llanddwyn	Removal of forestry to allow width for coastal adjustment	***NAI***	***NAI***	***NAI***	Menai Strait, Caernarfon Bay North			Ynys Mon Southern Carboniferous Limestone, Ynys Mon Minor	**Coastal defence (natural).**	Foreshore backed by high ground.
	42	**PU16.8**	Newborough Forest		***NAI***	***NAI***	***NAI***		Cefni		Ynys Mon Minor	**Sea defence (natural). High ground.**	Foreshore backed by high ground. No cliffs
		PU16.9	Embankment and village	Local consideration for adaption to the front defence to the village with sea level rise.	HTL	HTL	HTL		Cefni		Ynys Mon Minor	Sea defence (man made). Embankment. Coastal protection, (natural), high ground / Cefni estuary.	Embankment around estuary
		PU16.10	Bodowen Cliffs		***NAI***	***NAI***	***NAI***		Cefni		Ynys Mon Minor	**Coastal protection (natural), high ground / Cefni estuary**	Shallow slopes leading down to estuary
	43	**PU16.11**	Ffordd Yr Aber to Afon Carogg.	Subject to highway funding, with future adaption of property and access.	HTL	HTL	MR	Menai Strait	Seiont	Gwyrfai	Llyn & Eryri		Shallow slopes leading down to estuary
		PU16.12	Caernarfon	Review the need for raising defence, co-ordinated with fluvial flood management.	HTL	HTL	HTL	Menai Strait	Seiont		Llyn & Eryri	HTL	Shallow slopes leading down to estuary
		PU16.13	Waterloo Port to Glan y Mor -Y Felinheli	This would not preclude local management through private funding subject to normal approvals.	***NAI***	***NAI***	***NAI***	Menai Strait			Llyn & Eryri	Coastal protection (natural). Mixture of man made structures and high ground.	Shallow slopes leading down to estuary
		PU16.14	Y Felinheli	Review flood risk with sea level rise.	HTL	HTL	HTL	Menai Strait			Llyn & Eryri	Coastal protection (natural). Mixture of man made structures and high ground.	Shallow slopes leading down to estuary
		PU16.15	Glan-y-mor Lodge to Bridge		***NAI***	***NAI***	***NAI***	Menai Strait			Llyn & Eryri	**Coastal protection (natural). Mostly high ground.**	Shallow slopes leading down to estuary
		PU16.16	Bridge to Barras		***NAI***	***NAI***	***NAI***	Menai Strait			Ynys Mon Southern Carboniferous Limestone	**Coastal protection (natural). High ground**	Shallow slopes leading down to estuary
		PU16.17	Barras to Mermaid Inn	Intent to maintain access but with future need for adaptation to increased flood risk.	HTL	MR	NAI	Menai Strait			Ynys Mon Southern Carboniferous Limestone	Coastal protection (natural). High ground	Shallow slopes leading down to estuary
	44	**PU16.18**	Llanfair Bay		***NAI***	***NAI***	***NAI***	Menai Strait			Ynys Mon Minor	**Sea defence (natural). High ground.**	Shallow slopes leading down to estuary
		PU16.19	Porthaethwy	Local management to defences to maintain historic frontage.	HTL	HTL	HTL	Menai Strait			Ynys Mon Minor	Sea defence (man made). Embankment	Hihg ground providing protection to town

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU16.20	Pont Cadnant to Gallows point	This would not preclude private works subject to normal approvals.	***NAI***	***NAI***	***NAI***	Menai Strait			Ynys Mon Minor	**Coastal protection (natural). High ground**	Shallow slopes leading down to estuary
		PU16.21	Beaumaris West	Maintain defence but with the potential opportunity for realignment..	HTL	HTL	MR	Menai Strait			Ynys Mon Minor	HTL	Rocky foreshore backed by high ground
		PU16.22	Beaumaris East	Adapt defences to improve defence with the intent of using the width of the Green to landscape flood defence.	HTL	HTL	MR	Menai Strait			Ynys Mon Minor	HTL	Rocky foreshore backed by high ground
		PU16.23	Drumlin		***NAI***	***NAI***	***NAI***	Menai Strait			Ynys Mon Minor	Coastal protection (man made). Mainly natural rocky coast with small section of masonry and rock filled gabion seawall.	Rocky foreshore backed by high ground
		PU16.24	Llanfaes	Maintain local access road	HTL	HTL	HTL	Menai Strait			Ynys Mon Minor	Coastal protection (man made). Mainly natural rocky coast with small section of masonry and rock filled gabion seawall.	Rocky foreshore backed by high ground
		PU16.25	Llanfaes to Penmon	Potential need to realign road	***NAI***	***NAI***	***NAI***	Menai Strait		Lleiniog	Ynys Mon Minor	Coastal protection (man made). Mainly natural rocky coast with small section of masonry and rock filled gabion seawall.	Rocky foreshore backed by high ground
	45	**PU16.26**	Bridge to Garth		***NAI***	***NAI***	***NAI***	Menai Strait			Llyn & Eryri	**Coastal protection (natural). Mostly high ground**	Shallow slopes leading down to estuary
		PU16.27	Garth Point and Dock Yard	.	HTL	HTL	HTL	Menai Strait			Llyn & Eryri	Coastal protection (man made). High ground and man made defences	Modified - harbour walls
		PU16.28	Hirael	Consider options for re-development and flood proofing.	HTL	HTL	MR	Menai Strait			Llyn & Eryri		Modified - walls
		PU16.29	Porth Penrhyn	Subject to alternative funding.	HTL	HTL	HTL	Menai Strait			Llyn & Eryri	Coastal protection (man made). High ground and man made defences	Shallow slopes leading down to estuary
		PU16.30	Penrhyn Headland		***NAI***	***NAI***	***NAI***	Menai Strait			Llyn & Eryri	**Sea defence (natural). High ground**	Shallow slopes leading down to estuary
	46	**PU16.31**	Afon Ogwen to Madryn		***NAI***	***NAI***	***NAI***	Menai Strait		Ogwen - lower	Llyn & Eryri	**Sea defence (natural). High ground**	Shallow slopes leading down to estuary
		PU16.32	Afon Aber	Adapt defences to maintain natural sediment drift with long term intent to protect transport route from potential flooding.	MR	MR	HTL	Menai Strait		Aber	Llyn & Eryri	Sea defence (natural). High ground	Shallow slopes leading down to estuary
		PU16.33	Llanfairfechan	Maintain defences with long term aim to adjust to a more favourable alignment.	HTL	HTL	MR	Menai Strait		Ddu	Llyn & Eryri	Sea defence (man made). Embankment.	Shallow slopes leading down to estuary
17	**47**	**PU17.1**	Twyn y Parc headland		***NAI***	***NAI***	***NAI***	Caernarfon Bay North			Ynys Mon Minor	**Coastal protection (natural). High ground, cliffs and dunes.**	Steep cliffs, degraded
		PU17.2	Traeth Mawr	Maintain natural function of dune system and estuary	***NAI***	***NAI***	***NAI***		Ffraw	Ffraw	Ynys Mon Minor	**Coastal protection (natural). High ground, cliffs and dunes.**	Shallow slopes

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PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU17.3	Aberffraw	Adapt road and quay to support natural function of the estuary	HTL	MR	MR		Ffraw		Ynys Mon Minor		Shallow slopes
		PU17.4	Aberffraw cliffs	This might not preclude appropriate management of the road at Porth Trecastell	***NAI***	***NAI***	***NAI***	Caernarfon Bay North	Ffraw	Unnamed - Crigyll / Caradog catchment	Ynys Mon Minor	**Coastal protection (natural). High ground, cliffs and dunes.**	Steep cliffs, degraded
	48	**PU17.5**	Porth Trescastell to Rhosneigr	This would not preclude management of defences at Cerrig Defaid in the first two epochs.	MR	MR	NAI	Caernarfon Bay North		Unnamed - Crigyll / Caradog catchment	Ynys Mon Minor	Coastal protection (natural). High ground, cliffs and dunes.	Steep cliffs in south with sandy bays in north backed by dunes and high ground
		PU17.6	Rhosneigr	Develop long term realignment to a sustainable headland.	HTL	HTL	MR	Caernarfon Bay North, Cymyran Bay			Ynys Mon Minor	Coastal protection (natural). High ground, cliffs and dunes.	Sandy foreshore backed by high ground
		PU17.7	Crigyll valley south	Local defence to main access road	HTL	HTL	HTL	Cymyran Bay		Crigyll	Ynys Mon Minor	Coastal protection (natural). High ground, cliffs and dunes.	River mouth, sandy foreshore, backed by high ground
		PU17.8	Treath Crigyll and Traeth Cymyran	Relocation of facilities to RAF Valley	***NAI***	***NAI***	***NAI***	Cymyran Bay			Ynys Mon Minor	**Coastal protection (natural). High ground**	Sandy foreshore backed by high ground
		PU17.9	General policy for Southwest	Management to local bays is defined below.	MR	MR	MR	Caernarfon Bay North, Cymyran Bay			Ynys Mon Minor	Coastal protection (natural). High ground	Steep cliffs, degraded
		PU17.10	Borthwen	This would not preclude local private defence subject to normal approvals	MR	MR	NAI	Caernarfon Bay North			Ynys Mon Minor	Coastal protection (natural). High ground	Bay backed by high ground.
		PU17.11	Porth Diana	Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL	Caernarfon Bay North			Ynys Mon Minor	Coastal protection (natural). High ground	Sandy bay
	49	**PU17.12**	Trearddur	Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL	Caernarfon Bay North			Ynys Mon Minor	Coastal protection (natural). High ground	Sandy bay backed by high ground
		PU17.13	Porth Dafarch	Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL	Caernarfon Bay North			Ynys Mon Minor	Coastal protection (natural). High ground	Steep cliffs, degraded
		PU17.14	Northwest coast		***NAI***	***NAI***	***NAI***	Caernarfon Bay North			Ynys Mon Minor	**Coastal protection (natural). High ground**	Steep cliffs, degraded
		PU17.15	Holyhead		HTL	HTL	HTL	Caernarfon Bay North, Holyhead Bay			Ynys Mon Minor	Cosatal protection (man made). Natural high ground	Modified, pier, harbour, walls
	50	**PU17.16**	Penrhos Bay	Examination of potential flood risk	MR	MR	MR	Holyhead Bay			Ynys Mon Minor	Coastal protection (high ground).	Bay backed by high ground
		PU17.17	Penrhos Headland	This would not preclude local private defence subject to normal approvals	***NAI***	***NAI***	***NAI***	Holyhead Bay, Holyhead Strait			Ynys Mon Minor	**Coastal protection (natural).**	Steep cliffs, sandy back backed by high grounnd
		PU17.18	Stanley Embankment		HTL	HTL	HTL	Holyhead Strait			Ynys Mon Minor		Road bridge over sea
	51	**PU17.19**	General policy for Inland Sea	Local defence to sustain Four Mile Bridge and local defence against flood within hinterland	MR	MR	MR	Holyhead Strait			Ynys Mon Minor		Road bridge over sea
		PU17.20	Valley	Long term planning to reduce residual flood risk	HTL	HTL	HTL	Holyhead Strait		Unnamed - Crigyll / Caradog catchment	Ynys Mon Minor		
	52	**PU17.21**	Newlands	Co-ordinated approach to slowing erosion	MR	MR	MR	Holyhead Strait			Ynys Mon Minor	Cosatal protection (natural). Natural shale and sand mixed beaches.	Shallow slopes leading down to estuary
		PU17.22	Afon Alaw	Long term planning to reduce residual flood risk	MR	MR	MR	Holyhead Strait	Alaw	Alaw. Tan R'Allt	Ynys Mon Minor	Cosatal protection (natural). Natural shale and sand mixed beaches.	No cliffs, backed by high ground

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU17.23	Traeth Gribin to Twyn Cliperau	This would not preclude local private defence subject to normal approvals	MR	MR	MR	Holyhead Strait, Holyhead Bay		Unnamed - Wygyr catchment	Ynys Mon Minor		
18	**53**	**PU18.1**	Twyn Cliperau to Wylfa Head	Overarching policy for whole area, with local policy as set out below	***NAI***	***NAI***	***NAI***	Holyhead Bay, Caernarfon Bay North, The Skerries			Ynys Mon Minor	Coastal protection (natural). High ground / Cliffs / Rocky Coastline. Also man made structures at Wylfa Nuclear Power Station	Cliffs
		PU18.2	Porth Tywyn-mawr		***NAI***	***NAI***	***NAI***	Holyhead Bay, Caernarfon Bay North			Ynys Mon Minor	**Coastal protection (natural). High ground**	Sandy bay backed by high ground
		PU18.3	Porth Trefadog		MR	NAI	NAI	Caernarfon Bay North			Ynys Mon Minor	**Coastal protection (natural). High ground**	Sandy bay backed by high ground
		PU18.4	Porth Trwyn		***NAI***	***NAI***	***NAI***	Caernarfon Bay North			Ynys Mon Minor	**Coastal protection (natural). High ground**	Sandy bay backed by high ground with rocky shore headland
		PU18.5	Porth Swtan		***NAI***	***NAI***	***NAI***	The Skerries			Ynys Mon Minor	**Coastal protection (natural). High ground**	Rocky shore and sandy bay backed by high ground
		PU18.6	Cemlyn Bay and Headland		MR	NAI	NAI	The Skerries, Cemlyn Lagoon		Un-named Wygyr catchment	Ynys Mon Minor	**Coastal protection (natural). High ground / shingle beach**	Extensive rocky shore backed by shingle / sediment shore. Also long shingle beach backed by saline lagoon
		PU18.7	Wylfa power station		HTL	HTL	HTL	The Skerries			Ynys Mon Minor	Coastal Protection (natural) Also man made structures at Wylfa Nuclear Power Station	Rocky shore backed by sea defence protecting the nuclear power station
	54	**PU18.8**	Cemaes Bay west		***NAI***	***NAI***	***NAI***	Anglesey North			Ynys Mon Minor	**Coastal Protection (natural)**	Majority is rocky shore, with some small sandy beaches, no defences
		PU18.9	Ffordd y Traeth		HTL	HTL	MR	Anglesey North			Ynys Mon Minor	High ground with some coast protection and harbour walls	Sediment beach with rocky shore backed by sea wall
		PU18.10	Cemaes Harbour		HTL	HTL	HTL	Anglesey North			Ynys Mon Minor	High ground with some coast protection and harbour walls	Small tributary entrance, freshwater influence, sandy and protected by pier and small breakwater
		PU18.11	Treath Mawr Promenade		HTL	HTL	MR	Anglesey North			Ynys Mon Minor	High ground with some coast protection and harbour walls	Sandy beach with small amount of rocky shore backed by sea wall
		PU18.12	Pig y Barcud Cliffs		***NAI***	***NAI***	***NAI***	Anglesey North			Ynys Mon Minor	**High ground undefended**	Undefended natural rocky shore with small cliffs
	55	**PU18.13**	Trwyn y Parc to Trwyn Cwmryd	Overarching policy for whole area, with local policy as set out below	***NAI***	***NAI***	***NAI***	Anglesey North			Ynys Mon Minor	**Coastal protection (natural) high ground / cliffs / rocky shore**	Undefended natural rocky shoreline backed by cliffs with occasional sandy coves

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU18.14	Porth Wen Brickworks		MR	MR	NAI	Anglesey North			Ynys Mon Minor	Coastal protection (natural) high ground / cliffs / rocky shore	Defended area, rocky shore with a small sandy bay
		PU18.15	Porth-Llechog		HTL	HTL	MR	Anglesey North			Ynys Mon Minor	Coastal protection (natural) high ground	Rocky shore with a small sandy beach which is backed by a road and high cliffs
		PU18.16	Trwyn Costog		MR	MR	MR	Anglesey North			Ynys Mon Minor	Coastal protection (natural) high ground	Rocky shore coastline with industrial area landward and potential for some discharges
		PU18.17	Amlwch		HTL	HTL	HTL	Anglesey North			Ynys Mon Minor	High Ground / Harbour	Rocky shore with breakwater and small estuary with freshwater influence
		PU18.18	Porth Elian		HTL	MR	NAI	Anglesey North			Ynys Mon Minor	**Coastal Protection (natural) high ground**	Sandy bay with rocky outcrops - no defences
	56	**PU19.1**	General	Overarching policy for whole area, with local policy as set out below	***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Minor, Ynys Mon Central Carboniferous Limestone	Coastal protecetion. High ground / rocky coastline	Cliffs
		PU19.2	Portobello		MR	MR	NAI	Anglesey north			Ynys Mon Minor	Coastal protecetion. High ground / rocky coastline	Sandy foreshore backed by high ground
		PU19.3	Treath Dulas		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Minor	Coastal protecetion. High ground / rocky coastline	Shallow slopes leading down to estuary
19	**57**	**PU19.4**	Porth Lydan		MR	MR	MR	Anglesey north			Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground / Melfre Sea Front	Rocky foreshore backed by high ground
		PU19.5	Porth Moelfre		HTL	HTL	MR	Anglesey north			Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground / Melfre Sea Front	Bay backed by high ground
		PU19.6	Moelfre to Treath Bychan		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Central Carboniferous Limestone	**Coastal protecetion (natural). High ground / Melfre Sea Front**	Steep cliffs in the south, degradded
		PU19.7	Treath Bychan Centre		MR	NAI	NAI	Anglesey north			Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground / Sandy beach	Rocky foreshore backed by high ground
		PU19.8	Treath Bychan South		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Central Carboniferous Limestone	**Coastal protecetion (natural). High ground / Sandy beach**	Rocky foreshore backed by high ground. Steep cliffs in the south
	58	**PU19.9**	Borth Wen Cliffs		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Central Carboniferous Limestone	**Coastal protecetion (natural). High ground**	Steep cliffs
		PU19.10	Benllech Beach road		HTL	HTL	MR	Anglesey north			Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground	Rocky foreshore backed by high ground
		PU19.11	Trwyn Dwlban		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Central Carboniferous Limestone	**Coastal protecetion (natural). High ground**	Sandy bay and estuary backed bu high ground
		PU19.12	Red Wharf Bay		HTL	HTL	MR	Anglesey north			Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground / large sandy beach	Estuary backed by gently sloping slopes

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU19.13	Croesfryn		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Central Carboniferous Limestone	**Coastal protecetion (natural). High ground / large sandy beach**	Estuary backed by gently sloping slopes
		PU19.14	Afon Nodwydd		MR	MR	MR	Anglesey north			Ynys Mon Minor, Ynys Mon Central Carboniferous Limestone	Coastal protecetion (natural). High ground / large sandy beach	Estuary backed by gently sloping slopes
		PU19.15	Llanddona Beach		***NAI***	***NAI***	***NAI***	Anglesey north			Ynys Mon Minor	**Coastal protecetion (natural). High ground / large sandy beach**	Estuary backed by gently sloping slopes
		PU19.16	Trwyn Penmon Cliffs		***NAI***	***NAI***	***NAI***	Anglesey north, Conwy Bay			Ynys Mon Minor, Ynys Mon Eastern Carboniferous Limestone	Coastal protecetion (natural). High ground / cliffs	Rocky foreshore and occasional bay backed by high ground and cliffs
		PU19.17	Puffin Island		***NAI***	***NAI***	***NAI***	Anglesey north					Steep cliffs
	59	**PU20.1**	Gerizim		HTL	HTL	HTL	Menai Strait, Conwy Bay			Llyn & Eyri	Sea defence (man made). Retaining wall, railway defence and promenade	Promenade backing narrow foreshore
		PU20.2	Penmaenmawr	Joint funding approach to sustain use of the promenade, road and railway.	HTL	HTL	HTL	Conwy Bay			Llyn & Eyri	Sea defence (man made). Railway defence and promenade	Promenade backing narrow foreshore
		PU20.3	Conwy Morfa	possible realignment forward, to be considered in conjunction with management at Deganwy.	HTL	HTL	MR		Conwy		Conwy	Coastal protection (natural). High ground and railway retaining wall. High ground - natural sand dunes. Dunes are eroding	High ground and sand dunes backing narrow foreshore
		PU20.4	Conwy Marina		HTL	HTL	HTL		Conwy		Conwy	Coastal protection (man made). High ground, some coast protection and quayside walls.	Modified - walls
		PU20.5	Conwy		HTL	HTL	HTL		Conwy		Conwy	Coastal protection (man made). Part marina, stone walling, quayside.	Modified - walls
20	**60**	**PU20.6**	Gyffin Valley		HTL	HTL	MR		Conwy		Conwy		
		PU20.7	Causeway		HTL	HTL	HTL		Conwy		Conwy	Sea defence (man made). Conwy cob.	Modified - walls
		PU20.8	Deganwy	Decisions in relation to the railway line and from a spatial planning perspective. MR to be considered in conjunction with management at Conwy Morfa	HTL	HTL	MR		Conwy		Conwy	Sea defence (man made). Railway wall. Proemnade.	Modified - walls
		PU20.9	Deganwy Point	MR to be considered in conjunction with management at Conwy Morfa and the unit above.	HTL	HTL/MR	MR		Conwy		Conwy	Sea defence (man made). Promenade	Modified - walls
		PU20.10	Traeth Melyn	Subject to maintaining the railway line. The default policy would MR.	HTL	HTL	HTL		Conwy		Conwy	Sea defence (man made). Promenade	Modified - walls
	61	**PU20.11**	West Shore and Golf Course	With the intent to sustain and improve flood defence in line with sea level rise to Llandudno	HTL	HTL	MR		Conwy		Conwy	Coastal protection (man made). Rock breakwater and high ground, parade sea wall. Coastal protection, (natural), high ground.	Modified - walls

SMP2 Policy Boundaries				Preferred Policies				Surface and Groundwater Bodies				Present Management	Background information
PDZ	MAN	PU	Policy Name	Policy Comments	2025	2055	2105	Coastal	Transitional	Freshwater	Groundwater		
		PU20.12	Gogarth	This would not preclude private defence subject to normal approvals	***NAI***	***NAI***	***NAI***		Conwy		Conwy	**Coastal protection (natural). High ground**	High ground backing narrow foreshore
		PU20.13	Great Orme Head		***NAI***	***NAI***	***NAI***	Conwy Bay, Anglesey North	Conwy		Conwy	**Coastal protection (natural). High ground**	High ground backing narrow foreshore
	62	**PU20.14**	West to Tal-y-Cafn		***NAI***	***NAI***	***NAI***		Conwy		Conwy		Shallow sloped leading down to river
		PU20.15	Llandudno Junction and Ganol Estuary	With the intent to sustain defence in line with sea level rise. Realignment would be through the Nature Reserve	HTL	HTL	MR		Conwy	Wydden, Ganol	Conwy		Shallow sloped leading down to river
		PU20.16	Glan Conwy	Subject to maintaining the railway line	HTL	HTL	HTL		Conwy		Conwy		Shallow sloped leading down to river
		PU20.17	Glan Conwy to Tal-y-Cafn	Subject to maintaining the railway line	HTL	HTL	HTL		Conwy		Conwy		Shallow sloped leading down to river
		PU20.18	Tal-y-Cafn	Retire defence to the railway line	HTL	MR	MR		Conwy		Conwy		Shallow sloped leading down to river
		PU20.19	Tal-y-Cafn to Llanrwst	The intent would be to relocate the railway line to the edge of the tidal flood plain. Under the long term policy local defence to villages would be considered further.	HTL	MR	NAI		Conwy	Roe, Dulyn	Conwy		Shallow sloped leading down to river

Annex III: Scoped Out Freshwater Bodies

PDZ 3

Cardigan Bay South Coastal Water Body

Pembrokeshire South Coastal Water Body

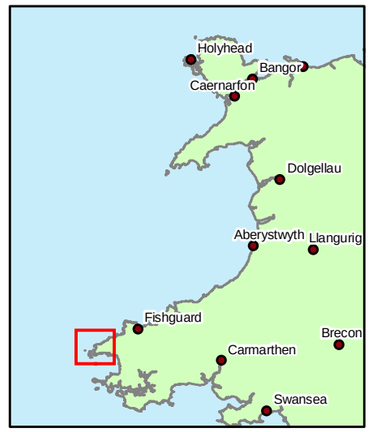
3.1 3.2 3.3 3.4 3.6 3.7 3.8 3.9 3.10

Policy Development Zone (3) Boundary

0 1 2 4 Kilometres

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ3 with the coastal water body boundaries for Pembrokeshire South and Cardigan Bay South lying within PU 3.1

Project:
West Wales SMP2

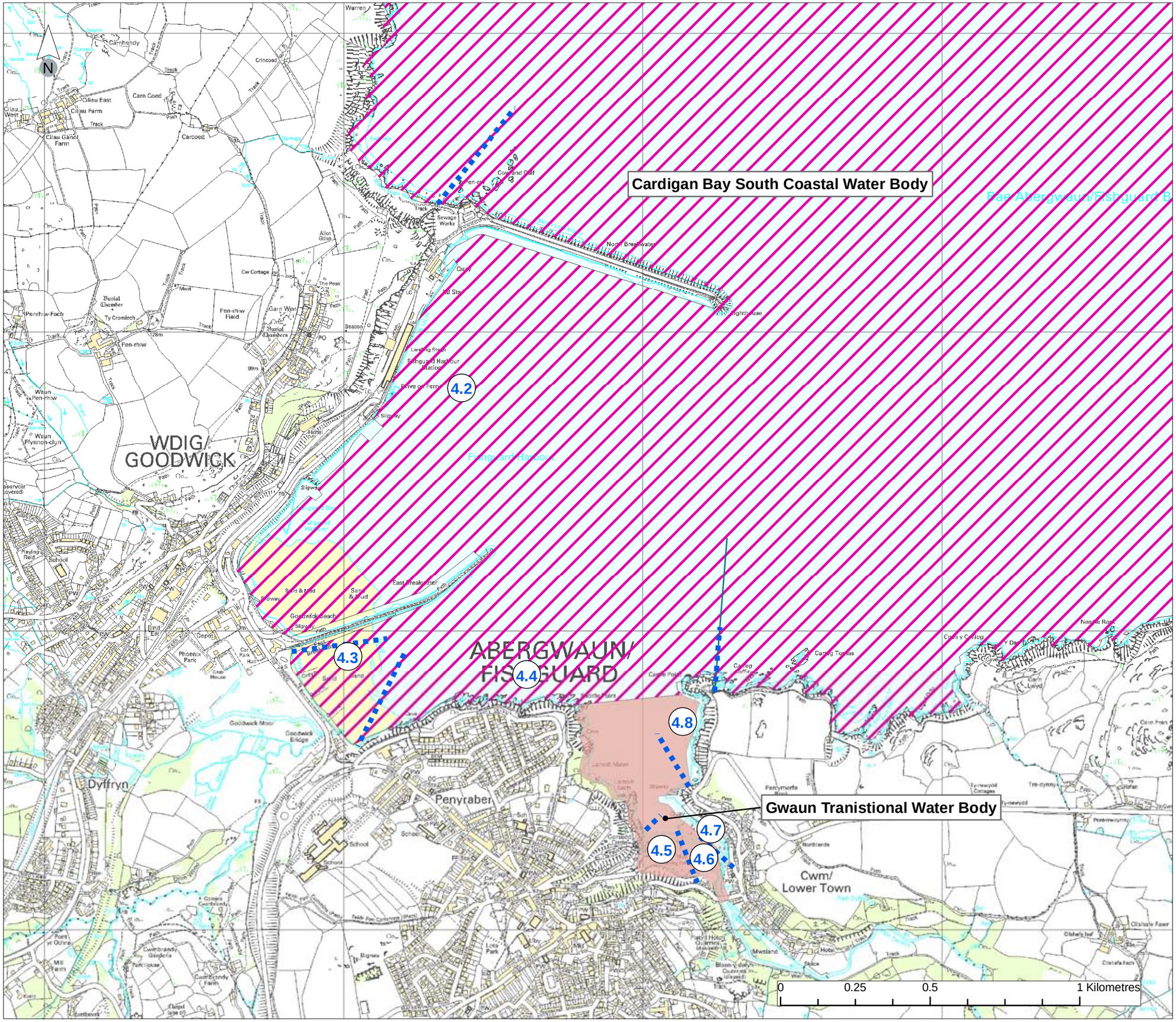
Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III a

ROYAL HASKONING



Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label

Title:

Boundary issue within PDZ4 with the coastal water body boundary for Cardigan Bay South and the transitional water body Gwaun

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:

ANNEX III b

ROYAL HASKONING

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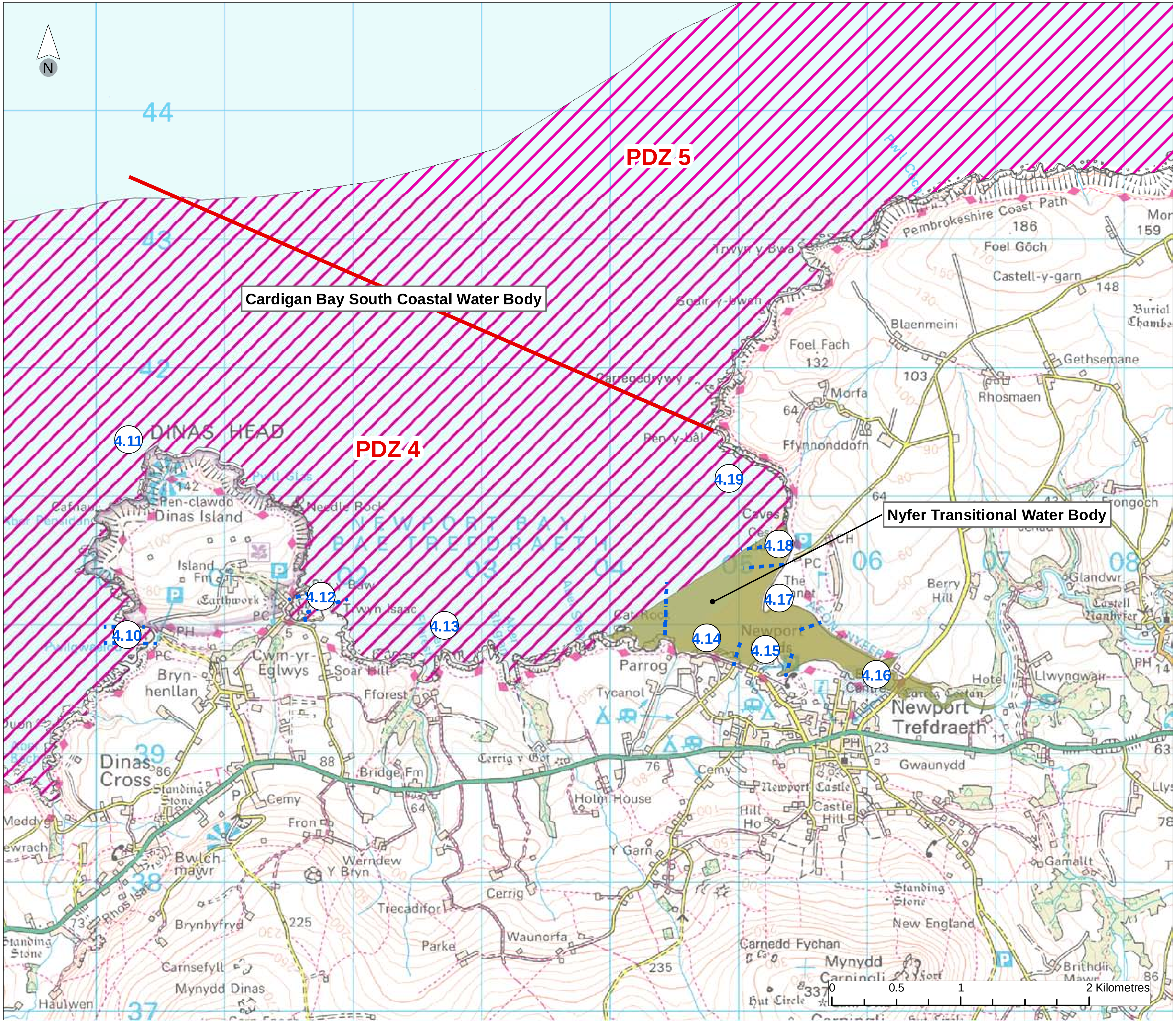

Key:

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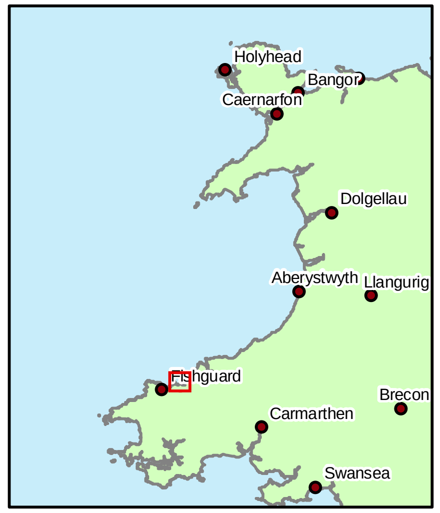
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ4 with the coastal water body boundary for Cardigan Bay South and the transitional water body Nyfer

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III c

ROYAL HASKONING

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Cardigan Bay South Coastal Water Body

Cardigan Bay Central Coastal Water Body

Teifi Tranistional Water Body

5.15

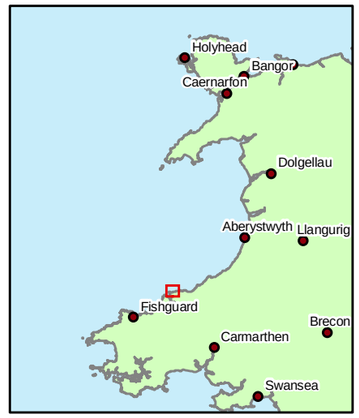
5.9

Key:

Policy Development Zone Boundaries (PDZ)

Policy Units (PU)

1.1 Policy Unit Label



Title:

Boundary issue within PDZ5 with the coastal water body boundaries for Cardigan Bay South and Cardigan Bay Central lying within PU 5.15

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:

July 2010

Scale:

NTS

Figure:

ANNEX III d

ROYAL HASKONING

0 0.25 0.5 1 Kilometre

N

PDZ 9

Cardigan Bay North Coastal Water Body

Cardigan Bay Central Coastal Water Body

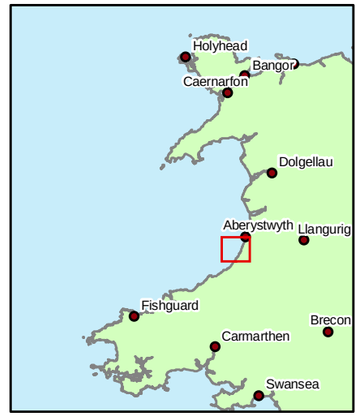
PDZ 8

9.8
9.7
9.4
9.6
9.2
9.1
8.10
8.9

0 0.5 1 2 Kilometres

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ9 with the coastal water body boundaries for Cardigan Bay Central and Cardigan Bay North lying within PU 9.1

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III e

ROYAL HASKONING

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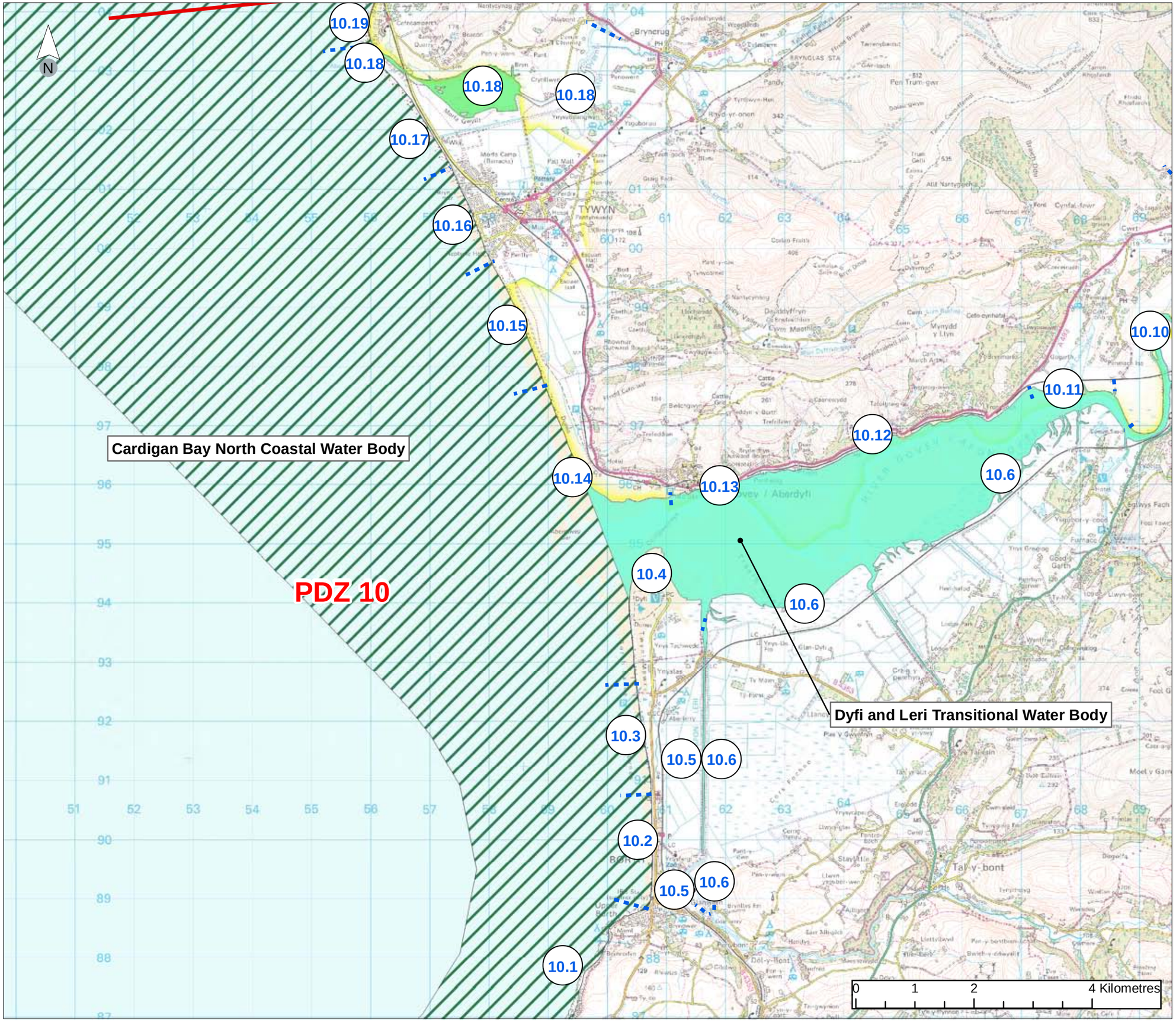

Key:

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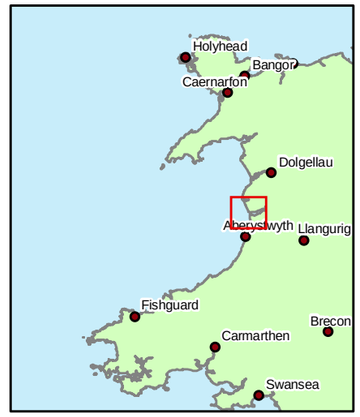
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ10 with the coastal water body boundary for Cardigan Bay North and the transitional water body Dyfi and Leri

Project:
West Wales SMP2

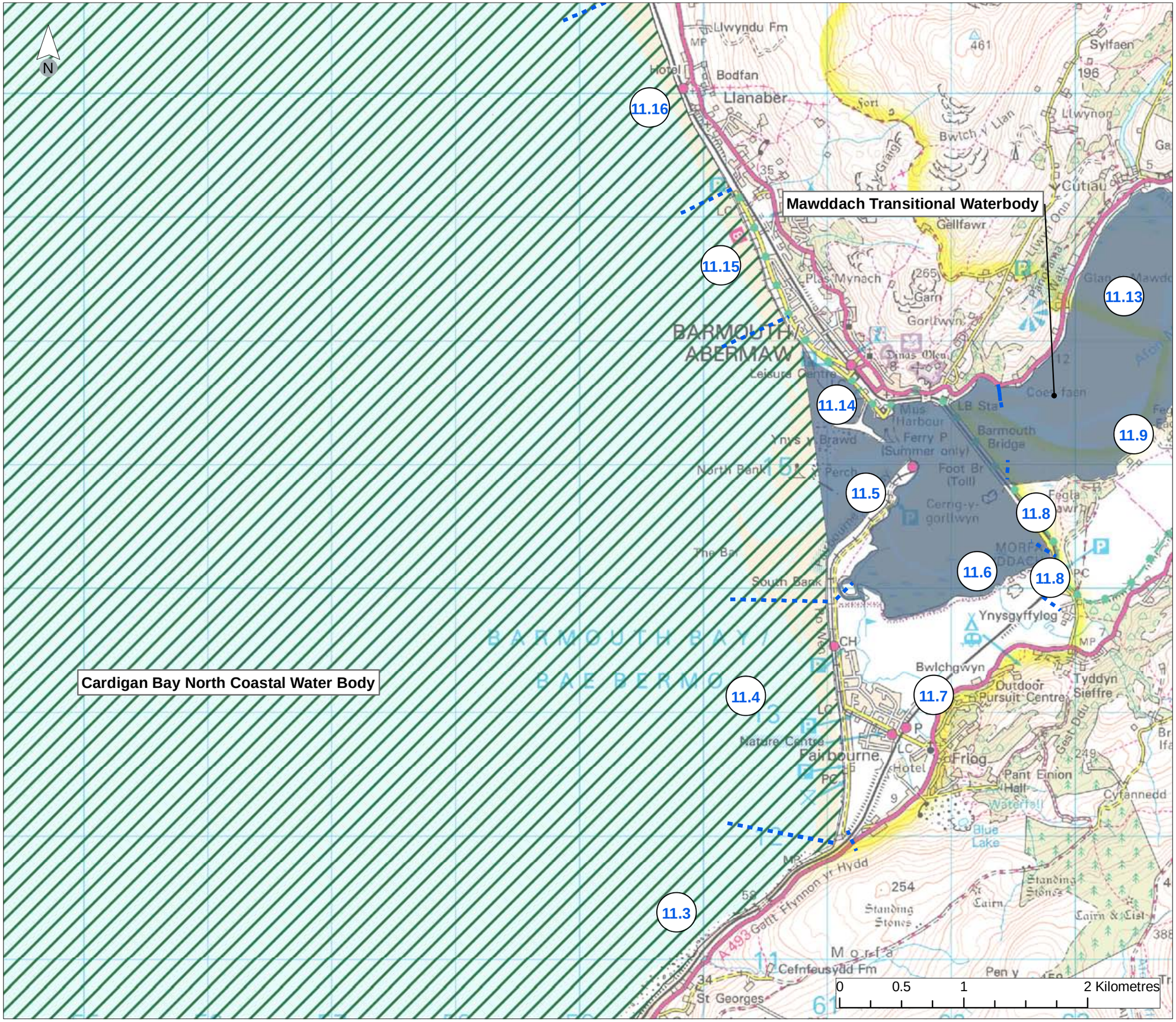
Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III f

ROYAL HASKONING



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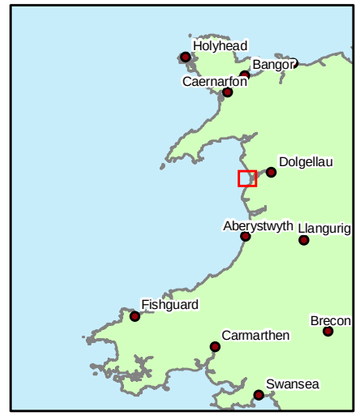
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ11 with the coastal water body boundary for Cardigan Bay North and the transitional water body Mawddach

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III g

ROYAL HASKONING

Tremadog Bay Coastal Water Body

Cardigan Bay North Coastal Water Body

12.1 12.2 12.3 12.4 12.5 12.6 PG

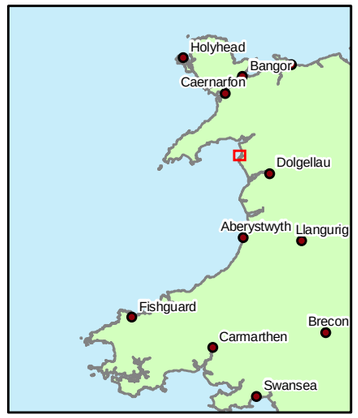
0 0.375 0.75 1.5 Kilometres

Key:

Policy Development Zone Boundaries (PDZ)

Policy Units (PU)

1.1 Policy Unit Label



Title:
Boundary issue within PDZ12 with the coastal water body boundaries for Cardigan Bay North and Tremadog Bay lying within PU 12.2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III h

ROYAL HASKONING

Glaslyn Transitional Waterbody

Tremadog Bay Coastal Water Body

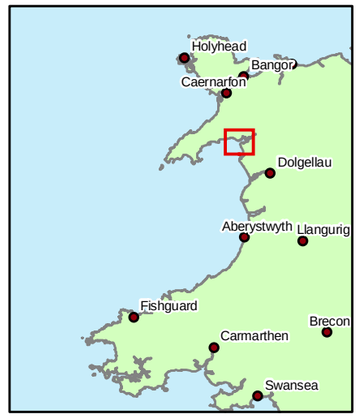
PDZ 12

12.22 12.21 12.20 12.18 12.17 12.16 12.15 12.14 12.13 12.12 12.10 12.10 12.9 12.8 12.7 12.6

0 0.5 1 2 Kilometres

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ12 with the coastal water body boundary for Tremadog Bay and the Transitional Water Body Glaslyn

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III i

ROYAL HASKONING

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N

14.11

Caernarfon Bay South Coastal Water Body

PDZ 14

14.4

14.5

14.6

14.7

14.8

14.9

14.10

Cardigan Bay North Coastal Water Body

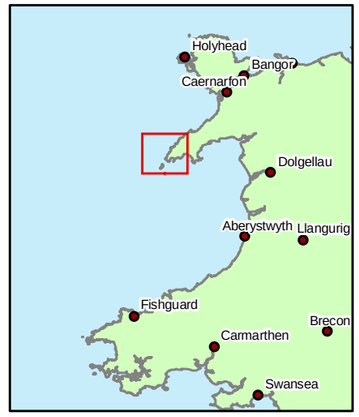
0 1.25 2.5 5 Kilometres

Key:

Policy Development Zone Boundaries (PDZ)

Policy Units (PU)

1.1 Policy Unit Label



Title:

Boundary issue within PDZ14 with the coastal water body boundaries for Cardigan Bay North and Caernarfon Bay South lying between PU 14.11

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:

July 2010

Scale:

NTS

Figure:

ANNEX III j

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

PDZ 17

PDZ 16

PDZ 15

Caernarfon Bay North Coastal Water Body

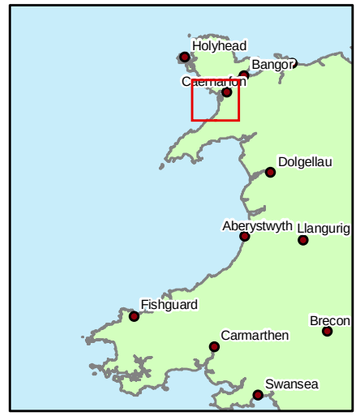
Caernarfon Bay South Coastal Water Body

17.3 17.2 17.4 17.2 17.4 17.1 16.9 16.10 16.8 16.7 16.4 16.5 16.16 16.16 16.16 16.13 16.17 16.12 16.6 16.12 16.11 16.3 16.2 16.1 15.4 15.4 15.4 15.5

0 1.25 2.5 5 Kilometres

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ16 with the coastal water body boundaries for Caernarfon Bay North and Caernarfon Bay South lying between PU 16.4

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III k

ROYAL HASKONING

Caernarfon Bay North Coastal Water Body

Menai Strait

16.8

16.7

16.6

16.11

16.4

16.5

16.3

16.2

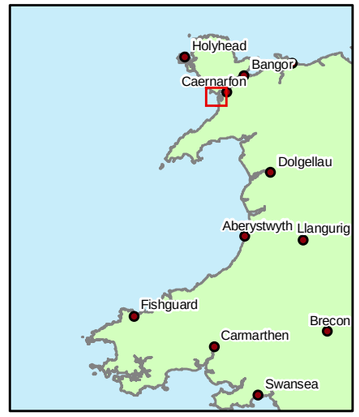
0 0.5 1 2 Kilometres

Key:

Policy Development Zone Boundaries (PDZ)

Policy Units (PU)

1.1 Policy Unit Label



Title:

Boundary issue within PDZ16 with the coastal water body boundaries for Caernarfon Bay North and Menai Strait lying within PU 16.4 and 16.7

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:

July 2010

Scale:

NTS

Figure:

ANNEX III I

ROYAL HASKONING

Braint Transitional Water Body

Menai Strait

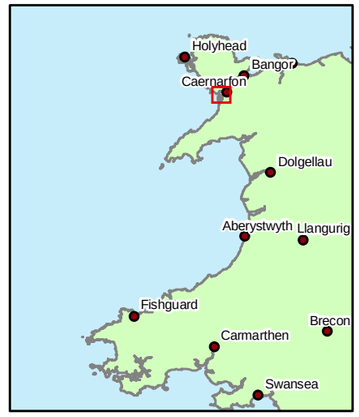
Seiont Transitional Water Body

Foryd Bay Transitional Water Body

16.16 16.13 16.17 16.12 16.6 16.7 16.11 16.4 16.5

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ16 with the coastal water body boundary Menai Strait and transitional water body boundaries Foryd Bay, Seiont and Braint

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX III m

ROYAL HASKONING

0 0.3 0.6 1.2 Kilometres

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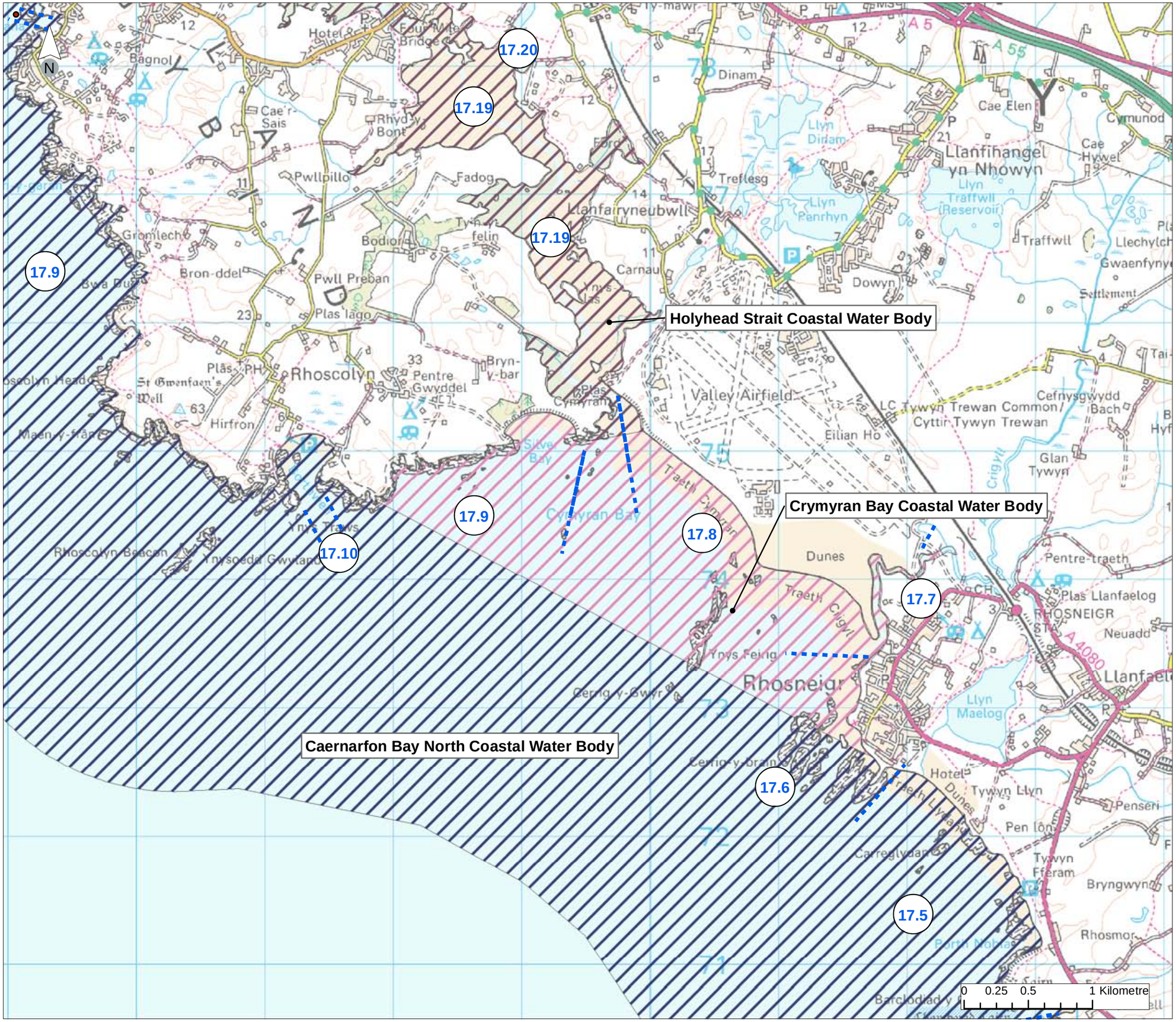

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label

Title:

Boundary issue within PDZ17 with the coastal water body boundaries Caernarfon Bay North, Crymyran Bay and Holyhead Strait

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:

July 2010

Scale:

NTS

Figure:

ANNEX III n

ROYAL HASKONING

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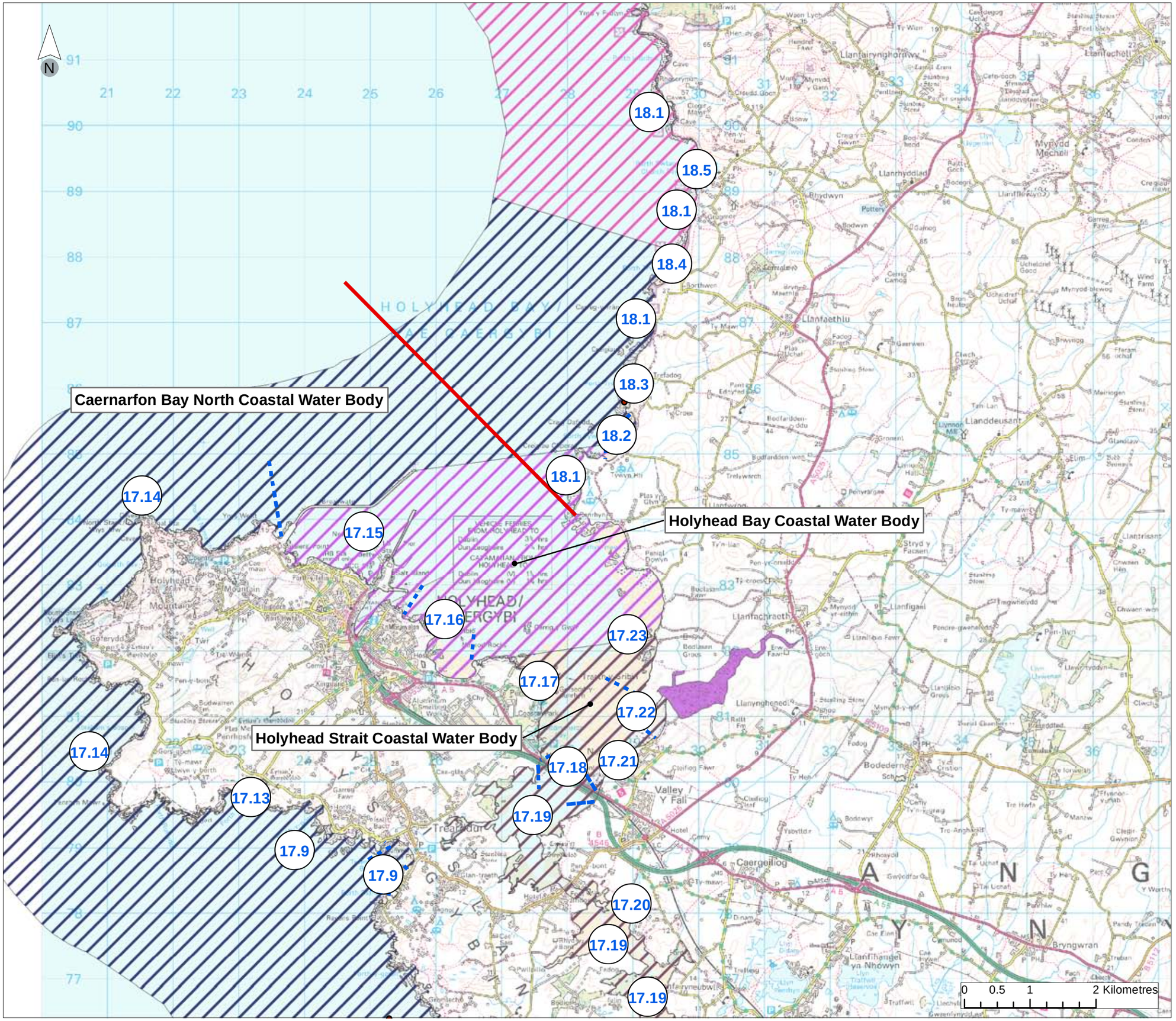
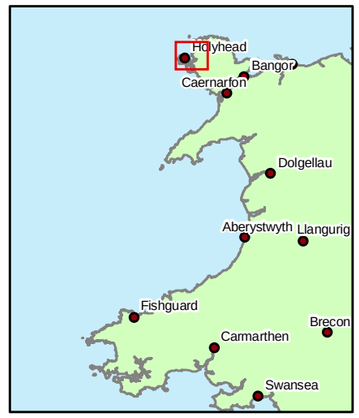


Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:

Boundary issue within PDZ17/18 with the coastal water body boundaries Caernarfon Bay North, Holyhead Bay and Holyhead Strait

Project:

West Wales SMP2

Client:

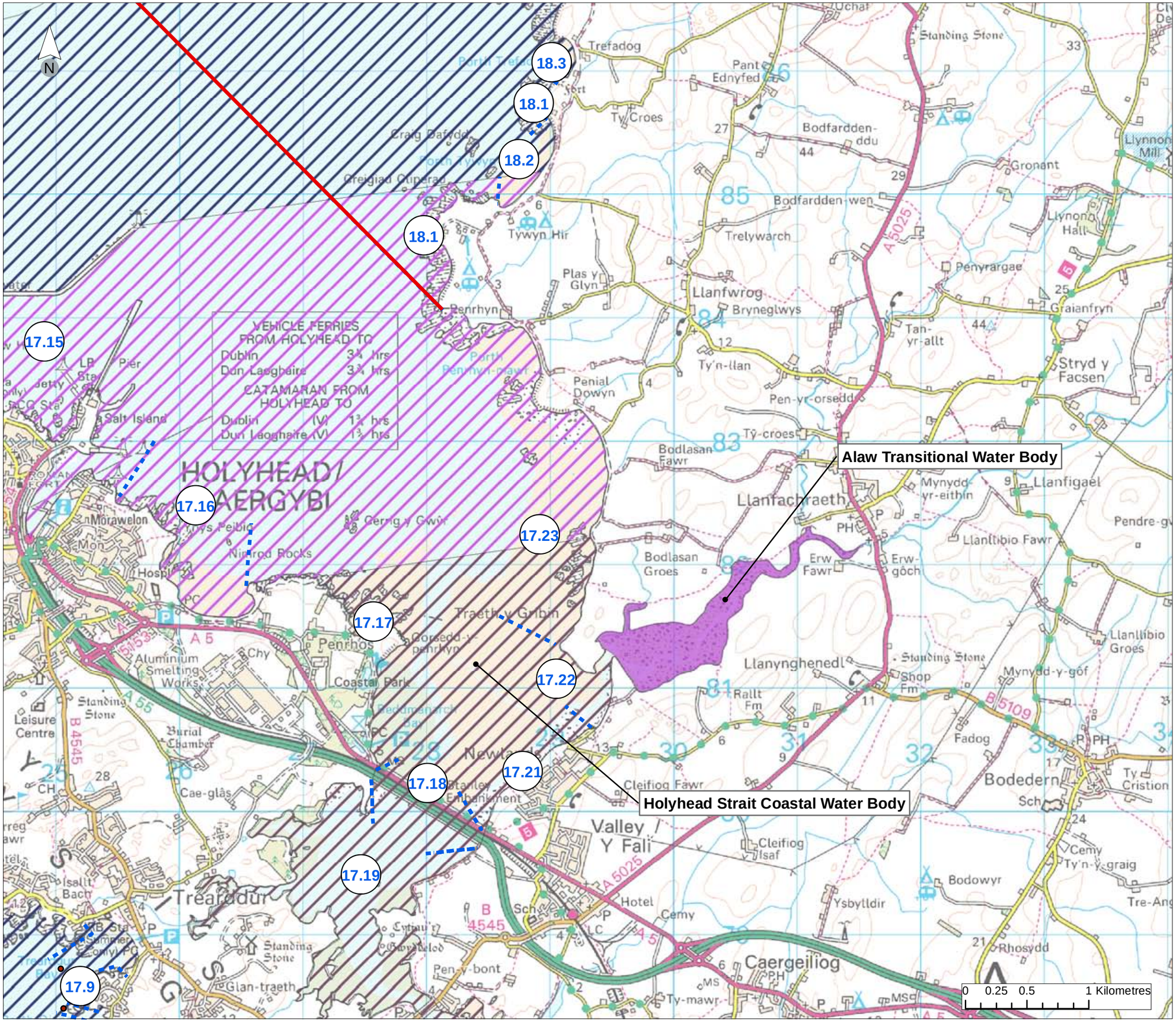
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:

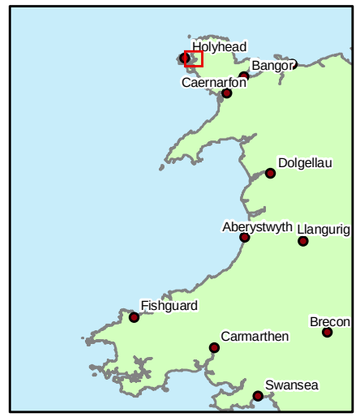
ANNEX III o

ROYAL HASKONING



Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ17 with the coastal water body boundary Holyhead Bay and the transitional water body boundary Alaw

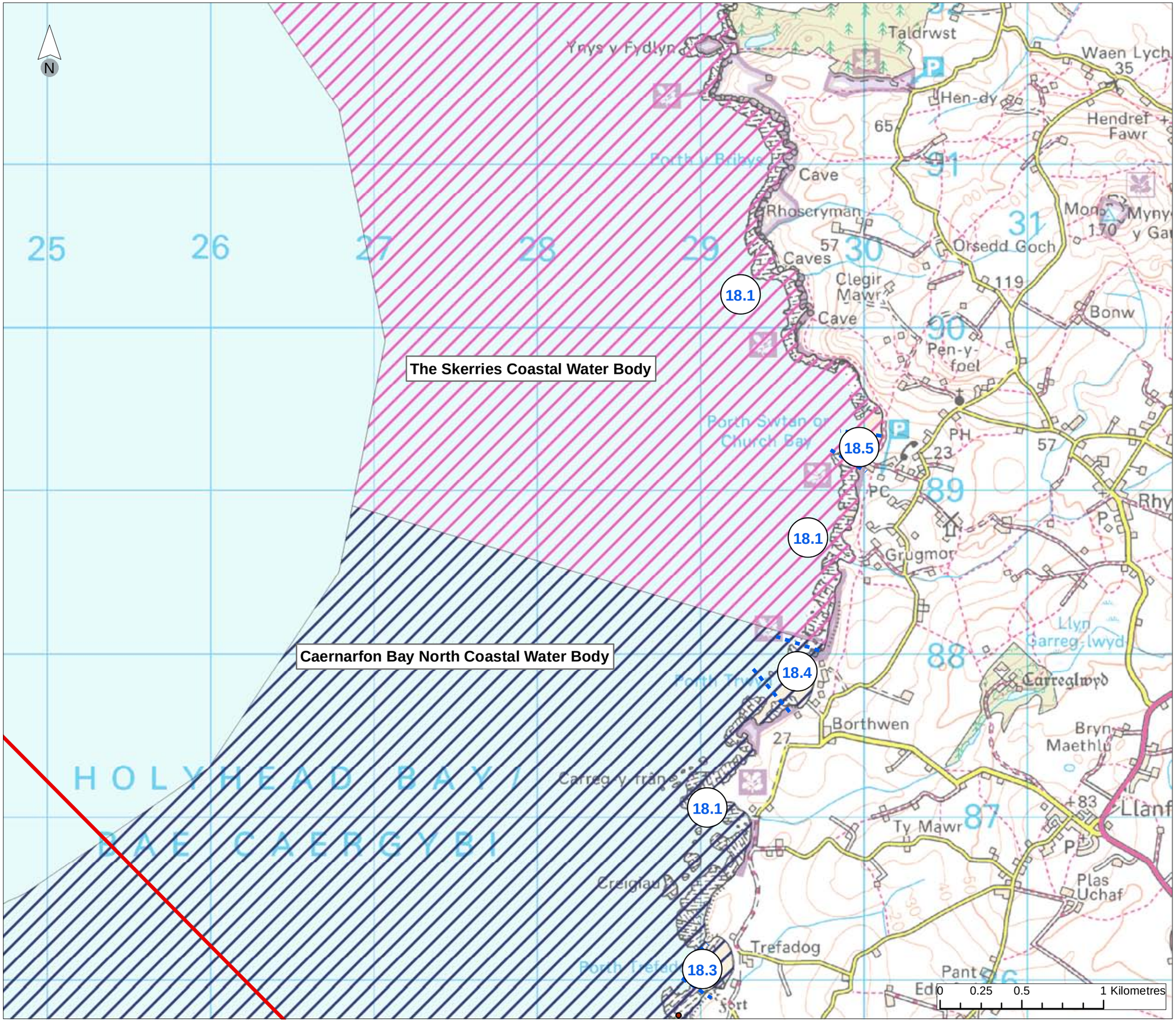
Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

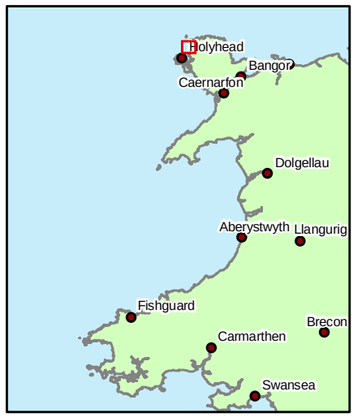
Figure:
ANNEX III p

ROYAL HASKONING



Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:

Boundary issue within PDZ18 with the coastal water body boundaries Caernarfon Bay North and The Skerries in PU 18.1

Project:

West Wales SMP2

Client:

Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:

ANNEX III q

ROYAL HASKONING

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PDZ 19

PDZ 20

Conwy Bay Coastal Water Body

Menai Straits Coastal Water Body

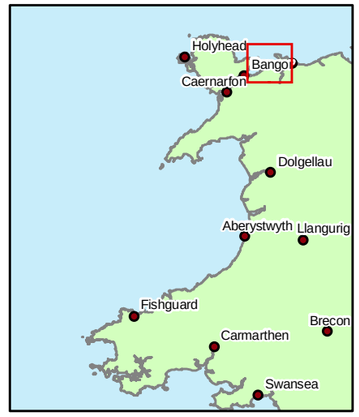
Conwy Transitional Water Body

19.16 19.17 16.25 16.23 16.22 16.21 16.33 16.32 16.30 16.31 20.13 20.12 20.11 20.3 20.9 20.8 20.6 20.15 20.2 20.1 20.14 20.16 20.17 20.14 20.17 20.18 20.19

0 1 2 4 Kilometres

Key:

- Policy Development Zone Boundaries (PDZ)
- Policy Units (PU)
- 1.1 Policy Unit Label



Title:
Boundary issue within PDZ20 with the coastal water body boundaries Menai Straits and Conwy Bay and transitional water body boundary Conwy within PU20.13

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

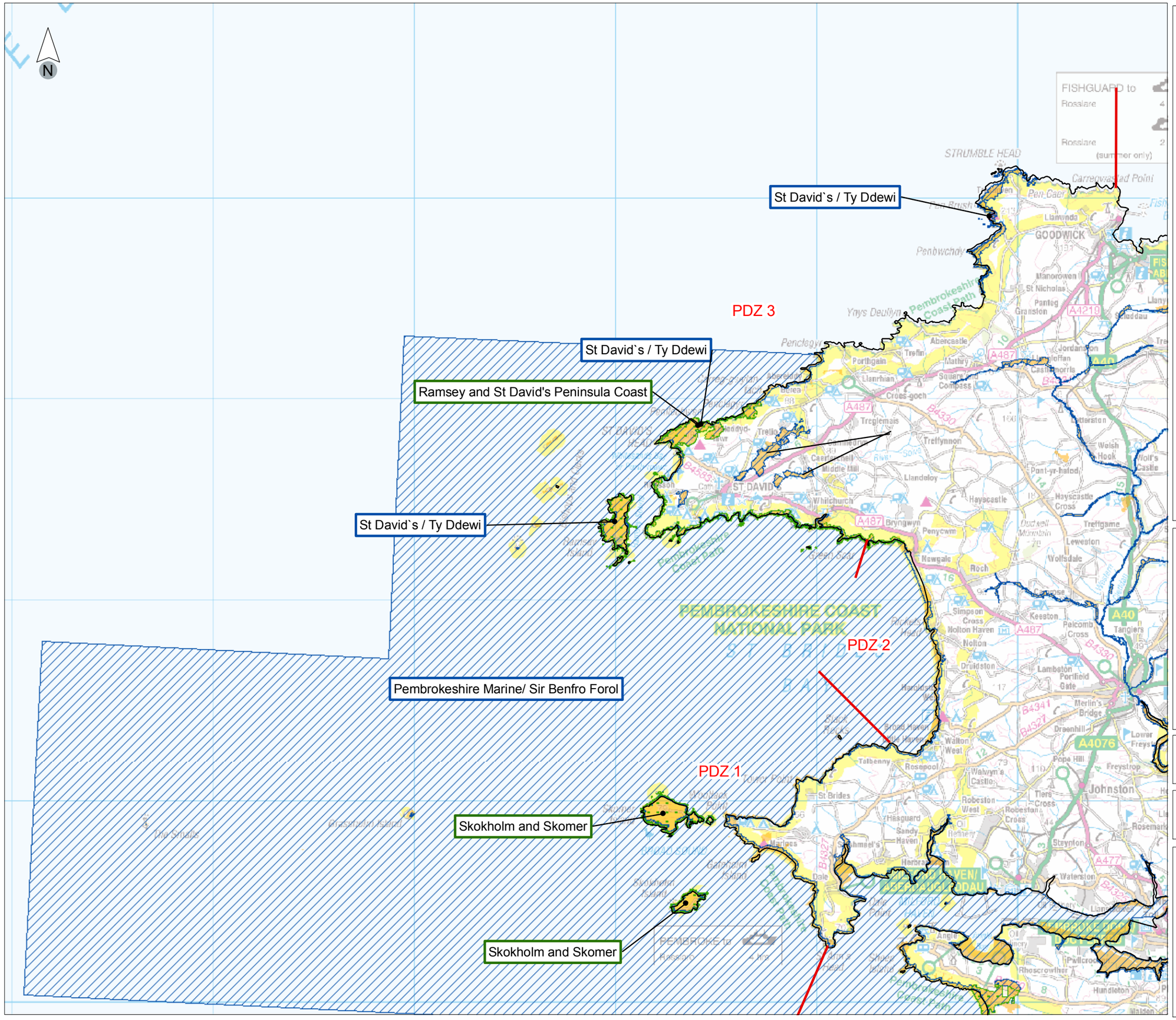
Scale:
NTS

Figure:
ANNEX III r

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

Annex IV: Maps illustrating the Nature Conservation Design



Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX IV a

ROYAL HASKONING

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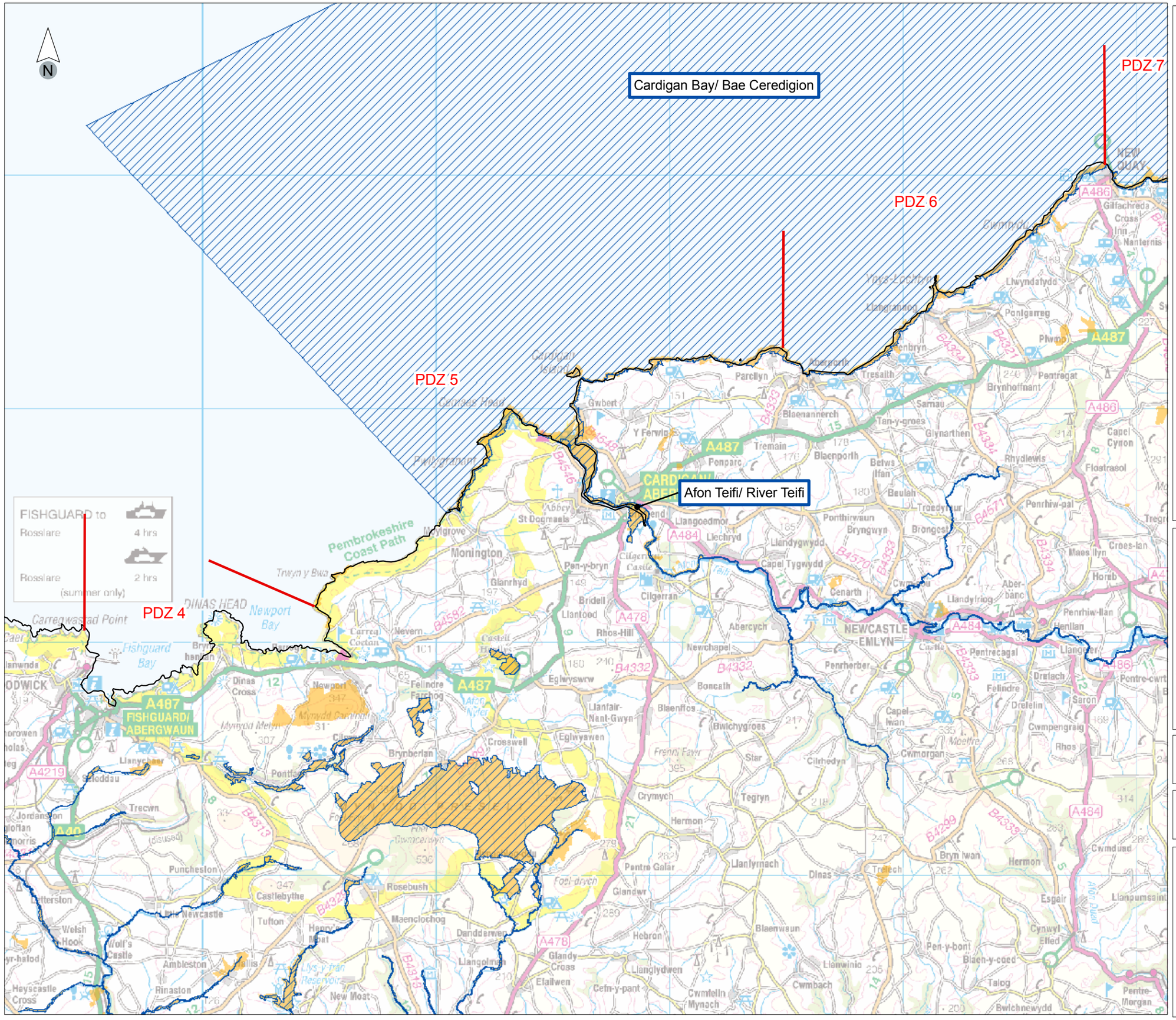

Key:

- Policy Development Zones
- Special Protection Areas
- Ramsar
- Special Ares of Convservation
- Sites of Specific Scientific Interest

Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX IV b

ROYAL HASKONING

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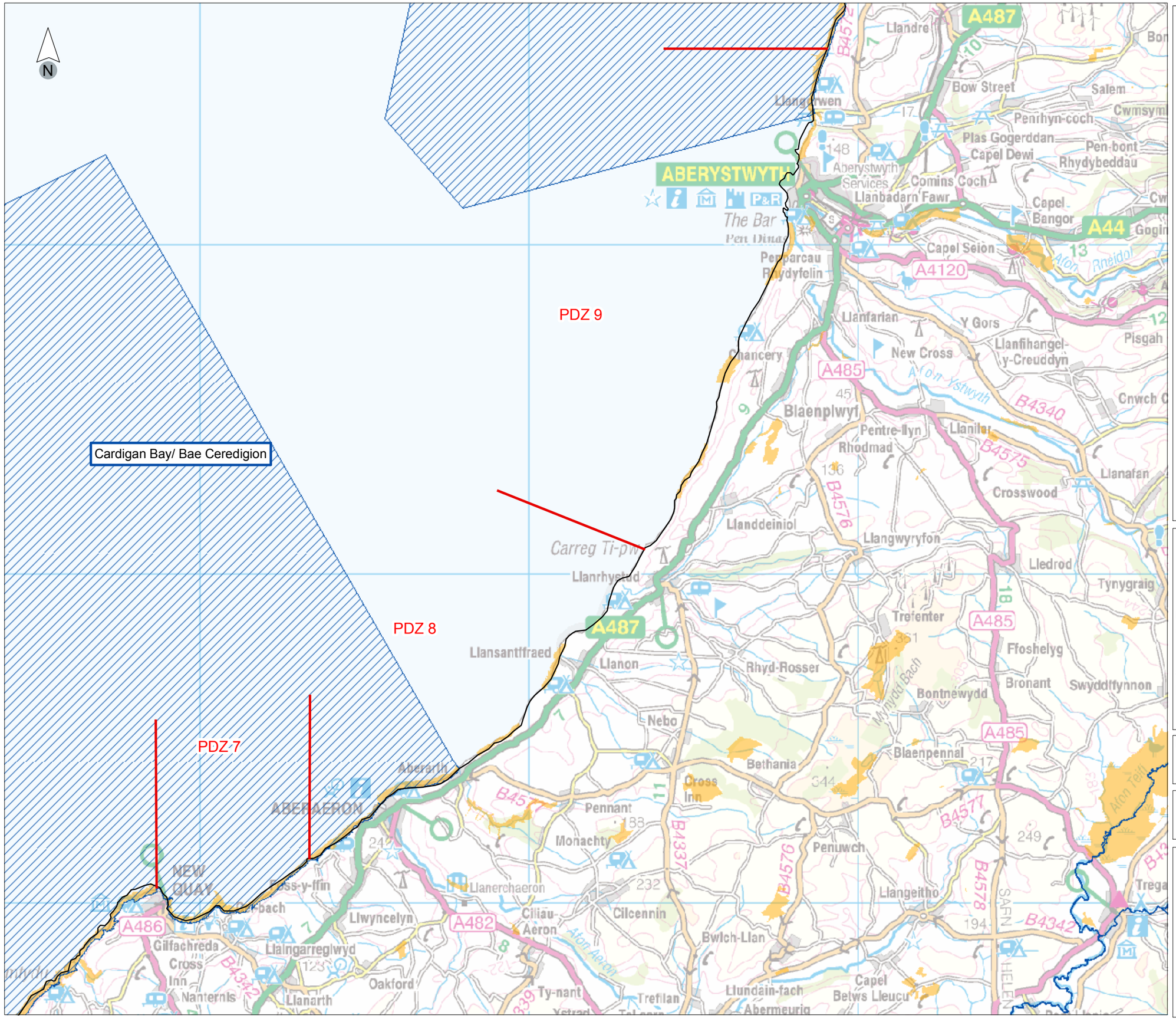


Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

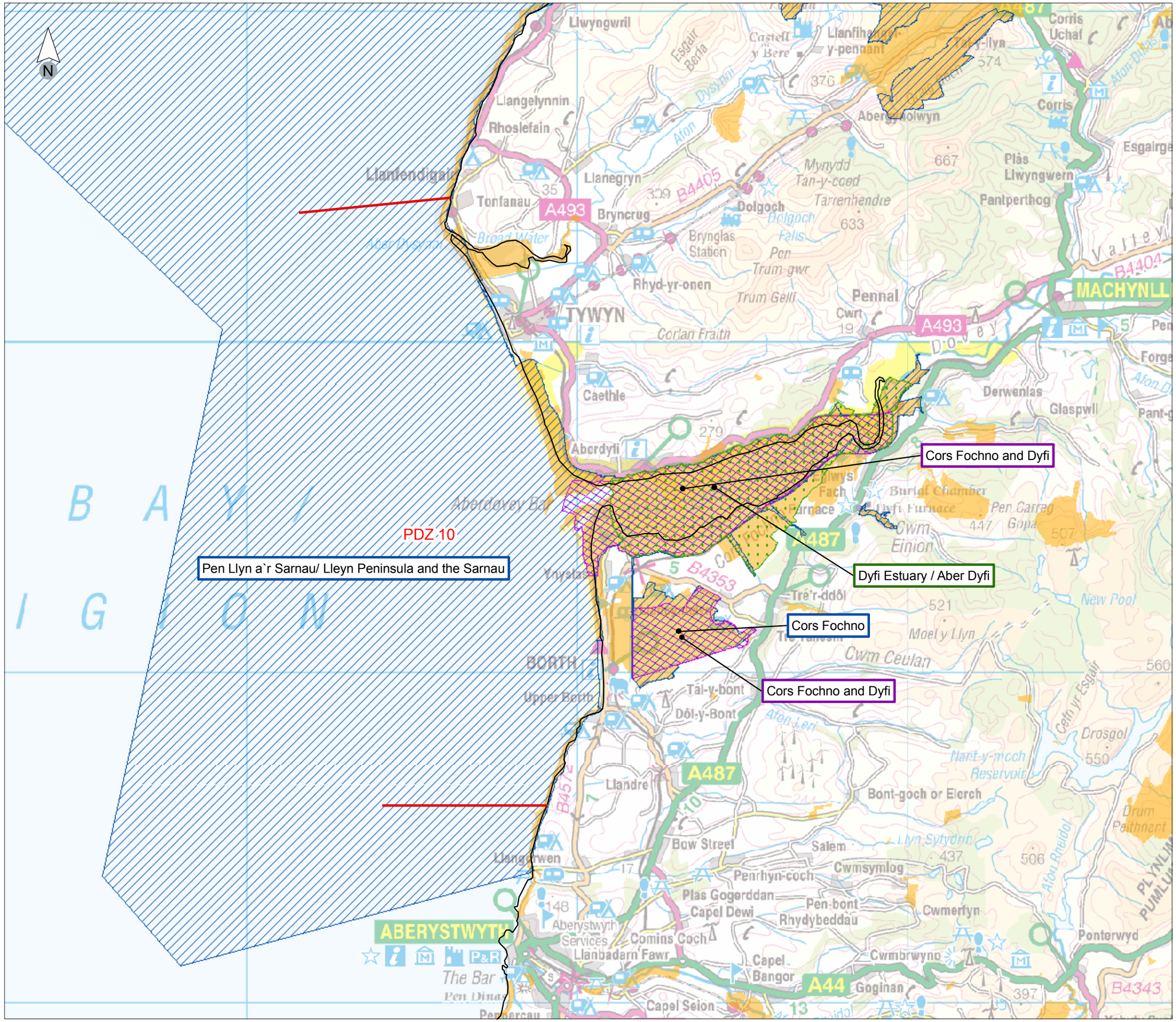
Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX IV c

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix



Key:

- Policy Development Zones
- Special Protection Areas
- Ramsar
- Special Ares of Convservation
- Sites of Specific Scientific Interest

Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

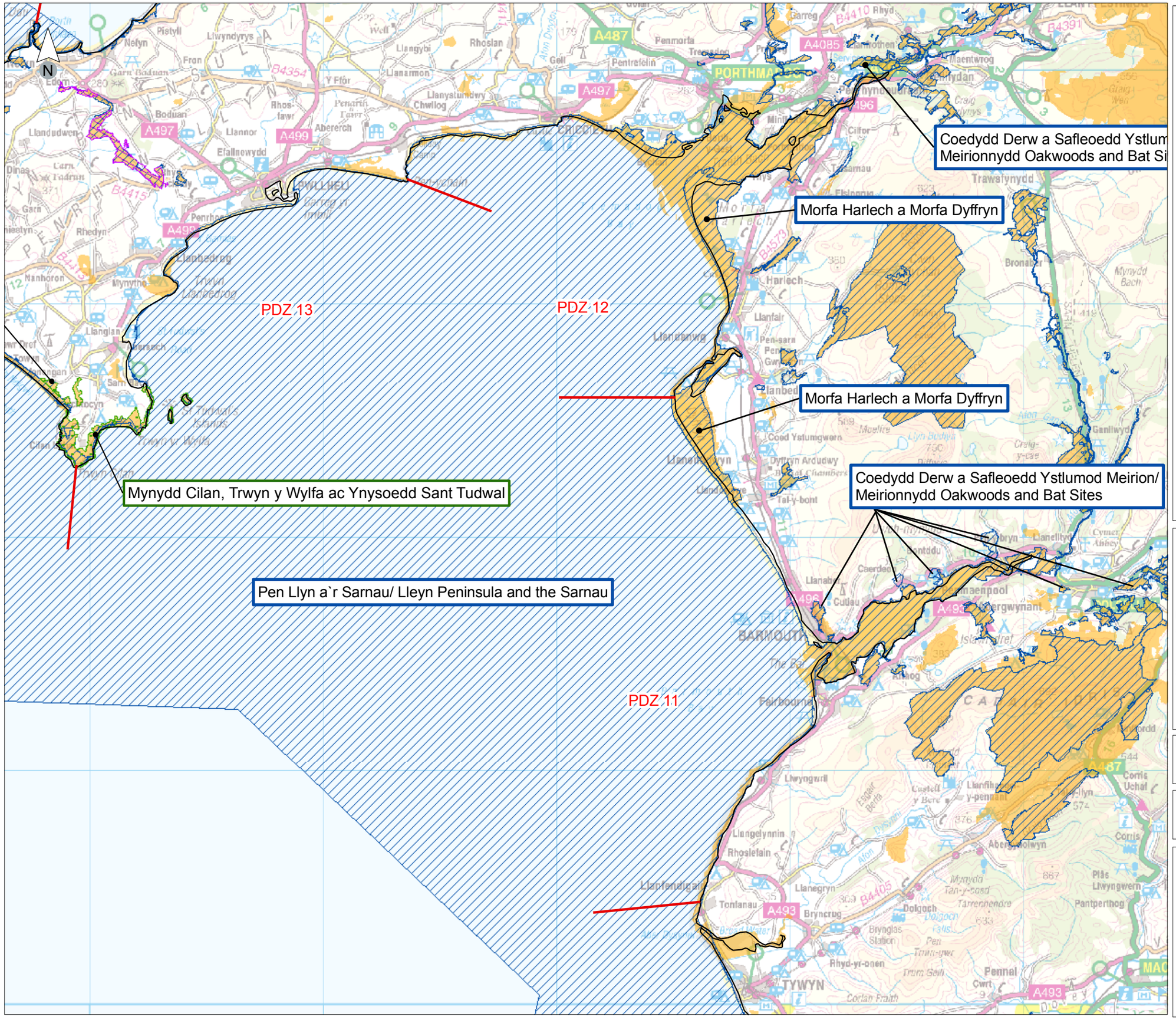
Client:
Pembrokeshire County Council

Date:	Scale:
July 2010	NTS

Figure:
ANNEX IV d

ROYAL HASKONING

\\9T9001\Technical_Data\GIS\Projects\WFD Appendix



Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

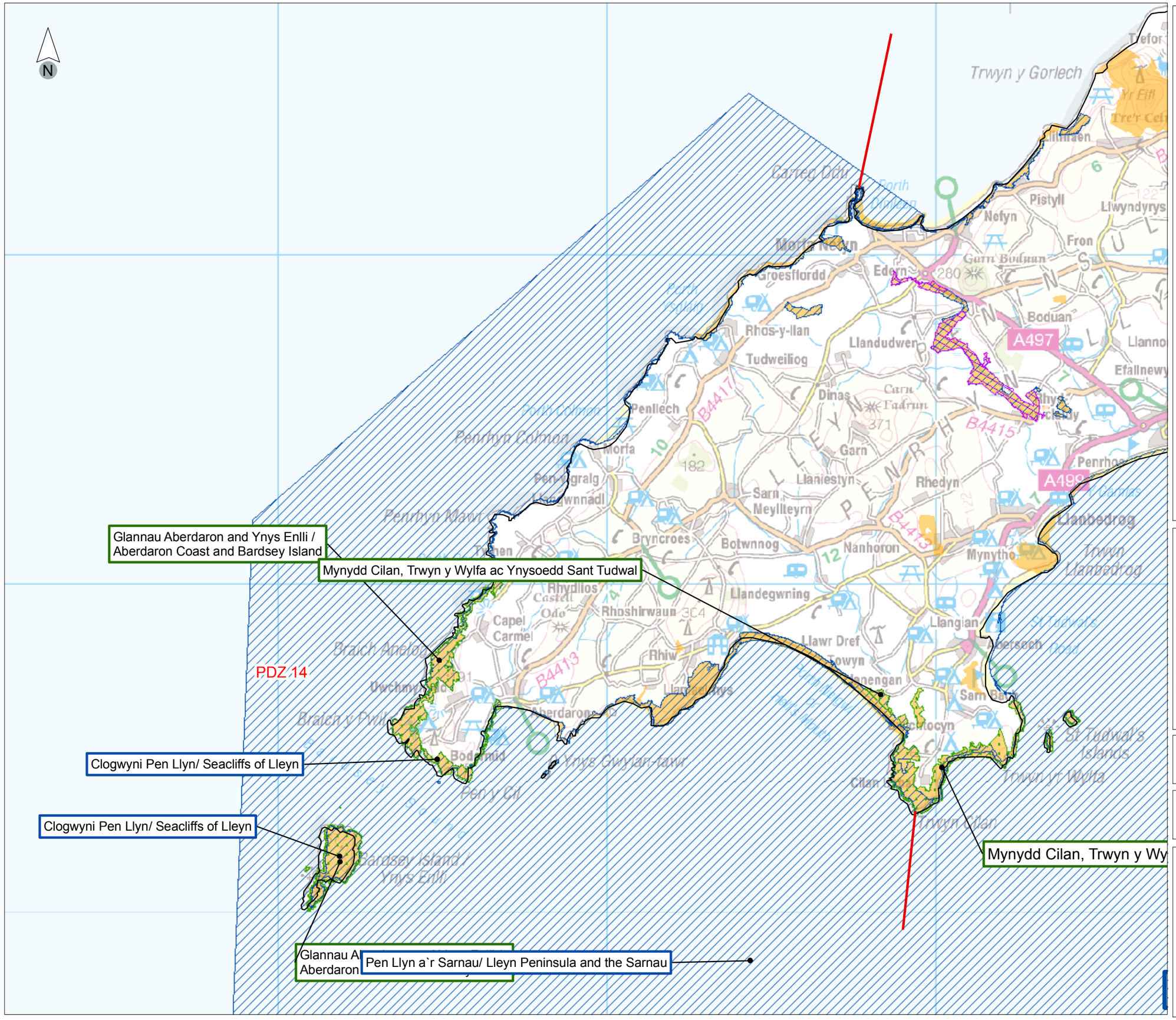
Date:
July 2010

Scale:
NTS

Figure:
ANNEX IV e

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix



Key:

- Policy Development Zones
- Special Protection Areas
- Ramsar
- Special Ares of Convservation
- Sites of Specific Scientific Interest

Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

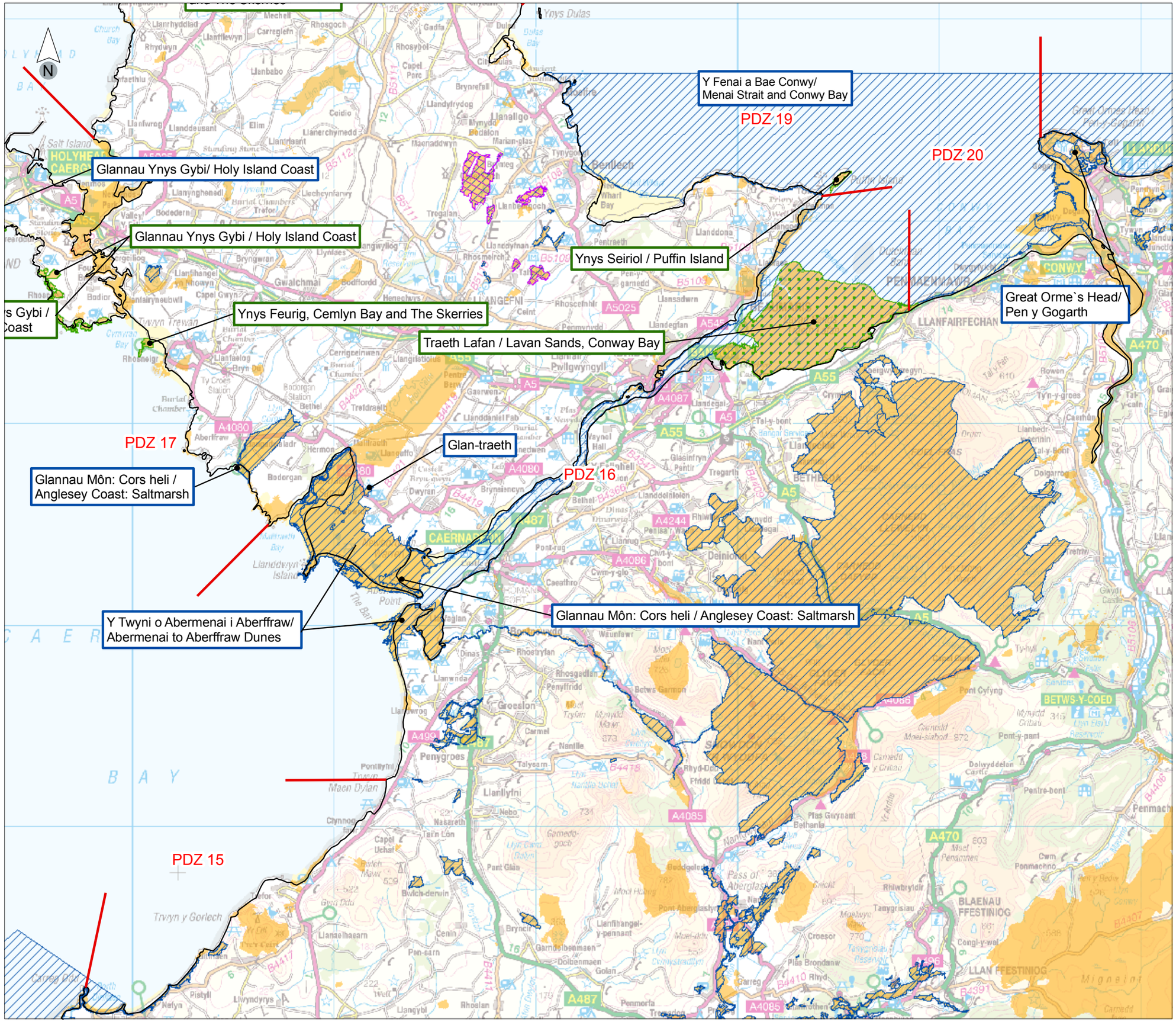
Date:
July 2010

Scale:
NTS

Figure:
ANNEX IV f

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix



Key:

- Policy Development Zones
- Special Protection Areas
- Ramsar
- Special Ares of Convservation
- Sites of Specific Scientific Interest

Title:
Nature Conservation Designations in the West Wales SMP2

Project:
West Wales SMP2

Client:
Pembrokeshire County Council

Date:
July 2010

Scale:
NTS

Figure:
ANNEX IV g

ROYAL HASKONING

I:\9T9001\Technical_Data\GIS\Projects\WFD Appendix

Annex V: WFD Assessment Tables

Assessment Table 2a – Transitional Water Bodies

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body (Policy Development Zones/Policy Units)	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
Solfach (T1) PU 3.2, 3.3	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential:** Not Yet Assessed (NYA) **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Drinking Water Protection Area, Freshwater Fish Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU3.2, PU3.3** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional water body.			
Gwaun (T2) PU4.4, 4.5, 4.6, 4.7, 4.8	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: Moderate. Good Ecological Status by 2027 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** n/a **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU4.5, PU4.6, PU 4.7** **Scoped Out: PU4.4, 4.8**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		Current status for fish is not reported in the RBMP.			
Nyfer (T3) PU4.14, 4.15, 4.16, 4.17, 4.18, 4.19	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: Good. Good status by 2015 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive, Bathing Water Directive	None identified in Annex B of the RBMP.	**Scoped In: PU 4.14, 4.15, 4.18, 4.19** **Scoped Out: PU4.16, 4.17**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is good.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is good. A Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional water body.			
Teifi (T4) PU 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.14	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: Moderate. Good Ecological Status by 2027 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive, Bathing Water Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU 5.3, 5.5, 5.7, 5.8, 5.9, 5.11, 5.12, 5.13, 5.14** **Scoped Out: PU 5.2, 5.4, 5.6, 5.10**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is moderate.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		water body.			
Ystwyth/Rheidol (T5) PU9.2, 9.3, 9.4, 9.5, 9.6, 9.7	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** candidate Heavily Modified Water Body (cHMWB) **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive, Bathing Water Directive **Other:** Supports good tidal regime.	Numerous measures 'not in place': Off settting measures; Retain marginal aquatic and riparian habitat; alter timing of dredging; reduce sediment re-suspension; reduce impact of dredging; prepare a dredging strategy; avoid the need to dredge; **operation and structural changes to locks etc**; **managed realignment of flood defence**; **bank rehabilitation / reprofiling; remove obsolete structure**.	**Scoped In: PU9.2, 9.3, 9.4, 9.5, 9.6, 9.7** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in RBMP.			
Dyfi and Leri (T6) PU10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13, 10.14	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: NYA. Good Chemical Status by 2015 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Freshwater Fish Directive, Bathing Water Directive **Other:** Supports good tidal regime.	None identified in Annex B of the RBMP.	**Scoped In: PU10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13, 10.14** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current Status for macroalgae is moderate.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good and the water body has a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is good. A Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional water body.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
Dysynni (T7) PU 10.18	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** n/a **Other:** Supports good tidal regime.	Numerous measures not in place. Indirect / offsite mitigation; **retain marginal and riparian habitat; operational and structure changes to locks etc; managed realignment of flood defence; increase morphological diversity; removal of hard bank reinforcement or replace with soft engineering; remove obsolete structure.**	**Scoped In: PU 10.18** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is high.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Mawddach (T8) PU 11.6, 11.8, 11.9, 11.10, 11.12, 11.13, 11.14	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: Good. Good Ecological Status by 2015 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU 11.6, 11.8, 11.9, 11.10, 11.12, 11.13, 11.14** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current Status for macroalgae is not reported in the RBMP			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is not reported in the RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional water body.			
Atro (T9) PU 12.2, 12.3, 12.4	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB	None identified in Annex B of the RBMP.	**Scoped In: PU 12.2, 12.3, 12.4**

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.	**Predicted Ecological Potential**: NYA. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive **Other:** Supports good tidal regime.		**Scoped Out: Nothing**
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Glaslyn (T10) PU12.7, 12.8, 12.9, 12.10, 12.11, 12.12, 12.13, 12.14, 12.15, 12.16	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: NYA. Good Chemical Status by 2015 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU12.7, 12.8, 12.9, 12.10, 12.11, 12.12, 12.13, 12.14, 12.15, 12.16** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current Status for macroalgae is not reported in the RBMP			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is not reported in the RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the transitional water body.			
Dwyfor (T11) PU12.22	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: NYA **Environmental Objectives:**	None identified in Annex B of the RBMP.	**Scoped In: 12.22** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.	• **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive **Other:** Supports good tidal regime and morphology.		
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Erch (T12) PU13.4, 13.5	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive **Other:** Supports good tidal regime.	None identified in Annex B of the RBMP.	**Scoped In: PU13.4, 13.5** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the water body.			
Foryd Bay (T13) PU16.5	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: Moderate. Good Ecological Status by 2027.NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological	None identified in Annex B of the RBMP.	**Scoped In: PU16.5** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.	Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive **Other:** Supports good tidal regime and morphology.		
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not reported in the RBMP but there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is good.			
Braint (T14) PU 16.6	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Freshwater Fish Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: Nothing** **Scoped Out: PU16.6**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP but there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP but a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the water body.			
Cefni (T15) PU 16.8, 16.9, 16.10	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: Moderate. Good Ecological Status by 2027, Good Chemical status by 2015. Good Potential by 2027 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or	Numerous not in place. **Retain marginal and riparian habitat; managed realignment of flood defence; increase in-channel morphological diversity.**	**Scoped In: PU 16.9** **Scoped Out: PU 16.8, 16.10**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current Status for macroalgae is not reported in the RBMP.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.	result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive **Other:** Supports good tidal regime and morphology.		
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not reported in the RBMP but there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is not reported in the RBMP.			
Seiont (T16) PU 16.11, 16.12	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** NYA **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive **Other:** Supports good tidal regime.	None identified in Annex B of the RBMP.	**Scoped In: PU 16.11, 16.12** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP but there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Ffraw (T17) PU 17.2, 17.3, 17.4	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or	None identified in Annex B of the RBMP.	**Scoped In: PU 17.3** **Scoped Out: PU 17.2, 17.4**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions	compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive **Other:** Supports good tidal regime and morphology.		
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Alaw (T18) PU 17.21	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** Not designated **Predicted Ecological Potential**: NYA **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** n/a **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU 17.21** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and potentially salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in sediment loading, which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status for invertebrates is not reported in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status for fish is not reported in the RBMP.			
Conwy (T19) PU 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 20.10, 20.11, 20.12, 20.13, 20.14, 20.15, 20.16, 20.17, 20.18, 20.19	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations.	**Classification:** cHMWB **Predicted Ecological Potential**: Moderate. Good Potential by 2027. Good chemical status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration	3 not in place. **Preserve ecological value of marginal habitat, banks and riparian; managed realignment of flood defence; removal of hard bank reinforcement, or replacement with soft engineering solution.**	**Scoped In: PU 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 20.10, 20,11, 20.15, 20.16, 20.17, 20.18, 20.19** **Scoped Out: PU 20.12, 20.13, 20.14**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) and salinity as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current Status for macroalgae is good.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Macrophytes	Potential changes to macrophytes through: longitudinal position; shoreline complexity or heterogeneity; episodicity of flows and inundation; turbidity; substrate conditions			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is currently undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good and there is a designated shellfishery.	groundwater status. **Protected Area Designation:** Shellfish Water Directive, Freshwater Fish Directive, Bathing Water Directive		
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, continuity for migration routes and accessibility to nursery areas and, hence, could potentially impact upon fish. Current status of fish is high and there is a Freshwater Fishery designation applies to the upstream river, with a potential for migratory fish to use the water body.			

Assessment Table 2b – Coastal Water Bodies

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body (Policy Development Zones/Policy Units)	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
Pembrokeshire South (C1) PU1.1, 1.2,1.3, 2.1,2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. Good chemical status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive, Habitats and Species Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU2.2,2.4, 2.5, 2.6, , 2.8,2.10, 2.11, 2.12,3.2,3.3,3.4, 3.5, 3.8** **Scoped Out: PU1.1, 1.2, 1.3, 2.1, 2.3, 2.7, 2.9, 2.13, 3.1, 3.6, 3.7**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Cardigan Bay South (C2) PU3.9, 3.10, 3.11 3.12, 4.1, 4.2, 4.3, 4.4, 4.5. 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 5.1, 5.2	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive (BWD) **Other:** Supports good morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU3.9, 3.10, 3.11, 4.2, 4.3, 4.5. 4.6, 4.7, 4.10, 4.12, 4.13, 4.14, 4.15, 4.18** **Scoped Out: PU 3.12, 4.1, 4.4, 4.8, 4.9, 4.11, 4.16, 4.17, 4.19, 5.1, 5.2, 5.9**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not reported in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Cardigan Bay Central (C3) PU5.15, 6.1, 6.2, 6.3,	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015.	None identified in Annex B of the RBMP.	**Scoped In: 6.2, 6.4, 6.6, 6.8, 7.1, 7.2, 7.3, 7.4, 7.5, 8.2, 8.3 8.4, 8.6, 8.8, 8.9**

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body (Policy Development Zones/Policy Units)	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
6.4, 6.5, 6.6, 6.7, 6.8 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 8.1, 8.2, 8.3 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is good.	**Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive (BWD) **Other:** Supports good tidal regime and morphology.		**Scoped Out: PU5.15, 6.1, 6.3, 6.5, 6.7, 7.6, 8.1, 8.5, 8.7, 8.10**
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Cardigan Bay North (C4) PU9.1, 9.2, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13, 10.1, 10.2, 10.3, 10.4, 10.13, 10.14, 10.15, 10.16, 10.17, 10.18, 10.19, 11.1, 11.2, 11.3, 11.4, 11.5, 11.14, 11.15, 11.16, 11.17, 11.18, 11.19, 11.20, 12.1, 12.2, 13.18, 13.19, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 14.10	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Bathing Water Directive, Habitats and Species Directive **Other:** n/a	None identified in Annex B of the RBMP.	**Scoped In: PU 9.2, 9.7, 9.8, 9.9, 9.11, 10.1, 10.2, 10.3, 10.4, 10.13, 10.14, 10.15, 10.16, 10.17, 10.18, 10.19, 11.1, 11.2, 11.3, 11.4, 11.5, 11.14, 11.15, 11.16, 11.17, 11.18, 11.19, 12.1, 12.2, 13.18, 13.19, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.9, 14.10** **Scoped Out: PU9.1, 9.10, 9.12, 9.13, 11.20, 14.8**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is good.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good and has a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Tremadog Bay (C5) PU 12.5,12.6,12.7, 12.16, 12.17, 12.18, 12.19, 12.20, 12.21, 12.22, 12.23, 12.24, 12.25, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 13.10, 13.11, 13.12, 13.13, 13.14,	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological	None identified in Annex B of the RBMP.	**Scoped In: PU 12.5,12.6, 12.16, 12.17, 12.18, 12.20, 12.22, 12.24, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.11, 13.12, 13.13, 13.14, 13.15** **Scoped Out: PU**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body (Policy Development Zones/Policy Units)	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
13.15, 13.16, 13.17		Current status for macroalgae is not mentioned in the RBMP.	Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive, Bathing Water Directive, Habitats and Species Directive **Other:** Supports good tidal regime and morphology.		12.7, 12.19, 12.21, 12.23, 12.25, 13.1, 13.9, 13.10, 13.16, 13.17
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish. This coastal water body is a designated freshwater area, with potential for migratory fish to use the associated designated transitional water bodies (Atro, Glaslyn and Erch).			
Caernarfon Bay South (C6) PU14.11,15.1,15.2, 15.3, 15.4, 15.5, 15.6, 16.1, 16.2, 16.3	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is not mentioned in the RBMP.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive, Bathing Water Directive **Other:** Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU15.2, 15.3, 15.5, 15.6, 16.3** **Scoped Out: PU14.11,15.1, 15.4, 16.1, 16.2**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish. This coastal water body is a designated area under the 'Freshwater Fish Directive' since there are important migratory anadromous fish pathways that use the associated designated transitional water body			
Caernarfon Bay North (C7) PU17.1, 17.4, 17.5, 17.6, 17.9, 17.10, 17.11, 17.12, 17.13, 17.14	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. Good chemical status by 2015 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet	None identified in Annex B of the RBMP.	**Scoped In: PU 17.5, 17.6, 17.9, 17.10, 17.11, 17.12, 17.13** **Scoped Out: PU17.1, 17.4, 17.14**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		subsequent changes in abrasion patterns. Current status for macroalgae is high.	surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Bathing Water Directive **Other:** n/a		
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good and there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Menai Strait (C8) PU 16.5, 16.6, 16.7, 16.11, 16.12, 16.13, 16.14, 16.15, 16.16, 16.17, 16.18, 16.19, 16.20, 16.21, 16.22, 16.23, 16.24, 16.25, 16.26, 16.27, 16.28, 16.29, 16.30, 16.31, 16.32, 16.33, 20.1	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** HMWB **Predicted Ecological Potential**: Moderate. Good Ecological Potential by 2027 **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Habitats and Species Directive **Other:** Levels of Copper are high.	3 in place – reduce sediment re-suspension; reduce impact of dredging; prepare a dredging / disposal strategy. 3 not in place – **modify structure or reclamation**; **managed realignment of flood defence; removal of hard bank reinforcement.**	**Scoped In: PU 16.5, 16.11, 16.12, 16.14, 16.17, 16.19, , 16.21, 16.22, 16.24, 16.27, 16.28, 16.29, 16.32, 16.33, 20.1** **Scoped Out: PU 16.6, 16.7, 16.13, 16.15, 16.16, 16.18, 16.20, 16.23, 16.25, 16.26, 16.30, 16.31**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not mentioned in the RBMP but there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Cymyran Bay (C9) PU 17.7, 17.8	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is not mentioned in the RBMP.	**Classification:** Not designated A/HMWB **Predicted Ecological Statusl**: Good. Good Ecological Status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met	None identified in Annex B of the RBMP.	**Scoped In: PU 17.7** **Scoped Out: PU 17.8**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
		angiosperms.	in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive **Other:** Supports good tidal regime and morphology.		
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not mentioned in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Holyhead Bay (C10) PU 17.15, 17.16, 17.17, 17.22, 18.1, 18.2	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** HMWB **Predicted Ecological Potential**: Moderate. Good Ecological status by 2027. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** n/a **Other:** Levels of Copper are high.	3 in place – reduce sediment re-suspension; reduce impact of dredging; prepare a dredging / disposal strategy. 3 not in place – **modify structure or reclamation; managed realignment of flood defence; removal of hard bank reinforcement.**	**Scoped In: PU 17.15, 17.16, 17.22** **Scoped Out: PU17.17, 18.1, 18.2**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is good.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Holyhead Strait (C11) PU17.17, 17.18, 17.19, 17.20, 17.21, 17.22	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is not mentioned in the RBMP.	**Classification:** Not designated A/HMWB **Predicted Ecological Potential**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status.	None identified in Annex B of the RBMP.	**Scoped In: PU 17.18, 17.19, 17.20, 17.21, 17.22** **Scoped Out: PU17.17**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is good.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not mentioned in the RBMP.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body (Policy Development Zones/Policy Units)	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.	**Protected Area Designation:** n/a **Other:** n/a		
The Skerries (C12) PU 18.1, 18.5, 18.6, 18.7	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Bathing Water Directive (BWD)	None identified in Annex B of the RBMP.	**Scoped In: PU 18.6, 18.7** **Scoped Out: PU 18.1, 18.5**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Cemlyn Lagoon (C13) PU 18.6	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations in this small enclosed water body. Current status for phytoplankton is not mentioned in the RBMP.	**Classification:** HMWB **Predicted Ecological Potential**: Good. Good Ecological Potential by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** n/a **Other:** n/a	None identified in Annex B of the RBMP.	**Scoped In: PU 18.6** **Scoped Out: Nothing**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is not mentioned in the RBMP.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			

Feature		Issue	Water body Classification and Environmental Objectives	Opportunity to deliver mitigation measures from the Programme of Measures &/or recommendations on preferred policy	Scoping of Policy Units (where coast is undefended and will continue to do so it is deemed that the SMP policy will not affect the WFD Environmental Objectives)
Water Body **(Policy Development Zones/Policy Units)**	**Biological Quality Element**	**Potential for changes to BQE physical and/or hydromorphological dependencies**			
Anglesey North (C14) PU18.8, 18.9, 18.10, 18.11, 18.12, 18.13, 18.14, 18.15, 18.16, 18.17, 18.18, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 19.10, 19.11, 19.12, 19.13, 19.14, 19.15, 19.16, 19.17, 20.13	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is high.	**Classification:** Not designated A/HMWB **Predicted Ecological Status**: Good. Good Ecological status by 2015. Good chemical status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Shellfish Water Directive, Bathing Water Directive **Other:** Levels of iron and toluene are high. Supports good tidal regime and morphology.	None identified in Annex B of the RBMP.	**Scoped In: PU 18.8, 18.9, 18.10, 18.11, 18.14, 18.15, 18.16, 18.17, 19.2, 19.4, 19.5, 19.7, 19.10, 19.12, 19.14** **Scoped Out: PU 18.12, 18.13, 18.18, 19.1, 19.3, 19.6, 19.8, 19.9, 19.11, 19.13, 19.15, 19.16, 19.17, 20.13**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is high.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good and there is a designated shellfishery.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish.			
Conwy Bay (C15) PU19.6, 20.1, 20.2, 20.13	Phytoplankton	There is potential for SMP2 policies to result in changes in water depth and turbidity, which could potentially impact upon phytoplankton populations. Current status for phytoplankton is good.	**Classification:** HMWB **Predicted Ecological Potential**: Moderate. Good Ecological Potential by 2027. Good chemical status by 2015. **Environmental Objectives:** • **WFD2:** No changes that will cause failure to meet surface water Good Ecological Status or Potential or result in a deterioration of surface water Ecological Status or Potential. • **WFD3:** No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies. • **WFD4:** No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. **Protected Area Designation:** Freshwater Fish Directive **Other:** n/a	None identified in Annex B of the RBMP.	**Scoped In: PU 20.1, 20.2** **Scoped Out: PU19.6, 20.13**
	Macroalgae	Potential changes to macroalgae through changes in abrasion (associated to velocity) as a result of SMP policies. For example, changes to natural control points, control structures or defences may result in changes in wave and current dynamics and subsequent changes in abrasion patterns. Current status for macroalgae is not mentioned in the RBMP.			
	Angiosperms	There is potential for changes in the frequency of tidal inundations, sediment loading, land elevation, abrasion (associated to velocity) and light which may impact upon angiosperms.			
	Benthic / macro invertebrates	Invertebrates have the potential to be impacted by SMP2 policies through changes to beach water table, groundwater connectivity and connectivity with riparian zone. Current status of invertebrates is good.			
	Fish	SMP2 policies have the potential to result in changes to the heterogeneity of habitat, substrate conditions, presence of macrophytes and accessibility to nursery areas and, hence, could potentially impact upon fish. This coastal water body is a designated area under the 'Freshwater Fish Directive' since there are important migratory anadromous fish pathways that use the associated designated transitional water body (Conwy).			

Annex V – WFD Assessment Table 3: WFD Assessment of SMP Policy for the West Wales SMP2 (colour shading refers to the shaded water bodies in **Figure 3.2**)

Note: unless stated otherwise the GWBs are not described because the SMP2 policies of MR and NAI (where it has previously been HTL) are unlikely to further increase the risk of saline intrusion since all the GWBs are not at risk presently (or by 2015) from saline intrusion (EA, 2009).

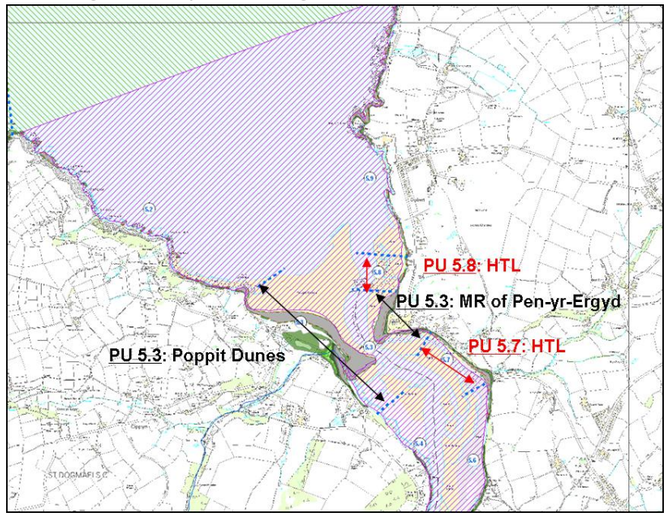
SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
2	**2**	**PU2.2**	Little Haven	**Pembrokeshire South (Coastal – C1)**	Improvement to defences standard would not be anticipated over the short and medium term. The use and structure of the lower village would need to be examined.	HTL	HTL	MR	The coastline from Little Haven to Haroldston Hill comprises protected sandy bay with areas of rocky intertidal shore around the headlands (i.e. within PU 2.2 and 2.6). **TraC Water Bodies (WFD 2):** **Pembrokeshire South (Coastal)** The HTL policies in the short to medium term may cause a loss of some of the sandy intertidal areas through sea level rise. However, by managing this coast in the long term to be able to be more adaptive to sea level rise without considerable anthropogenic intervention will ensure that the BQEs of this water body and the hydrodynamics are not affected, particularly allowing the area around Haroldston Bridge to adapt. BQEs associated with the intertidal reefs (e.g. macroalgae) should not be affected, but BQEs associated with the ever decreasing intertidal (e.g. benthic invertebrates) along this water body may be affected in the short to medium term but in the long term the MR of the coastline along Broadhaven will ensure the BQEs will begin to improve. Overall, even though the SMP2 policies have the potential to affect the local BQEs in the short to medium term it is unlikely to affect the coastal water body as a whole and therefore, there is unlikely to be any deterioration in the Ecological Status of the Pembrokeshire South TraC water body as a result of the SMP2 policies. **Other Water Bodies (WFD 3):** **Haroldstone Stream FWB** PU 2.5 The policy of MR then NAI at Haroldstone Bridge (PU2.5) in the second and third epochs will allow saline intrusion further along this FWB. As a result this will improve the surrounding transitional habitat for BQES such as benthic and macro-invertebrates and macrophytes such as saltmarsh. This will allow the Haroldstone Stream to adapt more naturally to sea level rise and help to attain the environmental objectives of the water body to ensure its meets Good Ecological Status by 2027. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 2.1, 2.3	N/A	✓	✓	✓
		PU2.4	Southern and central Broad Haven		Consider options for realignment in the area of Broadhaven Bridge.	HTL	HTL	MR		N/A	✓	✓	✓
		PU2.5	Broad Haven North		Lost of road.	HTL	MR	NAI		N/A	✓	✓	✓
		PU2.6	Haroldston Hill		Maintain access from the north.	HTL	HTL	MR		N/A	✓	✓	✓
	3	**PU2.8**	Nolton Haven		The intent is to maintain access with local works to sustain the road.	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Pembrokeshire South (Coastal)** Much of this management unit will continue to be undefended (PUs 2.7, 2.9 & 2.13), with small areas to be defended in the short term. The policy of HTL in the short term at Nolton Haven followed by the natural realignment of the bay through MR in the medium to long term will encourage the build up of sediment in front of the road and thus ensure that the localised coastal processes are uninterrupted and erosion of the adjacent cliffs continues. This will benefit the BQEs (i.e. macroalgae and benthic invertebrates) in the Newgale to Little Haven Coast SSSI. The management of Newgale mainly through MR will allow the shingle bank to evolve naturally by rolling back, with some soft management techniques. This will have a positive impact on the BQEs of the sandy beach (benthic invertebrates), areas of vegetated shingle and dunes backing areas of the beach as new habitat is gained over time. **Other Water Bodies (WFD 3):** **Norlton Stream** (PU 2.8), **Bathesland River** (PU 2.10), **Brandy Brook** (PU 2.11 >2.12) - The policy of MR in the medium to long term will support natural evolution of hydromorphology and benefit the BQEs for each of these three river bodies, which will help the ensure Good Ecological Status can be reached in 2027 by the end of the first epoch.	N/A	✓	✓	✓
		PU2.10	Newgale Sands south		Manage the realignment and loss to road, while protecting access from the south.	MR	MR	MR		N/A	✓	✓	✓
		PU2.11	Newgale Sands north		Manage shingle on the road but with the long term intent of allowing the shingle ridge to behave naturally.	MR	MR	NAI		N/A	✓	✓	✓
		PU2.12	Newgale village		Manage the cliffs and position of the stream to sustain the upper village.	HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts): 2.7, 2.9 & 2.13				
3	**4**	**PU3.2**	Lower Solva	**Solfach (Transitional – T1)**	Adaptation planning for the area needs to be developed.	HTL	HTL	MR	Most of the coastline within MAN 4 (PDZ 3) is undefended rocky cliffs and will continue to erode naturally with no changes to the BQEs. **TraC Water Bodies (WFD 2):** **Solfach (Transitional)** By maintaining the defences in Solva Estuary (**PU 3.2 & 3.3**) the localised hydrodynamics and BQEs associated with the sand and mudflats will be affected since there will be some coastal squeeze with sea level rise, which will result in some loss (<0.01 of a ha over the 100 year period) of habitat that support benthic invertebrates (which are fed on by birds and fish). However, in the third epoch MR will allow the banks in PU 3.2 to be able to erode more naturally with the creation of some intertidal area. The functioning of this transitional water body will not however be significantly effected to such a degree that the WFD Environmental Objectives will not be met. **Pembrokeshire South (Coastal)** Porth Clais (**PU 3.4 & 3.5**) is a gorge like channel with steep rising high ground and rocky and sandy intertidal areas. The defences along the gorge prevent the natural colonisation of macroalgae on potentially rocky areas, as well as modifying the hydrodynamics with the presence of the large quay structure at the entrance. NAI in the medium to long term will improve the hydrodynamics, erosion and natural evolution of the majority of the gorge and ensure the BQEs (e.g. macroalgae and benthic invertebrates) will improve. Overall holding the line for the inner Porth Clais will not result in the deterioration in Good Ecological Status of the Pembrokeshire South coastal water body. Whitesands bay (**PU 3.8**) is a narrow sandy beach backed by hard rock cliff, with localised defences in front of the carpark and rescue centre to the northern end of the bay. Continuing to maintain the defences in the short term, with the intent to retreat the coast in line with what would naturally evolve, will ensure the hydrodyamics of the bay will not be affected, and nor will the associated water body BQEs (i.e. benthic invertebrates). The SMP2 policy will not prevent attaining the environmental objectives for Pembrokeshire South water body (C1). **Cardigan Bay (Coastal)** The MR of the beach at Abereiddi (**PU 3.9**) will allow the local hydrodynamics and associated BQEs (benthic invertebrates and macroalgae on surrounding rocky shores) to evolve more naturally over time, only improving the ecological status of the coastal water body (C2). Holding the defences at Porth Gain (**PU 3.10**) continues to maintain an artificial channel, change the local hydrodynamics and results in the absence of a sandy beach. However, this is a very small, narrow, enclosed bay and the effects are extremely localised. A HTL policy for all three epochs will therefore not prevent the water body overall meeting the WFD objectives. Aber Castle (**PU 3.11**) bay is a low energy environment with a large shallow sandy beach surrounded by rocky cliffs. The small defence landward of the beach does not affect the hydrodynamics of the bay or the water body, and allowing the managed retreat of the beach would ensure adaptation with future sea level rise and no loss of the extent of benthic invertebrate BQEs within the sandy beach. **Other Water Bodies (WFD 3):** **Solva River** (PU 3.2) – HTL within Solva Harbour will continue to prevent the natural transition of the FWB to the TraC water body, however none of the defences prevent the migration of fish and so the Good Ecological Status will not deteriorate. **Alun River** (PU 3.5) – this river discharges under the road and maintaining these defences will not affect the BQEs or Ecological Status.	N/A	✓	✓	✓
		PU3.3	Solva Harbour		This policy would be subject to a collaborative approach to funding.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU3.4	Porth Clais outer	**Pembrokeshire South (Coastal – C1)**	This would not preclude local management subject to normal approvals.	HTL	NAI	NAI		N/A	✓	✓	✓
		PU3.5	Porth Clais inner		This policy would require collaborative planning and funding.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU3.8	Whitesands bay		Managed long term process of retreat.	HTL	MR	MR		N/A	✓	✓	✓
		PU3.9	Abereiddi	**Cardigan Bay South (Coastal – C2)**	Managed long term process of retreat.	MR	MR	MR		N/A	✓	✓	✓
		PU3.10	Porth Gain		Significant funding issues.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU3.11	Aber Castle		Maintain the use of the area and support the local community be setting back local defences.	HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Unnamed-headwaters to tidal limit, Abereiddi (PU 3.9) – The MR of Abereiddi beach will mean a more natural transition from the coastal water body BQES to freshwater BQEs, thus improving its ecological status. **Unnamed-headwaters to tidal limit, Abercastle** (PU 3.11) – Allowing the beach to be realigned landward and evolve naturally will shift the transitional area further inland up the valley. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 3.1, 3.6, 3.7, 3.12				
4	**5**	**PU4.2**	Fishguard Harbour		Maintain operation of the port and improve defences. Potential for advance the line to improve sustainability of the head of the harbour through possible joint funding.	HTL	HTL	HTL/ AL	**TraC Water Bodies (WFD 2):** **Cardigan Bay South (Coastal)** Fishguard Bay is a relatively large bay, with the only substantial development and defences found within Fishguard Harbour and Gwaun Estuary in the western end of the bay. The presence of the breakwaters within Fishguard Harbour (**PU 4.2**) protects the area from wave attack, resulting in the area being relatively stable with a need to regularly dredge. Maintaining the breakwaters and defences within the harbour will result in some loss of the intertidal mud and sand within the harbour and the associated BQEs (benthic invertebrates). This area has historically been defended and since the coastal water body is already at Good Ecological Status, it is very unlikely that the policy for this area will result in the deterioration of this status. The Parrog (**PU 4.3**) is aligned by an assortment of defences from groynes, granite sea wall to low embankments. Managing the realignment of the road in the 2nd epoch and allowing Goodwick Moor to tidally flood will result in the creation of new intertidal and coastal habitat that would support BQEs such as benthic and macro-invertebrates and saltmarsh macrophytes, as well as create a more natural estuary of Goodwick Brook rather than to cause tidal locking. This will benefit the ecological status of both Cardigan Bay South (C2) and Goodwick Brook. **Gwaun (Transitional)** Holding the defences within the Gwaun Estuary is likely to have some negative impact on the benthic invertebrates within the intertidal mud and sandflats by coastal squeeze of the fronting intertidal areas as sea level rises, in particular along Lower Town Quay. However, the hydrology, tidal regime and morphology of this transitional water body will not be significantly affected, but rather improved in the long term. The water body currently has Moderate Ecological Status. It has not been stated that this is due to the coastal defences rather that the fish populations are only moderate rather than good, and the reason for this is presently unknown. The intention to redesign the river entrance around the lower town centre so that the Gwaun River can develop under a less constrained scenario in the long term has the potential to further benefit both the transitional and freshwater bodies and their associated BQEs (e.g. benthic and macro-invertebrates and fish). **Other Water Bodies (WFD 3):** The coastal management within the estuary will not prevent the WFD objectives from being met for the adjacent Cardigan Bay South coastal water body. There are two other water bodies that could be affected by the policies within this management unit and the adjacent coastal and transitional water bodies. **Goodwick Brook** (PU 4.3) – The MR of The Parrog in the 2nd and 3rd epochs will result in the creation of a more natural estuary for the transitional area between the coastal water body and this freshwater body, thus reducing tidal locking and improving associated BQEs. **Gwaun** (PU 4.6) – the flow of water into the associated transitional water body is presently constrained by the presence of defences in the lower town centre, the modification of these in the long term will benefit the freshwater body.. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 4.1, 4.4	N/A	✓	✓	✓
		PU4.3	The Parrog and Goodwick Moor		Potential for opening up the estuary with the road taken across as a bridge.	HTL	MR	MR		N/A	✓	✓	✓
		PU4.5	Hill Terrace	**Gwaun (Transitional –T2)**	Support to coastal slope.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU4.6	Lower Town centre		Redesign of river entrance and development plan for the core of the village in association with highway authority. Subject to joint funding.	HTL	HTL	MR		N/A	✓	✓	✓
		PU4.7	Lower Town Quay		Subject to joint funding.	HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
	6	PU4.10	Pwllgwaelod Bay	Cardigan Bay South (Coastal – C2)	Local maintenance prior to removal of defence	HTL	NAI	NAI	**TraC Water Bodies (WFD 2):** **Cardigan Bay South (Coastal)** Pwllgwaelod Bay (**PU 4.10**) will be protected in the short term for safety reasons with the overall intention of allowing the bay to function naturally and adapt to sea level rise. This will ensure there will be no coastal squeeze of the intertidal sandy beach and associated BQEs (i.e. benthic invertebrates) will be unaffected, as well as the continued erosion of the adjacent cliffs. Maintaining the defences at Cwm-yr-Eglwys (**PU 4.12**) will result in coastal squeeze of the intertidal sandy beach in the medium to long term with sea level rise, which would result in the loss of the extent available for benthic invertebrates. This is however a relatively small area in comparison with the size of the overall water body, and will therefore not result in the deterioration of GES. **Other Water Bodies (WFD 3):** There are no known adjacent surface water bodies that will be affected by the SMP2 policies. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 4.11, 4.13	N/A	✓	✓	✓
		PU4.12	Cwm-yr-Eglwys		Subject to funding, with the intent to manage and improve the beach and foreshore.	HTL	HTL	HTL		N/A	✓	✓	✓
	7	PU4.14	Newport Parrog West	Nyfer (Transitional – T3)	Support local private defence.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Nyfer (Transitional)** The aim of this management unit is to allow a more natural and sustainable function of the Nyfer estuary. The majority of the estuary i.e. the inner (**PU 4.16**) and north-eastern side (**PU 4.17**) is to be NAI, whilst the Parrog (a rocky outcrop with residential houses and private defences) on the south-western entrance (**PU 4.14 & 4.15**) is to be managed through the retreat of the existing defences and potential for building up the existing beach. The aim at Newport Sands (**PU 4.18**) on the northern side of the estuary is by a stepped retreat. The presence of Newport Sands, the Parrog and the Bennet spit protects the estuary from a significant amount of wave energy. The estuary is a sediment sink for both sand and fine sediments that support benthic invertebrate rich communities and some saltmarsh habitat landward of the Parrog. The estuary is presumed to support a good population of migratory fish, since the there is a Freshwater Fish designation to the upstream Nyfer river (GB110061038510). The estuary is not particularly artificially modified in terms of hydro-morphology, and so the future management of the estuary will only result in further improvements to the water body, and will allow the estuary to adapt to sea level rise without any risk of tidal locking or significant loss of BQEs. **Other Water Bodies (WFD 3):** **Cardigan Bay South** (coastal) - the management of the estuary will not change the morphology of the estuary or the hydrodynamics and therefore will not affect the adjacent coastal water body, and thus will not fail Environmental Objective WFD 3. **Nyfer River** (PU 4.16) – The suite of policies in the Nyfer Estuary to allow it to adapt more naturally in the long term will continue to support the natural hydromorphology of the river and benefit the associated BQEs, which will help the ensure Good Ecological Status is maintained. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 4.16, 4.17, 4.19	N/A	✓	✓	✓
		PU4.15	Newport Parrog		Subject to further detailed study. The default policy in the third Epoch would be NAI	HTL	HTL	MR		N/A	✓	✓	✓
		PU4.18	Newport Sands		Retreat defence line in balance with roll back of the Bennet.	HTL	MR	NAI		N/A	✓	✓	✓
5	9	PU5.3	Poppit Dunes and Pen-yr-Ergyd	Teifi (Transitional – T4)	Requirement for a detailed integrated management plan. Default policy of NAI	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Teifi (Transitional)** The Teifi Estuary is situated on the Afon Teifi, with both water bodies being of Moderate Ecological Status. The estuary is a large infilled river valley situated between two rocky headlands (Cemaes Head and Craig-y-Gwbert), and with two spits located at Poppit Sands in the west and Pen-yr-Ergyd in the east that are	N/A	✓	✓	✓
		PU5.5	St Dogmaels north		With the intent to maintain access road.	HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU5.7	Coronation Drive		Adaptive approach to support fringe habitat development	HTL	HTL	MR	important in the control of the estuary morphology. This management unit covers the outer Teifi estuary from the coast to just north of St Dogmaels. The aim of the management unit is to allow the outer estuary to evolve as naturally as possible through NAI over the 100 years. In the past, defences along the Gwbert and Pen-yr-Ergyd frontages (north side of estuary) have had a major impact on the geomorphology and hydrology of the estuary, preventing the natural repositioning of the channel to the east and preventing new sediment supply building on Poppit Sands. The intention is to remedy this by having a policy of MR for PU 5.3 (which covers both sides of the estuary) rather than HTL, so that various important assets are maintained but in a manner that is sympathetic to the function of the estuary – the details of such a MR would need to be investigated in a specific Management Plan for the area.	N/A	✓	✓	✓
		PU5.8	Gwbert Road			HTL	HTL	HTL		N/A	✓	✓	✓



Realigning this part of the estuary could open up the estuary and would benefit the water body as a whole, since the morphology and associated BQEs (e.g. saltmarsh, sand dune angiosperms, benthic and macroinvertebrates) of the estuary would be more sustainable, and would enable the estuary to adapt with sea level rise in the future. The HTL policies within PUs 5.5, 5.7 and 5.8 will continue to prevent the estuary from rolling back and is likely to result in some loss of sand and mudflats and the associated benthic invertebrates, and saltmarsh through coastal squeeze, though the intention of MR in the long term along Coronation Drive would be to allow the development of fringe habitat (e.g. saltmarsh). Overall it is unlikely that this policy suite will cause the water body from deteriorating in Ecological Status or from preventing it from improving from Moderate to GES by 2027, rather the policies will help any improvement.

Other Water Bodies (WFD 3):

Cardigan Bay South (coastal) - Since there is little interaction between the estuary and the open coast (as determined by ABPmer on the sediment transport of the area (2010)) the SMP policy suite within the estuary will not cause a deterioration in Good Ecological Status of Cardigan Bay South coastal water body.

Unnamed - Teifi Est., S.Side near Poppit (PU 5.3) – A policy of MR within this PU is unlikely to have the potential to cause the river water body from deteriorating in Ecological Status or prevent it from improving to GES by 2027.

Unnamed - Teifi estuary, St Dogmaels N. (PU 5.5) – this river water body has moderate ecological status, high hydrology and good morphology. The HTL policy will continue to prohibit this small river from having a more natural river mouth where it discharges into the Teifi estuary, with a lack of saltmarsh BQE as would

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									be expected if the policy was NAI. However, the HTL policy will not prevent the migration of fish or cause the overall deterioration in the Ecological Status of this river water body. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 5.1, 5.2, 5.4, 5.6, 5.9				
	10	**PU5.11**	Cardigan North	**Teifi (Transitional – T4)**	Requirement for planning control and consideration of flood risk issues in redevelopment of the area.	HTL	HTL	HTL	The inner Teifi Estuary, downsteam of St Dogmaels, is narrow and meanders past Cardigan and has areas of mud and sandflats and saltmarsh. **TraC Water Bodies (WFD 2):** **Teifi (Transitional)** The aim of this management unit is to HTL on either side of the estuary around Cardigan (PUs 5.11 and 5.12), which in the long term will result in the continued narrowing of the mudflats, which will reduce the extent of the benthic invertebrate BQEs of this water body. However, by allowing the area around St Dogmaels and Castle Farm (PU 5.10) to evolve naturally over the three epochs, as well as to allow the estuary downstream of Cardigan Bridge to evolve naturally by realigning the defences to allow the habitats (i.e. saltmarsh and grazing marsh) to adapt to sea level rise without any risk of tidal locking or significant loss of BQEs. Overall it is unlikely that this policy suite will cause the transitional water body to deteriorate in Ecological Status or from preventing it from improving from Moderate to GES by 2027, rather the policies will help any improvement. **Other Water Bodies (WFD 3):** The policies in the inner estuary will not affect the nearby coastal water body (Cardigan Bay South). There are two river water bodies that flow into the estuary in this management unit. **Mwidan River** (PU5.11) is in Poor Ecological Status as the fish BQEs have been classified as of poor quality due to levels of ammonia. The river discharges into the estuary between the slipway at Net Pool and Cambrian Quay at Cardigan. The continued HTL policy will prevent the morphology of the river at its discharge point from adapting naturally with sea level rise. However, this is unlikely to result in preventing the water body from attaining GES by 2027, as the morphology is presently good, and it is the ammonia levels that need to be dealt with. The other river is **Piliau** (PU 5.14) which discharges downstream of the Cardigan Bridge. The policy of MR will not result in the deterioration or prevention of attaining GES by 2027 since it will allow the natural adaptation of the transitional area of the river and ensure the BQEs of saltmarsh, benthic invertebrates and fish are maintained and improved. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 5.10	N/A	✓	✓	✓
		PU5.12	Cardigan South		Requirement for planning control and consideration of flood risk issues in redevelopment of the area.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU5.13	Upstream of bridge north		Retired defence to road.	MR	MR	MR		N/A	✓	✓	✓
		PU5.14	Upstream of bridge north		Subject to nature conservation interest	MR	MR	MR		N/A	✓	✓	✓
6	**12**	**PU6.2**	Aberporth	**Cardigan Bay Central (Coastal – C3)**		HTL	HTL	HTL	This stretch of coastline comprises high rocky cliffs, with rocky intertidal covered in macroalgae mainly to the south where the coast is exposed to dominant south-westerly offshore waves. Whilst further north, there are increasingly more sandy bays (with benthic invertebrate BQEs) and rocky intertidal shores at the foot of the cliffs due to the more sheltered nature of the coastline. **TraC Water Bodies (WFD 2):** **Cardigan Bay Central (Coastal)** Much of the coastline is to be left to adapt naturally to sea level rise allowing the continued erosion of the softer rocks and slow erosion of the harder cliffs. The NAI policy for PUs 6.1, 6.3 and 6.7 (all open coast) and 6.5 (a natural sandy bay) will ensure the hydrodynamics and BQEs of the coastal water body will not change. There are however four areas that will be defended in the short term (epoch 1) with the intention of only continuing to HTL in the long term at Aberporth (PU6.2). These areas generally comprise sandy beach areas with a small discharging river/stream and landward built up communities. At Aberporth (PU 6.2) the policy of HTL will result in the beach being pushed landward against the defences and some coastal squeeze of the sand and loss of benthic invertebrate BQE in the long term. By maintaining the defences there is	N/A	✓	✓	✓
		PU6.4	Tresaith		Potential removal of defences to southern end.	HTL	MR	MR		N/A	✓	✓	✓
		PU6.6	Llangrannog		Integrated approach to re-development of the village sea front	HTL	MR	MR		N/A	✓	✓	✓
		PU6.8	Cwmtydu		Further discussion with respect to historic environment.	HTL	HTL	NAI		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									potential for there to be increased pressure at the mouth of Gilwen and Honwi Stream. The defences would not however interfere with the hydrodynamics of this coastline, only those localised within the bay. At Tresaith (PU 6.4) the policy is to maintain the defences in the first epoch and then to allow more natural development of the western end of the beach with MR. There will be some loss of beach area and the associated BQEs and changes in localised coastal processes but not much beyond the eastern end of the beach that will continue to be protected. At Llangrannog (PU 6.6) the policy is to maintain the existing defences in the first epoch but to then adapt the community through some kind of realignment that would both protect the community but also ensure the beach continues to be an amenity. As at the moment the present defences do interfere with the local coastal processes and there would be loss of the beach and benthic invertebrate BQEs. Since this is only a small bay within this coastal water body the policy suite will not result in the water body deteriorating its GES. Finally, the defences at Cwmtydu (PU 6.8) presently prevent the natural evolution of the beach and landward valley along the Ffynnon river. Allowing the beach to respond more naturally to sea level rise in the 3rd epoch will mean the restoration of the natural coastal processes and prevent significant loss of the beach and associated benthic invertebrates. Overall, this coastal water body is currently in GES and the policy suite is unlikely to cause the deterioration of this status. **Other Water Bodies (WFD 3):** **Gilwen and Honwi** (PU 6.2) – these two streams flow onto Aberporth beach and their mouths will continue to be unnaturally constrained by the defences. Without the defences there would be a more natural valley and transitional area between saline and freshwater BQEs of these water bodies. However, these defences do not have the potential to prevent the water bodies attaining GES by 2027 since they are not considered to be artificial or heavily modified by defences. **Hawen** (PU 6.6) – the mouth of this small river is constrained by an open and closed culvert which will remain in the 1st epoch. Through the potential MR of the beach there is a possibility to open up the mouth of the river which would improve the morphology of the mouth and the associated BQEs. The policy suite will therefore not deteriorate or prevent the attaiining of GES by 2027. **Ffynnon** (PU 6.8) – the mouth of this river is not constrained by defences, however, its geomorphology is being affected and NAI in the long term will allow this to adapt naturally and will also mean the tidal extent will be further reaching. The HTL in the first two epochs will not cause this freshwater body from attaining GES by 2027. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 6.1, 6.3, 6.5 and 6.7				
7	**13**	**PU7.1**	New Quay Head to Traeth Dolau		MR this would not preclude private defence to the fish factory + may require minor works to maintain road. Private works to stabilise cliff would be subject to appropriate approvals	MR	MR	NAI	**TraC Water Bodies (WFD 2):** **Cardigan Bay Central (Coastal)** This stretch of coastline comprises a sandy shingle bay backed by soft boulder clay cliffs and is held by two headlands, a rocky headland to the west (New Quay Head) and a softer headland to the east (Llanina Point). The coastal processes within the bay are complex, with the coastal defences holding the bay in its present morphology, and changing the local hydrodynamics but not the tidal regime. The rocky headlands provide habitat for macroalgae communities, and the sandy bay for benthic invertebrates, with the intertidal area being designated as the Aberarth – Carreg Wylan SSSI, as well as Cardigan Bay SAC (which includes the subtidal area). The SMP2 policy suite for this management unit supports the more natural	N/A	✓	✓	✓
		PU7.2	Traeth y Dolau, New Quay Harbour to Penpolian.			HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU7.3	New Quay Bay		Manage the retreat of this cliff, Local cliff drainage and local defence could allow adaptation.	MR	MR	MR	development of the bay, whilst managing the coastal erosion risk through the maintenance of the defences at New Quay and managing the retreat of the cliffs elsewhere in the bay. Where HTL is the preferred policy there is likely to be loss of intertidal habitat (ca. 0.03 ha in total) that supports benthic invertebrates due to coastal squeeze; however the defences, principally the pier will provide added habitat for macroalgal communities. Where there are local private defences within areas that will undergo managed retreat there will also be some loss of intertidal benthic communities. These losses will be mitigated for by the managed retreat, which is to allow the morphology of the bay to evolve as naturally as possible, whilst increasing available sediments, but without significantly changing the inshore water depths and hydrodynamics with sea level rise. Therefore, deterioration in Good Ecological Status is considered unlikely. **Other Water Bodies (WFD 3):** **Halen** (7.3) – this is a small river that discharges into New Quay Bay and which is not affected by coastal defences. MR will allow the continued retreat of the cliffs and is unlikely to affect the Ecological Status of this river water body. **Gido** (7.4) - this is a small river that discharges through the cliffs at Llanina Point and runs to the east of the small concrete terminal structure. The headland is also protected by another terminal structure to the east of this river. Both these structures maintain the headlands position. The preferred policy of MR will allow the managed retreat of the cliffs, but since these defences do not obscure the flow of the river or its morphology it is unlikely to affect the Ecological Status of this river water body. **No scoped Out PUs.**	N/A	✓	✓	✓
		PU7.4	Llanina Point		Managing this headland as sea levels rise to ensure it behaves as a control point for the bay.	MR	MR	MR		N/A	✓	✓	✓
	14	**PU7.5**	Cei Bach		Maintaining existing defences in the short term, gradually allowing natural processes to deepen the bay in the longer term.	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay Central (Coastal)** Little Quay Bay stretches from east of Llanina Point and along the cliffs of Carreg Ddu up to Gilfach yr Halen. These cliffs are only stabilised at the western end of the bay at Cei Bach, with concrete bases at the foot of the soft clay cliffs and fronted by rock armour and a timber groyne field. These defences protect the cliffs from slumping and to stabilise the sand and shingle on the beach. The preferred policy of HTL will continue to modify this localised area with some loss of the benthic communities in the intertidal area with coastal squeeze caused by sea level rise. However in the long term MR will mitigate for any loss by allowing the cliffs to slump more naturally which will release the required sediments to replenish the beach and increase the extent and condition of benthic communities. The coastal defences in this local area are unlikely to affect the hydrodynamics of the water body as a whole, nor are they likely to decrease the benthic communities to be significant on a water body scale, particularly with the mitigation of a MR policy in the long term. Therefore, deterioration in Good Ecological Status is considered unlikely. **Other Water Bodies (WFD 3):** There is one river body (Drywi) in this management unit but this discharges into PU7.6, and since this has been scoped out because there are no defences and it will continue that way, then there is also no need to assess the river body. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 7.6	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
8	15	PU8.2	Aberaeron South Beach		Maintain defences, consider realignment southern end of the defence in the future. Long term management of this area would be linked to long term management of Aberaeron North.	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay Central (Coastal)** Much of this stretch of coastline is made up of undefended high soft cliffs with a shingle foreshore. The beaches are fed by erosion of the cliffs with wave attack from both the southwest and northwest. There are two defended areas, one around Aberaeron town and the second at the village of Aberarth. There are a series of groynes and rock revetments either side of Aberaeron to help control the northward drift of sediment and coastal flooding to the north of the town. Aberaeron Harbour sits at the mouth of the Aeron River and is protected by two breakwaters. The coastline is also designated as part of the Aberarth – Carreg Wylan SSSI and Cardigan Bay SAC, though this does not include the harbour area. The preferred policy of HTL will continue to prevent this frontage from naturally rolling back and exposing the intertidal platform, whilst holding sediments and preventing coastal flooding along Aberaeron North Beach. The breakwaters interfere with the local hydrodynamics and coastal geomorphology, which is why the groynes are in place to retain some of the sediments that are drifting northwards, however they do not presently prohibit the flow of the river or prevent fish migrating up river. The preferred policy of HTL around Aberaeron will continue to modify the local hydrodynamics of this area, as well as affecting the longitudinal position of the mouth of the River Aeron and impact benthic invertebrates and macrophytes, although it is unlikely to limit access for migrating species of fish. Overall, it is considered that the policies will not cause the deterioration in Ecological Status of the coastal water body but it does have the potential to cause the deterioration in Ecological Status of the Aeron freshwater body. Aberarth village is situated at the mouth of the Arth River, which is artificially controlled by a crib groyne, and which also protects a sewage works. There is also a groyne field to the south of the village to retain sediments that would be eroded away because of the groyne. The policy is to HTL in the short term with the managed retreat of the coast to the south of the crib groyne which will allow the coast to naturally erode and supply sediments to beaches further north. Maintaining the crib groyne will ensure the integrity of the sewage works which would otherwise have the potential to cause deterioration of the river and coastal water bodies through increased nutrient loading and affect BQEs such as phytoplankton, fish and benthic invertebrates. Overall, deterioration in Good Ecological Status to Cardigan Bay Central coastal water body is considered unlikely. **Other Water Bodies (WFD 3):** **Aeron** (PU8.2) – see above. There is potential for deterioration in Ecological Status as sea levels rise. **Arth** (PU8.6) – holding the mouth of this river is preventing it from developing naturally, however it is not to such a degree that it will cause deterioration in Ecological Status or prevent attaining GES by 2027. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 8.1, 8.5	N/A	✓	✓	✓
		PU8.3	Aberaeron Harbour		Maintain and raise existing defences over the period of the SMP. Future management would need to consider the real possibility of major change in this approach. The need for such change would critically depend on the rate of sea level rise.	HTL	HTL	HTL		N/A	✓	x	✓
		PU8.4	Aberaeron North Beach		As above	HTL	HTL	HTL		N/A	✓	✓	✓
		PU8.6	Aberarth		Maintain and amend defence around the mouth of the Arth, allow southern coast to erode back	HTL	MR	MR		N/A	✓	✓	✓
	16	PU8.8	Llanon and Llansantffraid		This would not preclude time limited private defence as part of managing retreat of the shoreline, subject to normal approvals.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay Central (Coastal)** The coast comprises high cliffs between Aberarth and Llanon and then a low coastal platform, the majority is undefended with the occasional private defence in front of caravan parks. The intention is to manage the retreat of the coastline, so	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU8.9	Llanrhystud Bay		This would not preclude time limited private defence as part of managing retreat of the shoreline, subject to normal approvals.	MR	MR	MR	as to give time for adaptation by landowners and thus allowing a more natural equilibrium of the coastline in the long term. Therefore, it is unlikely that the policy of NAI and MR within this management will cause either deterioration in status or prevention of GES from being achieved by 2027. **Other Water Bodies (WFD 3):** There are three river bodies that discharge within PUs 8.8 and 8.9; these are **Cledan**, **Peris** (PU 8.8) and **Wyre** (PU 8.9). Since the policy is to allow for a more natural coastline the SMP2 policy will not affect the integrity of the water bodies or prevent WFD Environmental Objective 3 from being achieved. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 8.7 & 8.10	N/A	✓	✓	✓
9	**17**	**PU9.2**	Tan y Bwlch	**Cardigan Bay North (Coastal – C4)**	The long term intent would be to allow a breach through to the Ystwyth but to manage this initially in discussion with landowners with respect to long term management of the new inlet.	MR	MR	NAI	**TraC Water Bodies (WFD 2):** This is principally an undeveloped coastline of high cliffs, rocky outcrops and sandy shingle beaches that support benthic invertebrates, macroalgae and seagrass communities. The main development within this management unit is the large coastal town of Aberystwyth, which is situated where two rivers converge, the Ystwyth and the Rheidol, but is mainly located along the Ystwyth Estuary. The coastal frontage and estuary is protected from coastal erosion and flooding by a suite of defences and policy options, though the most substantial defences are along the River Ystwyth. The defences have significant interactions with coastal processes, particularly around the harbour mouth.	N/A	✓	✓	✓
		PU9.3 (part)	Aberystwyth Harbour		This would be subject to joint funding and involve adaptation of operational use.	HTL	HTL	HTL	**Cardigan Bay North (Coastal)** This stretch of coast is eroding and is connected by a weak longshore drift with sediment being supplied from local slumping cliffs. The geomorphology of the coast around Aberystwyth is controlled by the series of hard defences. The preferred management of the frontage at Aberystwyth is to continue to HTL (and ATL through shingle replenishment along Marine Terrace), with the exception of Tan y Bwlch beach, which will be breached through a controlled MR location to allow the Rheidol estuary to form a more natural form in the long term and reduce landward coastal flooding. With increasing sea level rise continuing to HTL (and ATL) will result in the loss of intertidal benthic and rocky shore communities that support macroalgae, due to coastal squeeze. However, the long term MR of Tan y Bwlch will sufficiently mitigate for any loss as it will create intertidal sand and mudflats and saltmarsh areas, as well as release required sediments to replenish surrounding beaches. The coastal defences in this local area are not likely to affect the hydrodynamics of this large coastal water body as a whole, nor are they likely to decrease the benthic communities to be significant on a water body scale, particularly with the mitigation of a MR policy in the long term. Therefore, deterioration in Good Ecological Status is considered unlikely. **Ystwyth/ Rheidol (Transitional)** This water body is heavily defended and has therefore been designated a HMWB because of the coastal protection. The overall intent for this estuary is to continue to HTL, with the managed adaptation along Glanrafon Terrace in the long term, though this would not really improve the morphology of the estuary as a whole or create any further intertidal habitats. The main change from the previous SMP is the managed realignment of the south side of the Rheidol Valley (PU9.5), which would allow for the banks of the river to evolve more naturally with the potential for an increase in mudflats supporting benthic invertebrates. HTL is unlikely to deteriorate the ecological potential of this HMWB but it will continue to restrict the improvement from moderate to good by 2027. However, the MR on the south side of the inner estuary does implement one of the Western Wales RBMP mitigation measures – “managed realignment of flood defence” which then provides the	N/A	✓	✓	✓
		PU9.3 (part)	Aberystwyth Harbour	**Ystwyth/ Rheidol (Transitional – T5)**	This would be subject to joint funding and involve adaptation of operational use.	HTL	HTL	HTL		N/A	**x**	✓	✓
		PU9.4	Glanrafon Terrace		There will need to be a planned response to development of the Trefechan area.	HTL	HTL	MR		N/A	**x**	✓	✓
		PU9.5	Rheidol Valley south		Local adaptation to increased risk.	MR	MR	MR		N/A	✓	✓	✓
		PU9.6	Rheidol Valley north		This would include raising defences but beyond the period of the SMP there may need to be further adaptation.	HTL	HTL	HTL		N/A	**x**	✓	✓
		PU9.7	South Marine Terrace		Management approach is expected to change to managing the alignment of the shoreline and committing to beach recharge.	HTL	HTL	HTL		N/A	**x**	✓	✓
		PU9.8	Castle Hill	**Cardigan Bay North (Coastal - C4)**	Management approach is expected to change to managing wave exposure.	HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU9.9	Marine Terrace and Victoria Terrace		Management approach is expected to change to managing the alignment of the shoreline and committing to beach recharge, with the possible opportunity for reclaiming land to control the shoreline.	HTL	HTL	HTL/ A	potential for "bank rehabilitation / re-profiling". Overall, it is likely that WFD 2 will be failed as a result of the SMP2 preferred policy. **Other Water Bodies (WFD 3):** **Ystwyth** (PU 9.2>9.3) - The long term MR intent along Tan y Bwlch will result in a more natural and sustainable river mouth for this river, both improving morphology and hydrology of the river, as well as increasing the extent of BQEs such as benthic invertebrates, saltmarsh, macrophytes and improving access for migratory species of fish. **Rheidol** (PU 9.3>9.6) – This river body is a HMWB though this is not due to defences, rather power generation, water extraction and storage. Holding the line of the river mouth will continue to constrain the natural morphology of the estuary, however the long term MR of the south side of the inner estuary will allow for a more natural and sustainable option than previously HTL. Therefore, the policies within the estuary are unlikely to cause the river body to deteriorate in Ecological Potential or prevent it from achieving Good Ecological Potential. **Groundwater Body (WFD 4):** **North Ceredigion Rheidol** - A source protection zone is present inshore from PDZ9. The SMP policy along the majority of the PDZ is HTL, with MR proposed within PU9.5. The MR within this policy unit is not expected to have any significant affects on the quality of groundwater within the Lovesgrove SPZ, as the SPZ is a significant distance from the 100yr flood extent and the geology is homogenous within the area to be affected. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 9.1 & 9.10	N/A	✓	✓	✓
	18	**PU9.11**	Clarach Bay		This would require working with the local community and landowners to allow adaptation.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay North (Coastal)** This stretch of coast is mainly undefended high cliffs, fronted by shingle sandy beaches and rocky outcrops and which will continue to evolve naturally through a policy of NAI (PUs 9.12 and 9.13). There is a small stretch of coast at Clarach Bay that is defended where Clarach village is situated within the valley of the River Clarach, and which hosts two major holiday villages to the north and south slopes of the valley. The Craigyfulfran & Clarach SSSI extends over the whole foreshore and into the entrance of the valley. The Pen Llyn a`r and the cliffs and rock foreshore Sarnau / Lleyn Peninsula and the Sarnau SAC starts at the northern end of the bay area and the cliffs and foreshore are designated as SSSI. The policy here is to allow the managed retreat of the natural shingle defence and surrounding low level cliffs, in particular adaptation of the main frontage and at the northern end of the bay through consultation with local land owners and residents to develop an appropriate plan. This policy will ensure the Ecological Status of the coastal water body is not deteriorated, since it is in GES already. **Other Water Bodies (WFD 3):** **Clarach** (PU 9.11) – the MR policy will ensure the natural roll-back of the coast and not constrain the river mouth in any way. Therefore, it is unlikely to cause the river water body from deteriorating in Ecological Status or prevent it from improving to GES by 2027. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 9.12 & 9.13	N/A	✓	✓	✓
10	**19**	**PU10.1**	Upper Borth		A suitable buffer zone would be established to allow future cliff recession.	MR	MR	MR	This management unit covers the open coast stretching from the cliffs of Upper Borth to the sand spit north of Ynyslas, which sits within the Cardigan Bay North coastal water body. It then runs in along the southern side of the Dyfi Estuary to the east of the town of Machynlleth, which sits in the Dyfi & Leri transitional water body and the Dyfi River (FWB). The open coast is characterised by a long sandy beach on a shingle ridge backed by a raised bog, a large sand spit backed by dunes, and extensive sand flats and saltmarsh within the estuary that support	N/A	✓	✓	✓
		PU10.2	Borth Village		Increase width and resilience of the shoreline behaviour	HTL	HTL	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU10.3	Borth Golf Course		Manage the transition between the southern section of the shoreline and the Ynyslas dunes.	HTL	MR	MR	migratory fish species. The whole area is heavily designated for its nature conservation with the Dyfi SSSI, Dyfi Estuary SPA, Lleyn Peninsula and the Sarnau SAC, Cors Fochno SAC and Cors Fochno and Dyfi Ramsar site.	N/A	✓	✓	✓
		PU10.4 (part)	Ynyslas			MR	NAI	NAI	**TraC Water Bodies (WFD 2):** **Cardigan Bay North (Coastal)** The management intent within this section of this coastal water body is to continue to protect the village and golf course of Borth with a HTL policy in the short to medium term, with the long term view to retreat the village landward, as maintaining the defences is unsustainable. However, if the coast were to roll back this would result in destroying the bog at Cors Fochno and realigning the Leri River. In the long term the intention on this coastline is to manage the roll-back of the shingle ridge and investigate adaptive coastal management so as to protect the ridge from breaching, whilst ensuring the beach retains enough sediment. The policy for the sand dunes at the mouth of the estuary (PU 10.4) will be a managed retreat and then NAI to ensure that they remain a robust defence from the open coast. Overall, it is considered that these policies of HTL and MR are unlikely to result in the deterioration in Ecological Status of this water body. **Dyfi & Leri (Transitional)** This transitional water body is classified as being heavily modified because of the extent of shell fishery use within the designated shellfish waters of this water body, and not because of coastal defences. The estuary sand and mudflats are rich with shellfish and polychaete BQEs. The SMP2 policies could have the potential to further stress these benthic communities by reducing the extent of mud and sandflats within the estuary due to HTL policies causing coastal squeeze with increasing sea levels. This then has the potential to affect migratory fish species that feed on these species. The management intent for the south side of the estuary is to HTL in the short to medium term, with MR as the long term. However, with the exception of Morben Hall, since HTL will begin to constrain the natural functioning of the estuary as the sea levels rise there will be losses of the mud and sandflats. Therefore, it is likely that the policy suite will have the potential to cause deterioration in the Ecological Potential of this water body in the medium term, which has the potential to be mitigated for if it was possible to realign the estuary in the long term. It may be possible for the water body to achieve GEP by 2027 but then for it to deteriorate after this time period. In light of this, there will be a failure to meet Environmental Objective WFD 2. **Other Water Bodies (WFD 3):** **Leri-Lower** (PU 10.5, 10.6) – the policy is to maintain the defence over the first 10 year period along the transitional section of the river that runs north from Borth to the mouth which discharges into the main estuary, and then manage removal of the defences, though this will largely depend on improved understanding of sea level rises. Removing the defences allows the potential for a more natural morphology and hydrology which is likely to improve the Ecological Status of the overall water body in the future. These policies are unlikely to cause deterioration of the water body as a whole. **Clettwr** (PU 10.6) – As with Leri-Lower the policy of HTL in the short to medium term followed by MR is unlikely to result in deterioration in status or prevent it from achieving GES, but rather result in improve the Ecological Status in the long run. **Einion** & **Llyfnant** (PU 10.7) – The HTL will continue to reduce the extent of tidal water within the Einion River and this would change if MR were to be an option in the long term. However, this is not likely to deteriorate or prevent the achievement of GES by 2027. The Llyfnant River is also unlikely to deteriorate in Ecological Status as a result of the HTL/HTL/MR policy suite, but rather improve in the long term, since the morphology of the mouth of the river will be able to adapt more naturally, which will benefit the associated BQEs. **Dyfi** (PU 10.8>10.9) – the HTL policy in 10.8 is unlikely to result in deterioration in GES, and the HTL followed by MR in the medium term in PU 10.9 is likely to benefit the water body by improving the marginal habitats that support	N/A	✓	✓	✓
		PU10.4 (part)	Ynyslas	**Dyfi & Leri (Transitional – T6)**		MR	NAI	NAI		N/A	✓	✓	✓
		PU10.5	Afon Leri		Manage flood defence initially with the intention of allowing failure in the third epoch, subject to caveats given in the text.	HTL	HTL	MR		N/A	x	✓	✓
		PU10.6	Cors Fochno		Manage flood defence initially with the intention of allowing failure in the third epoch, subject to caveats given in the text.	HTL	HTL	MR		N/A	x	✓	✓
		PU10.7	Dyfi Junction		With the intent to maintain the transport routes.	HTL	HTL	MR		N/A	x	✓	✓
		PU10.8	Morben Hall			HTL	HTL	HTL		N/A	x		✓
		PU10.9	Machynlleth			HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									macrophytes and macro-invertebrates. **No PUs were scoped out.**				
	20	**PU10.10**	Pennal valley		.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Dyfi & Leri (Transitional)** The management intent for the north side of the estuary is to HTL along much of its length, with the exception the MR along Pennal valley (though this precludes maintaining the defences in front of the village and road) and around Aberdyfi Dunes. The HTL policy will begin to constrain the natural functioning of the estuary as sea levels rise as it will on the south side of the estuary, however, there will not be such large losses of the mud and sandflats since it is backed by rising land that would not develop into mudflats if it were to evolve naturally. The only exception is around Gogarth. It is unlikely that the policy suite for this side of the estuary will have the potential to cause deterioration in the Ecological Potential of this water body, though taking into context the policies on the south side of the estuary it cannot be concluded that the policy at Gogarth will not assist in preventing the achievement of GEP by 2027. **Cardigan Bay North (Coastal)** The coastline from Aberdyfi Dunes up to the entrance of Dysynni Estuary comprises long sandy beach, which is backed by low lying dunes along the southerly end, Penllyn Marshes in the central part and the town of Tywyn at the northerly end. The intention is to manage the retreat of the coastline from the dune headland of the Dyfi & Leri Estuary up to the south side of Tywyn. This will ensure limited coastal squeeze of the beach and the continued function of the dunes. The policy of HTL along the frontage of Tywyn and the Dysynni railway line could potentially cause coastal squeeze. However, this will only be the case in front of the railway line where the defences have to be linear, though by continuing to hold the defences the sewage works are protected and therefore do not cause a risk of reducing water quality (i.e. increase nutrient loading) within the coastal water body. At Tywyn the intent is to not only HTL but to carry out beach recharge and rethink how the beach is held so it accretes sediments in such a way it does not impact upon sections of coast to the north and south of the defended area; this could therefore increase and enhance the benthic invertebrate community population in the locality. The intent around the entrance to the Dysynni Estuary is to HTL since it is necessary as long as the railway is protected. To the north of the Dysynni Estuary the intent is the managed retreat of the headland in the short to medium term, followed by NAI; this will ensure the release of sediments for the beach at Tywyn and allow the benthic communities to adapt to sea level rise. Overall, the policies within this management unit are not likely to cause deterioration in the Good Ecological Status. **Dysynni (Transitional)** This water body has been classified as being heavily modified due to coastal defences. The management intent for this transitional water body is to maintain the existing defences in the short term, followed by the MR which will give time to determine a strategy to allow for adaptations to the surrounding farmland. Continuing to HTL in the short term will continue to constrain the estuary which could mean that GEP may not be attained by 2027; however the MR in the medium to long term mitigates for this and will ensure that this water body will improve in Ecological Potential in the medium term. **Other Water Bodies (WFD 3):** **Pennal** (PU 10.10) – Though the policy for managed realignment of this section of the estuary, the river runs through Pennal village and so the river banks will remain defended, however, the mouth of the river will continue to be unconstrained. It is not considered that the BQEs of this estuary will be affected by the SMP2 policies or that it will prevent GES from being achieved in 2027. **Unnamed to Dyfi estuary north** (PU 10.12) – there are three small rivers that discharge in the Dyfi estuary, all of which are of Moderate Ecological Status. The	N/A	✓	✓	✓
		PU10.11	Gogarth			HTL	HTL	HTL		N/A	x	✓	✓
		PU10.12	Dyfi North		Management of road and rail defences	HTL	HTL	HTL		N/A	✓	✓	✓
		PU10.13	Aberdyfi			HTL	HTL	HTL		N/A	✓	✓	✓
		PU10.14 (part)	Aberdyfi Dunes		Support natural dune defence and adapt use within the Golf Course	MR	MR	MR		N/A	✓	✓	✓
		PU10.14 (part)	Aberdyfi Dunes	**Cardigan Bay North (Coastal – C4)**	Support natural dune defence and adapt use within the Golf Course	MR	MR	MR		N/A	✓	✓	✓
		PU10.15	Penllyn		Allow natural function of the seaward face. Maintain defence to the railway line and road.	MR	MR	MR		N/A	✓	✓	✓
		PU10.16	Tywyn			HTL	HTL	HTL		N/A	✓	✓	✓
		PU10.17	Dysynni railway		Consideration of future managed realignment to entrance to the Dysynni	HTL	HTL	HTL		N/A	✓	x	✓
		PU10.18	Dysynni Estuary		Developed with land owners	HTL	MR	MR		N/A	✓	✓	✓
		PU10.18	Dysynni Estuary	**Dysinni (Transitional – T7)**	Developed with land owners	HTL	MR	MR		N/A	✓	✓	✓
		PU10.19	Tonfanau	**Cardigan Bay North (Coastal – C4)**		MR	MR	NAI		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									HTL policy for this unit is unlikely to result in deterioration or prevention of achieving GES by 2027. **Dyffryn-Gwyn** (PU 10.15) – The HTL policy of this frontage means a sluice is required to drain this small river, however this does not prohibit the functioning of the river, but has the potential for preventing passage of migratory fish, but since this is a small river it is unlikely that the SMP2 policy will result in either the deterioration or the prevention of the water body from achieving GES. **Unnamed tributary south of Afon Dyffryn-Gywn** (PU 10.17) – this tributary is canalised for flood protection reasons, which is why it is classified as being heavily modified. The HTL policy will mean that this river body will continue to remain canalised; this situation will not change until there is a feasible option to relocate the railway and protect the sewage works. Therefore, the SMP2 is likely to prevent this water body from achieving Good Ecological Potential by 2027 since none of the mitigation measures have been implemented. **Fathew, Dysynni-lower** (PU 10.18) – The MR of the defences within this estuary will ensure that there are no fluvial flow issues as a result of sea level rise. Therefore, it is unlikely that there will be deterioration or prevention from achieving GES by 2015. **No PUs were scoped out.**				
11	**21**	**PU11.1**	Rola		This relates specifically to defence of the railway line.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Cardigan Bay North (Coastal)** PU 11.1>11.3 This stretch of coastline comprises boulder strewn lower foreshore, overlain with large areas of course sand and shingle, with the upper beach and backshore varying between shingle and exposed clay cliff and hard rock outcrops. These habitats support diverse macroalgae and benthic invertebrate communities. In the subtidal offshore there are tide-swept sandbanks that have the potential to change if the coastal processes were to be interrupted. There are also designated subtidal bedrock reefs offshore of PU 11.1. The intertidal and subtidal area within this management unit is designated as both SSSI and SAC. This stretch of coast is at present relatively undefended, with defences being quite localised, for example, at Gors Wen with an embankment to prevent localised flooding, and along the Friog cliffs with the seawall built into the rock cliffs. The underlying intent along the coast is to allow its natural development and not to commit to becoming increasingly dependant on coastal defence structures. However, the presence of the train line means that there will need to be a HTL policy within PUs 11.1 and 11.3, with the construction of localised defences by epoch 2. This is likely to result in coastal squeeze in epochs 2 and 3 with the loss of the rocky and sandy intertidal foreshore BQEs, as well as localised changes in sediment distribution. However, these defences are unlikely to change the hydrodynamics or prevent the northerly sediment transport pathways so that the BQEs of the subtidal sandbanks and reefs deteriorate in status. The MR policy at Llwyngwril will allow the coast to roll back and flood more naturally in the future, thus increasing sediments into the system. **Other Water Bodies (WFD 3):** **Gwril River** (PU 11.2) – there is some tidal locking around the low lying land at the mouth of this river and this is likely to increase with sea level rise if the defences along the coast of Gors Wen continue to be held, which will affect the BQEs of the river further upstream. However, the policy of MR will allow the more natural functioning of this river, rather than to deteriorate its Ecological Status. **Unknown tributary near Afon Dysynni** (11.3) – by epoch 2 there is potential for the mouth of this river to be held to defend the railway line, which has the potential to constrain the morphology and flow more than there is at present. The BQEs of the river could be affected though this will depend on the type of defence that is constructed. Therefore, there is potential for the Ecological Status of this river to either deteriorate or from not achieving GES. **No PUs were scoped out.**	N/A	x	✓	✓
		PU11.2	Llwyngwril		This realignment is in relation to facilitating realignment of land use, with the intent to maintain the natural function of the shoreline.	MR	MR	MR		N/A	✓	✓	✓
		PU11.3	Friog Cliffs			HTL	HTL	HTL		N/A	x	x	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
	22	PU11.4	Ro Wen coast		This would involve relocation of property owners and businesses from Fairbourne	HTL	MR	NAI	**TraC Water Bodies (WFD 2):** **Cardigan Bay North (Coastal)** 11.4>11.5 (part) This section of the coast comprises a relatively wide beach of shingle (in places vegetated) on the upper foreshore and sand on the lower foreshore. There is an embankment (and historic 'dragons teeth' designated as a Scheduled Ancient Monument) running from along the frontage of PU 11.4. There is pressure for the beach to roll back, with evidence of the beach narrowing in recent years (due to lack of sediment supply from the south) and which will continue to do so with sea level rise, this will affect the BQEs of the intertidal. The intent is to continue to hold the defences in the short term (increase the height where required), followed by maintaining the defences but relocating the community of Fairbourne and then allowing the defences to fail by the 3rd epoch. This therefore means that coastal squeeze is unlikely to be an issue and the macroalgae, phytoplankton and benthic community BQEs are unlikely to deteriorate in the long term, though they may in the short term, but unlikely to be enough to cause the deterioration in GES for the whole water body. Furthermore, managing the retreat of Ro Wen spit will increase sediments into the estuary and unlikely to cause deterioration to the associated benthic and angiosperm (dune BQEs. Overall, there is unlikely to be deterioration in Ecological Status of this coastal water body. **Mawddach (Transitional)** The intent along the southern side of the estuary, that takes in the southern entrance, the back of Fairbourne, the railway and the banks over to the Fegla Islands and Arthog, is to allow the natural adaptation of the estuary, through HTL policies in the short term and then MR which will allow the adaptation of the associated communities before the defences are allowed to fail in the long term. The only exception is in continuing to defend the railway line and land behind this along PUs 11.7 and 11.8 for the foreseeable future and local consideration of properties on the Fegla Islands and Arthrog. There will continue to be a build up of sediments around the railway bridge that crosses the estuary, since the estuary is an accreting system. There will be a change in behaviour of the estuary entrance, with the roll back of Ro Wen spit and increased exposure of the harbour area at Barmouth, though the MR of some of these frontages is likely to result in increasing the intertidal areas and benefiting the associated BQEs (macroalgae, saltmarsh, benthic communities and migratory fish). There will be loss of some sandflat and saltmarsh BQEs with coastal squeeze in the long term against the railway line in PUs 11.7 and 11.8; however the MR within the estuary mitigates for this. Therefore, overall there is unlikely to be any deterioration in GES of the BQEs within this water body **Other Water Bodies (WFD 3):** **Unnamed tributary near Afon Gysynni** and **Mawddach estuary south** (PU 11.6) – this river body and its associated BQEs is unlikely to be affected by the SMP2 policy since the intent is to allow for more natural roll back in the long term. The tidal reaches will move upstream with sea level rise but only gradually over time and probably not until the 2nd and 3rd epochs. **Arthog** (PU 11.9) – this river is in GES and the policy of MR where the river flows into Mawddach estuary will only likely result in the improvement of the Ecological Status. **No PUs were scoped out.**	N/A	✓	✓	✓
		PU11.5 (part)	Ro Wen Spit			MR	MR	NAI		N/A	✓	✓	✓
		PU11.5 (part)	Ro Wen Spit	**Mawddach (Transitional – T8)**		MR	MR	NAI		N/A	✓	✓	✓
		PU11.6	Fairbourne Embankment			HTL	MR	NAI		N/A	✓	✓	✓
		PU11.7	Friog		This refers to the railway line behind Fairbourne.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU11.8	Morfa Mawddach		This would secure a cut off defence to the back of the area to the rear of Fegla Islands.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU11.9	Fegla		Local consideration would be given to defence of properties on the Fegla Islands and to Arthog	HTL	MR	MR		N/A	✓	✓	✓
	23	PU11.10	Mawddach south			MR	MR	MR	**TraC Water Bodies (WFD 2):** **Mawddach (Transitional)** PU 11.10>11.13 Mawddach Estuary is an accreting system with large areas of sand and mud flats, with landward areas of saltmarsh that provide nursery areas for fish, and which is classified as being of GES. There are a few discrete locations where defences will continue to be held, such as at Penmaenpool, sections of road along the north side of the channel (e.g. at Farchynys and Cutiau) and along the upper estuary in the	N/A	✓	✓	✓
		PU11.11	Penmaenpool			HTL	HTL	HTL		N/A	✓	✓	✓
		PU11.12	Upper estuary		This would require further investigation.	HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU11.13	Mawddach north		The intent is solely to manage risk to the road.	MR	MR	MR	short term to provide time for investigations and consultation with farmers over the protection of the surrounding farmland. However, as the management intent is to reduce the reliance on flood defences within the estuary as far as possible through the MR this will mitigate for any small losses of BQEs due to coastal squeeze. The MR will allow roll back of previously held banks (e.g. along the disused railway on the south side of the estuary) allowing the estuary to adapt to sea level rise and improve the morphology of the upper estuary channel, thus increasing available area for benthic communities and saltmarsh to establish. Overall, it is unlikely that the SMP2 policy will result in the deterioration of Ecological Status of this water body. **Other Water Bodies (WFD 3):** None of the river bodies within this management unit are considered to be at risk of deteriorating in Ecological Status/Potential because the SMP2 policy will result in the natural adaptation of the estuary banks, and in many cases opening up the mouths of these rivers, improving the morphology, hydrology and associated BQEs. The rivers are: **Arthog, Mwddach Estuary South** (PU 11.10); **Mawddach Lower, Wnion Lower, Cwm-Mynach** (PU 11.12); and **Cwm-Llechen, Dwynant** (PU11.13). Of note Wnion Lower has been designated as being heavily modified and the MR in PU11.12 in the 2nd epoch will allow the estuary to open up with improved morphology and sediment transport, which may have the potential in improving the upstream Ecological Potential. **No PUs were scoped out.**	N/A	✓	✓	✓
	24	**PU11.14 (part)**	Barmouth South			HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Mawddach (Transitional)** PU 11.14 The intention is to hold the line around the mouth of the estuary at Barmouth, which may cause coastal squeeze within the harbour particularly as the Ro Wen spit rolls back and both the harbour area and sandy area adjacent to the railway bridge experience increased exposure to waves. Furthermore by defending Ynys Brawd and the causeway this will maintain the width of the beach fronting the south of Barmouth. The reduction in defences within the rest of the estuary will mitigate for this loss and thus the BQEs within this water body (i.e. benthic invertebrates, saltmarsh, angiosperms and fish) are unlikely to deteriorate because of this policy. **Cardigan Bay North (Coastal)** PU 11.14>11.16 The management intention north of Barmouth is to continue to HTL in the short term at Barmouth north, with managed realignment through beach widening in the medium to long term. Along the Llanaber frontage the intention is to HTL for all three epochs. This coast comprises of a sandy beach with areas of boulder lower foreshore (especially at Llanaber) and shingle upper foreshore. The intertidal area is not designated, only the subtidal for the offshore sandbanks. In places the beach is very narrow where there are defences and the beach is being squeezed. The defences do not presently interfere with the long shore drift south but there is potential for there increasingly to do so along the lower shore with sea level rise. This stretch of coast does not support any significant benthic communities and since the hydrodynamics will not be significantly changed to affect the offshore sandbanks it is unlikely that the BQEs of this coastal water body will result in deterioration. **Other Water Bodies (WFD 3):** **Mawddach estuary north** (PU11.16) – Continuing to HTL is unlikely to result in the deterioration in GES. **No PUs were scoped out.**	N/A	✓	✓	✓
		PU11.14 (part)	Barmouth South	**Cardigan Bay North (Coastal – C4)**		HTL	HTL	HTL		N/A	✓	✓	✓
		PU11.15	Barmouth North		This may include relocation of properties	HTL	MR	MR		N/A	✓	✓	✓
		PU11.16	Llanaber		This needs to be considered in term of management to the above policy unit.	HTL	HTL	HTL		N/A	✓	✓	✓
	25	**PU11.17**	Egryn Marsh			MR	NAI	NAI	**TraC Water Bodies (WFD 2):**	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU11.18	Sunnysands		Suggested time-stepped approach involving time/impact limited defence approval.	MR	MR	MR	**Cardigan Bay North (Coastal)** PU 11.17>11.19 North of Llanaber up to Morfa Dyffryn there is a more gently rising coastal slope set back behind a widening coastal marshland plain and wide sandy beach. There is a rocky subtidal reef offshore at Morfa Dyffryn in the north, where the wide sandy beach is backed by shingle and an extensive dune system, which will be allowed to roll back naturally with sea level rise. The underlying intent along this section of coast is to allow its natural development, by creating space in terms of land use, apart from the three holiday villages, the frontage is undefended. Therefore the recommended policy is to apply managed realignment by gradually retreating over 20 year periods which would prevent significant coastal squeeze and interruption of the longshore drift and starvation of areas to the north of sediments. Therefore, with this MR approach combined with allowing the coast at Egryn Marsh to roll back, it is unlikely that the BQEs (i.e. benthic invertebrates, macroalgae and phytoplankton) within this water body would deteriorate. **Other Water Bodies (WFD 3):** **Mawddach Estuary North** (PU 11.17) & **Mawddach Estuary North** (PU 11.18) – the mouth of this water body will be allowed to adapt to sea level rise over time and therefore the hydrology and BQEs will not deteriorate. **Ysgethin** (PU 11.20) - this water body is classified as being heavily modified, however, the policy of NAI for all three epochs along the coast to which this river discharges is unlikely to result in deterioration of its Potential. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 12.20	N/A	✓	✓	✓
		PU11.19	Islawffordd		Suggested time-stepped approach involving time/impact limited defence approval.	MR	MR	MR		N/A	✓	✓	✓
12	**26**	**PU12.1**	Mochras		Relocation of assets during epoch 2	***NAI***	***NAI***	***NAI***	**TraC Water Bodies (WFD 2):** **Cardigan Bay North** and **Tremadog Bay (both coastal)** This stretch of coast comprises a stretch of sandy beach overlain with shingle, dead shells and small boulders along the lower intertidal and shallow subtidal that form diverse stable reefs colonised by macroalgae communities. The northern coastal stretch has a shingle upper foreshore, where in places it is backed by a seawall. Within the centre of the management unit is the Atro Estuary, with the entrance protected by two spits, through which the River Atro breached in the 1980's. The management intent for the coast which lies across two coastal water bodies is to allow and maintain natural functioning as far as possible, though there are some areas that need to be held in the short term with future managed realignment, but which allow time for adaptation planning for the realignment. The defences along the frontage to the north of the estuary are not perceived to interrupt the northward longshore drift that supplies the Morfa Harlech dunes to the north. However, they are causing coastal squeeze of the landward dunes, and therefore these need to be realigned, but by holding them for the 1st epoch allows a management plan to be devised for the most sustainable solution to retain the dunes. Further north the intention is to continue to maintain the defences along the Llandawg headland that protects the landward town. In the medium to long term with sea level rise there will be changes in water depth which will shift the lower shore macroalgae communities vertically up the shore and cause the coastal squeeze of the benthic invertebrates within the sediments between the lower foreshore boulder reef and the upper foreshore shingle ridge. Overall it is however, unlikely that there will be a significant loss or change in the BQEs that would result in the deterioration of Ecological Status of either of these two coastal water bodies. **Atro (Transitional)** The Atro Estuary is classified as being heavily modified due to navigation and has Moderate Ecological Potential. The estuary supports sand flats with benthic invertebrates that are important for feeding migratory birds and fish, and a large area of saltmarsh and grazing marsh at the south-western corner. The main river flowing into the estuary is the River Atro, which is of GES. There is a second small tributary near the River Atro (GB110064048200) which is of Moderate Ecological	N/A	✓	✓	✓
		PU12.2 (part)	Artro Southern Spit		Maintain control of the spit while considering overall management plan	HTL	MR	MR		N/A	✓	✓	✓
		PU12.2 (part)	Artro Southern Spit	**Atro (Transitional – T9)**	Maintain control of the spit while considering overall management plan	HTL	MR	MR		N/A	✓	✓	✓
		PU12.3	Artro Estuary south		Local management of defences subject to developing a management plan. The default policy would be for NAI.	HTL	MR	MR		N/A	✓	✓	✓
		PU12.4	Artro Estuary East		Maintain defence to the road and railway.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU12.5 (part)	Llandanwg Dunes		Local management of defences subject to developing a management plan. The default policy would be for NAI.	MR	MR	MR		N/A	✓	✓	✓
		PU12.5 (part)	Llandanwg Dunes	**Cardigan Bay North (Coastal – C4)**	Local management of defences subject to developing a management plan. The default policy would be for NAI.	MR	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU12.5 (part)	Llandanwg Dunes	**Tremadog Bay (Coastal – C5)**	Local management of defences subject to developing a management plan. The default policy would be for NAI.	MR	MR	MR	Status. The mouths of both rivers are surrounded by sandflat and saltmarsh habitats. The management aspiration for this transitional water body is to HTL in the short term to allow a management plan to be devised that would examine the behaviour of the whole estuary, with the potential for encouraging a change of the main channel through the valley behind Morfa Mawr which would allow the area to be flooded and create more natural habitat and remove pressure on the defences to the road and railway that is presently constraining the natural development of the estuary. The only area that would be held for all three epochs is along the northern side of the Atro Estuary. Holding this side would cause some coastal squeeze with sea level rise as this side would want to naturally roll back, however realigning the south and east sides of the estuary would mitigate for this. Overall, the SMP2 policy suite for this estuary is likely to improve the Ecological Potential of this water body rather than to deteriorate it. **Other Water Bodies (WFD 3):** **Unnamed tributary near Afon Atro** (PU 12.3) – the mouth of this river is constrained by the road, however the policy of MR in the long term will allow a more natural outflow, though the tidal extent is likely to significantly increase if the area was allowed to naturally flood up the flood plain. Providing this was done gradually to allow for adaptation the Ecological Status of this water body is likely to improve rather than to deteriorate. **Atro** (PU12.4) – this river is presently constrained by defences either side of the railway but not enough for it to result in anything other than GES. The policy of MR in the medium to long term is unlikely to deteriorate this status. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 12.1	N/A	✓	✓	✓
		PU12.6	Llandanwg Headland			HTL	HTL	HTL		N/A	✓	✓	✓
	27	**PU12.8**	Harlech Valley	**Glaslyn (Transitional – T10)**	Develop a water level and spatial management plan, considering drainage issues, potential for habitat recreation and long term sustainable management of flood risk at Lower Harlech	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** This management unit stretches from the south end of the Morfa Harlech dune system and in along the south side of the Glaslyn Estuary round to Penrhyndeudraeth Headland, which is mid-way along the north side of the estuary. The entire length of the Morfa Harlech dunes round Harlech Point into the Glaslyn Estuary at Ynys will be allowed to roll back naturally thus adapting to sea level rise. **Glaslyn (Transitional)** This estuary has been classified as being of GES, with a continuous gradient between the clean sands near the entrance to the sea and the mud or muddy sands in the sheltered extremes of the estuaries. The intertidal sandflats support communities of burrowing benthic invertebrates, including dense populations of polychaete worms, crustaceans, bivalve molluscs and gastropod molluscs. Saltmarsh fringing the shores of the estuaries, and the saltmarsh creeks and pools, are important habitat features for juvenile fish. The management intent is to allow the estuary to continue to function as naturally as possible and decrease the dependence on defences over time. The only HTL policy that will continue in the long term is Harlech Valley, where the village of Ynys is at risk of flooding without the defences. There will be localised coastal squeeze, however the MR in other areas of the estuary will mitigate for any small losses in benthic invertebrates and saltmarsh by alleviating coastal squeeze and creating further estuarine habitats. At Talsarnau the policy is to HTL in the 1st epoch to give time to adapt to a MR policy in the medium to long term, where there would be more localised management in the medium term with the view to setting back the railway so that defences were not required any further. Though there would still be localised coastal squeeze in the medium term, the MR elsewhere and in the long term at this location will again mitigate for this. The Upper Dwyrd Estuary will be allowed to adapt more naturally with a MR policy in the short term where required followed by NAI. Overall, the SMP2 policy suite for this management unit is very unlikely to result in the deterioration of GES, with the quality and extent of the BQEs only improving and increasing in the long term. **Other Water Bodies (WFD 3):** **Dwyrd Estuary South** (PU12.9) – this river body has GES and is unlikely to deteriorate as a result of the MR policy.	N/A	✓	✓	✓
		PU12.9	Talsarnau		Realignment either to railway line in the north or to the old cliff line.	HTL	MR	MR		N/A	✓	✓	✓
		PU12.11	Upper Dwyryd Estuary		Local management of defences to maintain main roads	MR	NAI	NAI		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Dwyrd – lower (PU12.11) – the policy of MR followed by NAI in the medium to long term will allow the morphology and BQEs of this transitional area of the river to improve. The tidal extent will increase with sea level rise, but one which will be slow and BQEs will be able to adapt to. It is unlikely that there will be deterioration in Ecological Potential. **Groundwater Body (WFD 4):** **Llyn and Eryi** - Gwynedd Council and Cyngor Gwynedd Council active landfills are located inland of Morfa Harlech in PU12.7. Ffridd Rasus historic landfill is also present immediately adjacent to the active landfills. The SMP policy within this unit is NAI, which will allow the coast to roll back over time. The present day tidal flood extent slightly encroaches into the boundary of the Gwynedd Council landfill site. The flooded area of the landfill site increases marginally under the 50yr and 100yr tidal flood. There is therefore a risk that the quality of the groundwater within the underlying Middle Cambrian (mudstone and siltstone) and superficial blown sand could be affected by leaching of contaminants potentially present within the landfill during flood events. However, it is for the landfill site to provide protection from this flooding as there is a sluice to the control the drain. Therefore, the SMP2 policy is unlikely to result in the failure of WFD Environmental Objective 4. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 12.7, 12.10 & 12.12				
	28	**PU12.13**	The Cob and Porthmadog		Further investigation of improving defences to town as identified by the CFMP.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Glaslyn (Transitional)** The Glaslyn Estuary is cut by the Cob (PU12.13), which is the defence that effectively excludes a major part of this estuary's tidal prism (volume). Tidal flow upstream of the embankment is controlled by tidal sluices from the defended tidal pool of Llyn Bach up stream of the Porthmadog Bridge between the small island of Ynys Tywyn and the main area of Porthmadog. This creates semi tidal and brackish marsh in the area directly upstream of the embankment. Significant areas seaward of the embankment have developed as saltmarsh, particularly to the eastern end of the embankment where the old river channel used to flow. The Glaslyn is now taken out on the western end and, aided by sluicing from upstream, acts as the main navigation channel through the dock area of Porthmadog. This water body is classified as being heavily modified due to navigation. The management intent for The Cob, Porthmadog and Borth-y-Gest is to continue to HTL in the long term. The intent is to examine further the defences upstream of the Cob since the defences around the wharf will need to be raised to deal with sea level rise so that the town of Porthmadog is protected from flooding. HTL will continue to constrain the tidal prism and result in increased coastal squeeze of tidal habitats and the associated BQEs of saltmarsh and benthic invertebrates and has the potential to prevent Good Ecological Potential from being achieved. At Morfa Bychan the management will be to allow the natural development of the dunes and ensure that they can act effectively as natural flood defence for the landward areas. Managed retreat and adaptation of this area is unlikely to deteriorate the Ecological Potential of this transitional water body but rather improve it. **Other Water Bodies (WFD 3):** **Glaslyn Lower, Unnamed to Glaslyn estuary north, Gaseg lower** (PU12.13) – The SMP2 policy of HTL is unlikely to significantly change the tidal extent within these rivers, which a policy of NAI would, and is unlikely to result in the deterioration in Ecological Status/Potential. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 12.15	N/A	x	✓	✓
		PU12.14	Borth-y-Gest		Consideration of adapting road to ensure long term safe access to community	HTL	HTL	HTL		N/A	x	✓	✓
		PU12.16	Morfa Bychan		Sustain natural dune defence with management of access. Develop a long term management plan for adaptation within Holiday Park area and potential future requirement of management of flood risk to village.	MR	MR	MR		N/A	✓	✓	✓
	29	**PU12.17**	Criccieth Shingle Banks	**Tremadog Bay (Coastal – C5)**	Consideration of potential to realign the railway	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Tremadog Bay (Coastal)**	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU12.18	Criccieth Harbour		Look to realign the shoreline to the frontage through development of the Harbour pier and eastern end of The Esplanade to retain the beach.	HTL	HTL	MR	This management unit comprises a long sandy beach with a wide shingle upper foreshore that becomes prominent to the west at Criccieth. The town of Criccieth is characterised by a small beach with two rocky outcrops either side colonised by macroalgae both in the intertidal and subtidal. The natural shingle bank provides flood defence to the railway and to the Llyn Ystumllyn valley between Graig Ddu and Criccieth. At Criccieth there are sea walls around the harbour area and to the west of the Castle and a section of rock revetment to the toe of the cliff to the east of the headland. The management intent for this area is to continue to HTL followed by MR, but this would be to retain the landward assets and investigate more sustainable options of defence so that they can adapt to the natural environment and sea level rise. There will continue to be coastal squeeze within this area, in particular in PU12.18, where without Criccieth Harbour there would be significant retreat. However, the MR of the Morfa Bychan and elsewhere within this water body mitigates for this loss and overall it is unlikely that this will result in the deterioration in Ecological Status, since the hydrodynamics along the coast are not interrupted. **Other Water Bodies (WFD 3):** **Unnamed tributary Tremadog Bay** (12.18) – this small tributary has Moderate Ecological Status and though HTL at Criccieth Harbour could have the potential to constrain the mouth, it is not of large enough flow for it to change the area and therefore it is considered that the SMP2 policy is unlikely to result in deterioration or prevention of achieving GES. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 12.19	N/A	✓	✓	✓
	30	**PU12.20**	Criccieth West		.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Tremadog Bay (Coastal)** and **Dwyfor (Transitional)** This stretch of coast comprises of a long shingle beach with a small narrow estuary – the Dwyfor, discharging in the centre. Along the lower intertidal and within the shallow subtidal is a boulder reef comprised from glacial stone that supports macroalgae communities. Between Criccieth and the Dwyfor Estuary the beach is backed by low cliffs. There is a shingle spit across the mouth of the estuary which is vegetated by angiosperms, whilst the flow of the river creates a wide fan of sediment across the high foreshore platform. The ridge of shingle continues west some 1km across the entrance to the valley before running to a further length of higher boulder clay cliffs. HTL through management of the shingle ridges is not seen as being sustainable beyond epoch 1. The only area that is HTL in the long term is at Criccieth West where there will be some coastal squeeze, though the MR elsewhere in this management unit will allow the shore to naturally adapt along much of this frontage, which means that any loss or change in BQEs will be mitigated for. The Dwyfor Estuary is long and narrow with little in the way of sand, mud flats, or saltmarsh. The management intent for this frontage is for MR in the 1st epoch recognising there are issues with the existing defence, and that in the long term the estuary will be allowed to develop naturally. The proposed management for this estuary mouth has consequences where the railway crosses the River Wen, which discharges within PU12.24. It is recommended that the setting back of the railway is investigated which would allow the MR and NAI policy suite along the frontage of River Wen. Overall, the policy suite for this management area supports the natural development of the coast allowing for natural roll back which will prevent coastal squeeze as well as mitigate for where the coast is defended. It is unlikely that either water body will deteriorate in Ecological Status. **Other Water Bodies (WFD 3):** **Dwyfach** (PU12.22) – this river flows into the Dwyfor Estuary and the SMP2 policy supports the natural development and therefore it is unlikely that the Ecological Status will deteriorate. **Wen (Lleyn Peninsular)** (PU12.24) – The mouth of this river will be allowed to adapt naturally to sea level rise as a result of the SMP2 policy and therefore it is unlikely that there will be any deterioration in Ecological Status.	N/A	✓	✓	✓
		PU12.22 (part)	Dwyfor		Consider impact on railway	MR	NAI	NAI		N/A	✓	✓	✓
		PU12.22 (part)	Dwyfor	**Dwyfor (Transitional – T11)**	Consider impact on railway	MR	NAI	NAI		N/A	✓	✓	✓
		PU12.24	Afon Wen	**Tremadog Bay (Coastal – C5)**	Concerns over long term sustainability. Consider possible realignment in land of the railway.	HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts): 12.21, 12.23 & 12.25				
13	**31**	**PU13.2**	Abererch		Subject to national consideration of railway	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Tremadog Bay (Coastal)** The coastline is characterised by sweeping bays and strong headland points, with the sandy beaches backed by a shingle upper foreshore and narrow dunes or low cliffs. There is also the entrance to the Erch Estuary, landward of which is the tourist town of Pwllheli. The BQEs within this stretch of coast include benthic invertebrates, macroalgae on subtidal rocky reefs and phytoplankton. These BQEs can change and deteriorate if there are severe changes in the beach water table, water depth, tidal and sedimentary regime or hydrodynamics. The intention for the coast within this management unit is to HTL, in particular around Erch Estuary, though there are three areas both east and west of the estuary where MR is planned for the 2nd and 3rd epochs (PU13.2, 13.7 & 13.8), so as to allow the coast to begin to adapt to sea level rise and ensure sediments continue to enter the system through erosion. This could be done by allowing both the **River Erch** and **River Penrhos** to breach through to the coast within PUs 13.2 and 13.7, respectively. This would create a more sustainable supply of sediment to the area and mitigate for coastal squeeze where the policy is HTL. If this were to happen there would be changes to both rivers as this would be natural adaptation to sea level rise and with the managed realignment it could be done in such a fashion that there is a slow transition time for the BQEs of both the coastal and freshwater bodies to adapt and therefore not deteriorate but improve the Ecological Status (as well as the hydrology and morphology of the rivers). Therefore, it is not considered likely that the policy suite for this section of coast will result in the deterioration of Ecological Status for Tremadog Bay coastal water body or the freshwater bodies of Erch and Penrhos. **Erch (Transitional)** This estuary is small and is presently sourced by three rivers: Erch, Rhyd-hir and Penrhos (which flows into Rhyd-hir landward of PU13.6/13.7). The estuary is heavily defended but there are areas of mud and sandflats, particularly around the mouth of the Rhyd-hir-lower. The intention within this small estuary is to continue to HTL within the harbour and to the Cob (which is a defence across the valley of the River Rhyd-hir and the River Penrhos, and protects the valley running through the centre of Pwllheli from tidal inundation). By continuing to HTL the tidal prism will continue to be limited, as well as prevent the dune frontage at Glan y Don from responding naturally to sea level rise. However, it should be noted that there is a strong interaction with the management intent of the rest of the coastal frontage of this unit. If in the medium to long term the frontages of South Beach and Abererch are breached to allow the managed realignment of the Erch and Penrhos rivers to discharge into these bays, then this would reduce the flow of water into the Erch estuary. There is a possibility that the Cob could be opened up to allow natural morphology and hydrology of the River Rhyd-hir into the Erch estuary, though there would be risk of flooding around the back of Pwlheli. This is a complex plan that would require thorough investigation to devise a detailed strategy and for the implications for each of the freshwater and transitional water bodies to be re-examined once the details are clarified. However, under these circumstances it is unlikely that even though there would be substantial changes to the morphology of the rivers and the estuary that they would deteriorate the Ecological Status but rather aid in improving them by allowing them to be able to adapt more naturally under rising sea levels. If the rivers were not allowed to breach and as sea levels rise and increased coastal flooding and overtopping occurred there may be a sudden breach of the coast, which would result in the deterioration of the BQEs. **Other Water Bodies (WFD 3):** See above for details. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 13.1, 13.9	N/A	✓	✓	✓
		PU13.3	Glan Y Don		Allow buffer zone for natural behaviour of the dunes	HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.4 (part)	Pwllheli Harbour and entrance			HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.4 (part)	Pwllheli Harbour and entrance	**Erch (Transitional – T12)**	.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.5	Pwllheli Centre		Spatial planning for potential long term adaptation	HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.6	South Beach	**Tremadog Bay (Coastal – C5)**	Allow and manage development of the dunes.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.7	Golf Course		Detailed study to allow transition between Traeth Crugan and South Beach	HTL	MR	MR		N/A	✓	✓	✓
		PU13.8	Traeth Crugan		Intent to create new entrance estuary to the Afon Penrhos and to manage new defence to the core of Pwllheli	HTL	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
	32	PU13.11	The Warren		Progressive management of the retreating shoreline	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Tremadog Bay (Coastal)** This management unit comprises of two bays, both have wide sandy foreshores, widening further at the south-western ends, in the lee of the Penbennar rocky headland at Abersoch and Penrhyn Du headland at Machroes. The main development within the unit is Abersoch which lies in the valley of the River Soch. The headlands are accreting sediments whilst the centres of the two bays are eroding out from the onshore wave attack. The BQEs that could be affected by the SMP2 policy suite are benthic invertebrates within the sandy beaches, macroalgae communities on the rocky headlands, dune angiosperms, and fish passing up the River Soch. These can be affected by changes in the water table, changes to hydrodynamics and sedimentary pathways, coastal squeeze and water depth. The management intent for this area is to allow much of the coast to naturally develop so that it can adapt to rising sea levels, and allow time for adaptation of use. This is to be done through HTL in the 1st epoch for all PUs and then by managing the retreat of the coastline for all units with the exception of the area around Penbennar, which will continue to be protected. It is likely that there will be some coastal squeeze around the headland of Penbennar causing macroalgae communities to shift up the shore in time and with some losses when eventually constrained. However, since the headland at Machroes is to be allowed to adapt more naturally in the future this will mitigate for this loss. Overall, it is not regarded that there is potential for the GES of this coastal water body and its BQEs to deteriorate. Furthermore, to the south of Penrhyn Du to the Clian headland the management intent is to continue to allow the coastline to roll back without the interference of any coastal defence structures. **Other Water Bodies (WFD 3):** **Soch** and **Unnamed near Soch catchment, Soch** (PU 13.12) – the MR of PU13.12 at Abersoch could result on the opening up of the river to the tide, which would create and estuary and increase the diversity of the BQEs of the river water body. Providing this is done in a managed way so as to allow the present BQEs to adapt to the saline intrusion it is unlikely that there will be deterioration in GES. **Unnamed near Soch catchment, Soch** (PU 13.14) – the management policy for this unit is unlikely to result in the deterioration in Ecological Status of this water body. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 13.10 & 13.16 > 13.17.	N/A	✓	✓	✓
		PU13.12	Abersoch		Consider opening up tidal flooding of the Afon Soch and planning of future use of the entrance	HTL	MR	MR		N/A	✓	✓	✓
		PU13.13	Penbennar		Local private management of defences	HTL	HTL	HTL		N/A	✓	✓	✓
		PU13.14	Borth Fawr Central		Opportunity for adaptation	HTL	MR	NAI		N/A	✓	✓	✓
		PU13.15	Machroes		This would not preclude local management of the road.	HTL	MR	NAI		N/A	✓	✓	✓
14	**36**	**PU14.8**	Aberdaron Village & coastal slope	**Cardigan Bay North (Coastal – C4)**	Develop Managed Realignment within a framework for sustainable development of the village. Address transport issues.	HTL	MR	HTL	**TraC Water Bodies (WFD 2):** **Cardigan Bay North (Coastal)** The frontage of Aberdaron Bay can be split into two distinguishable halves, the defended frontage to the west of the bay, including the artificial 'spit' that has been constructed at the mouth of the River Daron and the undefended, eroding cliffs to the east of the town. This bay is held in place by the two harder rocky headlands at either end, Pen y Cil and Trwyn y Penrhyn. Over the defended extent of the frontage, defences are in place to protect the rising coastal slope and the coastal road behind it. The bay is quite stable under the predominant wave climate but there can be very specific conditions that give rise to significant draw down and movement of the beaches. The whole length of Aberdaron bay is under pressure to erosion but this has been resisted along the western village frontage, with various coast protection works. This northern end also gains some additional protection from the irregularity of the rock shoreline to the west. The policy of HTL in the 1st epoch may lead to further disparity along the beach with regards to the west and east of the defended area continuing to erode back on either side. This may leave the defended area more vulnerable to storm events. The policies of MR and HTL in later epochs will attempt to redress the balance. Coastal squeeze may occur during epochs 1 and 3	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									but only where the frontage is defended. It is not anticipated that the BQEs will deteriorate in the water body as a whole as a result of the SMP2 policy in this unit. **Other Water Bodies (WFD 3):** **River Daron** (PU 14.8) – this river creates a small but significant ebb tide affect within the Aberdaron Bay beach which tends to create a degree of further protection. The river can also, on occasion, reduce beach levels, increasing exposure of the backshore. It is unlikely that this water body will deteriorate in Ecological Status as a result of the SMP2 policy. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 14.1>14.8 & 14.9>14.11				
15	**39**	**PU15.2**	Porth Dinllaen, including Morfa Nefyn	**Caernarfon Bay South (Coastal – C6)**	This would require detailed planning for adaptation at Porth Dinllaen and managed retreat at the access at Morfa Nefyn	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay South (Coastal)** Over the southern section, the coast is formed as a series of classically curved bays, with distinctive hard rock headlands controlling the erosion of areas of softer clay exposures. The overall approach to the bay would be to allow natural development of the bay but through a process of change in approach to defence at a local level. Overall, therefore, the bay is seen as one policy unit where there would be continued management in epoch 1 (HTL) with managed realignment over epochs 2 and 3. This approach would allow the embayments to erode and roll back naturally. The BQEs would not be affected. At Porth Nefyn West hard defences would be maintained during epochs 1 and 2. The intertidal area would be reduced due to sea level rise. However, the HTL scenario is recognised as unsustainable in the longer term and MR will need to be considered by the 3rd epoch. Removal of most of the hard defences would allow the bay to roll back naturally. As long as MR is achieved then the BQEs are unlikely to be adversely affected so that the water body deteriorates in its Ecological Status. **Other Water Bodies (WFD 3):** No other water bodies that could be affected by the policies in these two PUs. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 15.1	N/A	✓	✓	✓
		PU15.3	Porth Nefyn West		Overarching policy setting the base intent for the zone.	HTL	HTL	MR		N/A	✓	✓	✓
	40	**PU15.5**	Trefor		A detailed local plan would be needed to sustain amenity value of the area.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Cardigan Bay South (Coastal)** North of the headland is the small, old quarry port of Trefor, with its timber jetty built out from a small but significant rock outcrop. The outcrop and pier provide shelter to a small sandy bay backed by a quay and car park. The coast cuts back slightly and reduces in level, running into the relatively straight low cliff backed shoreline which continues through to Aberdesach and Trwyn Maen Dylan. The quay at Trefor acts as a defence for the coastline to the east. The MR policy for this PU would allow for the local area to be considered in more detail but with the intent to allow greater width for natural development of the shoreline. No BQE affects are predicted. Over the northern section of this part of the coast, there is slow more persistent erosion of the low back cliffs, with a trend of rolling back the shingle banks, which, in areas such as Aberdesach, provide protection from flooding. The foreshore of the area is quite narrow. Various small streams cut down through the cliff. Aberdesach is within a slight embayment and has additional foreshore width which has allowed a small sandy beach to develop. The **River Desach** does interact to a degree with the shoreline and it is noticeable that the slightly set back position of the river mouth has allowed the development of the important shingle banks along the village frontage. The main defence is the shingle bank behind part of which is a wall and revetment. With retreat of the shingle bank, the defence could fail over the next 50 years with significant erosion. The hard defences would therefore	N/A	✓	✓	✓
		PU15.6	Aberdesach		Local management of the shingle bank and river discharge to sustain natural defence of the area.	MR	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									need to be removed to allow the shingle bank to roll back unimpeded Both in the case of Trefor and Aberdesach, management of these local frontages is seen as being essentially within a broader intent to allow the whole of this northern section of the coast to adapt naturally. No adverse affects on the BQEs are predicted for the MR policy and therefore it is unlikely that the Ecological Status will deteriorate. **Other Water Bodies (WFD 3):** **Unnamed to Caernarfon Bay South** (PU 15.5) and **Desach** (PU 15.6) – both of these rivers are unlikely to result in the deterioration in the BQEs since the MR will take effect over a long period so any increased saline intrusion combined with sea level rise will result in local adaptation. Therefore there will be no deterioration or prevention from achieving GES. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 15.4				
16	**41**	**PU16.1**	Pontllyfni		This would not preclude maintenance of private defence during the first epoch. Review flood risk to main road and sewage works	NAI	NAI	NAI	**TraC Water Bodies (WFD 2):** **Cardigan Bay South (Coastal)** In the case of the southern cliffed section of the area, the overriding intent is not to intervene; to maintain the ability of the coast to roll back, thereby allowing development of the natural shingle ridge as a means of providing a low level of flood defence as at present. At Pontllyfni, there would be no intent to protect against further erosion and there would be loss of properties at the sea front. The existing private defences would come under increased pressure and while maintaining existing defences might be accepted, there would be no intent to allow improvement to these defences. To do so would start a process that would require further extension of the defence further north to prevent outflanking. This would not be economically justified and would start to influence the supply of sediment, sustaining natural adjustment of the shoreline. The policy for this area would be for NAI. During the 1st epoch it might be anticipated that local private defences could be maintained. As pressure on these defences increase this would need to be reviewed, but there would be no intent to allow improvement to defences. At Pontllyfni there appears to be a sewage works and a fish farm both close to the coast and the **River Llyfni**. Both these sites appear to be vulnerable to present day tidal and riverine flooding and flooding in the future. Although private defences are present in the area it is unclear as to how these two sites are presently defended (if at all). Should either or both of these sites become flooded the BQEs for both the Caernarfon Bay North coastal water body and the Llyfni FWB could be in jeopardy due to eutrophication and changes to the habitat and ecosystem within those water bodies. However, it is for the fish farm and the sewage treatment works to defend themselves as they are liable for polluting the adjacent water courses if they do not. The SMP2 does not see their location as being sustainable in the future and they may need to move landward. Therefore, it is unlikely with private defences that the adjacent water bodies will result in deterioration of Ecological Status/Potential. However, for the record it is noted that there will be deterioration if private defences are not established. The same process would continue along the whole length of coast between Pontllyfni and Dinas Dinlle. As the shingle ridge rolls back over time and sea levels rise the **River Llifon** between Pontllyfni and Dina Dinlle will experience increased tidal saline intrusion as well as increased risk of flooding further upstream than the present day scenario. The BQEs for the water body are not predicted to be affected but the BQEs for the Llifon may be. However as the policy will be to allow the shingle ridge to roll back naturally the saline intrusion will be part of that natural process.	N/A	x	x	✓
		PU16.2	Pontllyfni to Dinas Dinlle		Maintain sediment supply to the north	NAI	NAI	NAI		N/A	✓	✓	✓
		PU16.3	Dinas Dinlle		Manage transition between Dinas Dinlle Head and open coast with the intent to manage flood risk to village on higher ground.	HTL	MR	MR		N/A	✓	✓	✓
		PU16.4 (part)	Morfa Dinlle		Develop management to self sustaining dune frontage. This would not specifically preclude management of the local area at Fort Belan subject to normal approvals.	MR	MR	NAI		N/A	✓	✓	✓
		PU16.4 (part)	Morfa Dinlle	**Caernarfon Bay North (Coastal - C7)**	Develop management to self sustaining dune frontage. This would not specifically preclude management of the local area at Fort Belan subject to normal approvals.	MR	MR	NAI		N/A	✓	✓	✓
		PU16.4 (part)	Morfa Dinlle	**Menai Strait (Coastal – C8)**	Develop management to self sustaining dune frontage. This would not specifically preclude management of the local area at Fort Belan subject to normal approvals.	MR	MR	NAI		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU16.5 (part)	Foryd Bay		Manage flood defence initially with the intention of returning the bay to a naturally functioning system.	HTL	MR	NAI	At Dinas Dinlle the initial policy is intended to be one of HTL but this is seen as unsustainable for later epochs as other part of this coastline are allowed to roll back maintaining the defence of this smaller stretch would not be viable. The northerly movement of sediment is an important one and should not be interrupted which may happen if other areas of coast roll back leaving Dinas Dinlle to form a promontory. Any coastal squeeze that may occur during epoch 1 would not continue into epochs 2 and 3. The BQEs are not predicted to be affected. **Menai Strait (Coastal)** Along the Morfa Dinlle stretch of coastline there is already a present day threat of flooding inland and the potential for the low lying area of the **River Carrog** becoming linked to the Caernarfon Bay North Water Body. Future policies to MR and then NAI will not necessarily reduce the risk of flooding as the managed realignment will mainly consist of the natural defences of the sand dunes rolling back and the distance between one side of the coast and the other will diminish with time. Should a flood event join up the two coastlines then this could affect the BQEs of this water body and the adjoining one as well as the freshwater bodies of the **River Carrog** and also the **River Gwyrfai** (PU16.11) as changes in sedimentary processes occur. However, these changes will be natural and will occur due to the natural roll back of the dunes. **Foryd Bay (Transitional)** Although initially the policy will be to HTL at Foryd Bay the intention over time will be to return the bay to a naturally functioning system within the three epochs. Any changes to the BQEs of the associated water bodies would as a result of that natural evolution. **Other Water Bodies (WFD 3):** There are three FWBs within this management unit: **Llyfni** (PU 16.1), **Llifon** (PU 16.2), **Carrog** (PU16.5). Though there may be changes to some of the BQEs over time only one of these water bodies has the potential to either deteriorate or prevent the achievement of Good Ecological Potential – this is the River Llyfni. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.6 & 16.7	N/A	✓	✓	✓
		PU16.5 (part)	Foryd Bay	**Foryd Bay (Transitional – T13)**	Manage flood defence initially with the intention of returning the bay to a naturally functioning system.	HTL	MR	NAI		N/A	✓	✓	✓
	42	**PU16.9**	Embankment and village	**Cefni (Transitional – T15)**	Local consideration for adaption to the front defence to the village with sea level rise.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Cefni (Transitional)** In the Cefni Estuary there is a major embankment, through which the River Cefni is sluiced. There are local defences to the village of Malltraeth at the northern end. The river is canalised over much of its length further in land. Although there is an embankment at Malltraeth, the natural system has established a relative position of equilibrium and there is no significant pressure, beyond that of maintaining the defence in line with sea level rise. The policy to HTL will lead to coastal squeeze within the Cefni water body. The BQEs could therefore be adversely affected with loss of intertidal areas over time. The affect on the **Cefni River** water body is unclear at this time as the sluices maintain river height to a certain extent to the landward but tidal influence appears to travel well past the sluice gates. Saline intrusion may travel further upstream as sea levels rise but this may be artificially managed. **Other Water Bodies (WFD 3):** **Cefni** (PU16.9) – With this heavily modified water body (due to flood protection) there is a possibility that the BQEs of the River Cefni may be affected which is likely to prevent the achievement of Good Ecological Potential with a policy of HTL. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.8 & 16.10	N/A	x	x	N/A

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
	43	PU16.11 (part)	Ffordd Yr Aber to Afon Carogg.	Foryd Bay (Transitional – T13)	Subject to highway funding, with future adaptation of property and access.	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Foryd Bay (Transitional)** and **Menai Strait (Coastal)** The eastern shoreline of Foryd Bay has large areas of intertidal sand flats. The policy to HTL in epochs 1 and 2 would lead to coastal squeeze and the gradual loss of this intertidal area due to sea level rise. This loss would however be minimal and is not predicted to affect the BQEs of the Foryd Bay water body. **Seiont (Transitional)** There is a necessity to HTL along the Seiont Estuary. Over time this will lead to loss of sand and mudflats through coastal squeeze and the potential for increased saline intrusion up the **Seiont River** as sea levels rise. There is a sewage works within the narrow estuary which appears to be above the area identified as at risk from present day and also future flooding. This will need to be kept under review to ensure that the sewage works remains protected. Further up the river again there is an old disused tip. Again this will require protection against rising sea levels and flooding. Overall, it is likely that the SMP2 policy will result in deterioration of the water body in the short to medium term, with potential for improvement in the long term with the MR policy on the western side of the estuary. **Menai Strait (Coastal)** There are a variety of defences along Y Felinheli frontage with little scope to do anything other than HTL. No BQEs will be affected by this policy. Along the Barras to Mermaid Inn frontage there are mussel and oyster beds both intertidally and subtidally. Changes within the Menai Strait may occur as sea levels rise but great uncertainty surrounds this. The policy to MR and eventually NAI may lead to changes in the low water channel and sand banks in the Menai Strait adjacent to this frontage but no definite issues for the BQEs can be identified at this time that would result in the water body deteriorating in Ecological Potential. It is likely that the policies within this water body will help achieve GEP since where there have previously been defences, the intent is reduce the reliance on these and allow the coast to adapt more naturally (e.g. the whole north-west coast of the Strait). **Other Water Bodies (WFD 3):** **Gwyrfai** and **Unnamed to Foryd Estuary east** (PU16.11) - Although the River Gwyrfai may experience increased saline intrusion over time as sea levels rise this will be as part of the natural evolution of Foryd Bay and therefore the BQEs of this river water body will not be adversely affected, nor will the GEP be likely to deteriorate. The same is of the 'Unnamed River to Foryd Estuary east'. **Seiont-lower** and **Cadnant** (PU16.12) - constraining the mouths of these two rivers is likely to result in the tidal extent reaching further upstream as the tidal prism is constrained. Therefore, there is potential for the BQEs of the rivers to be affected, though not enough for it to deteriorate the Ecological Status. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.13, 16.15, 16.16	N/A	✓	✓	✓
		PU16.11 (part)	Ffordd Yr Aber to Afon Carogg.	Menai Strait (Coastal – C8)	Subject to highway funding, with future adaption of property and access.	HTL	HTL	MR		N/A	✓	✓	✓
		PU16.11 (part)	Ffordd Yr Aber to Afon Carogg.	Seiont (Transitional – T16)	Subject to highway funding, with future adaption of property and access.	HTL	HTL	MR		N/A	x	✓	✓
		PU16.12 (part)	Caernarfon		Review the need for raising defence, co-ordinated with fluvial flood management.	HTL	HTL	HTL		N/A	x	✓	✓
		PU16.12 (part)	Caernarfon	Menai Strait (Coastal – C8)	Review the need for raising defence, co-ordinated with fluvial flood management.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU16.14	Y Felinheli		Review flood risk with sea level rise.	HTL	HTL	HTL		N/A	✓	✓	✓
		PU16.17	Barras to Mermaid Inn		Intent to maintain access but with future need for adaptation to increased flood risk.	HTL	MR	NAI		N/A	✓	✓	✓
	44	PU16.19	Porthaethwy		Local management to defences to maintain historic frontage.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Menai Strait (Coastal)** This Management unit from PU 16.19 to PU 16.22 on the northern shoreline of the Menai Strait water body is one of natural hard defences in the form of rocky shores mixed with man made hard defences that protect properties and infrastructure that will not easily be able to accommodate MR. As sea levels rise intertidal area may be lost and the channels and sand flats within the Menai Straits may change over time. There is no certainty as to how the Straits will change due to sea level rise.	N/A	✓	✓	✓
		PU16.21	Beaumaris West		Maintain defence but with the potential opportunity for realignment.	HTL	HTL	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU16.22	Beaumaris East		Adapt defences to improve defence with the intent of using the width of the Green to landscape flood defence.	HTL	HTL	MR	Tidal current speeds are already high and the marine inhabitants that flourish here are already adapted to this environment (including macroalgae). Although changes may occur over time there is nothing at present to suggest that the BQEs within this water body will be at risk or that would result in the deterioration or prevention of this water body achieving GEP by 2027. Along the rest of the MU from 16.23 to 16.25 the frontage becomes a mixture of coast protection along with areas of rocky shore backing sandy and muddy intertidal areas. The BQEs along this part of the frontage will not be at risk from the policies proposed. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.18, 16.20, 16.23 and16.25	N/A	✓	✓	✓
		PU16.24	Llanfaes		Maintain local access road	HTL	HTL	HTL		N/A	✓	✓	✓
	45	**PU16.27**	Garth Point and Dock Yard		.	HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** This MU frontage takes in the harbour, dock yard and marina area at Bangor. The area is heavily modified and man made defences protect properties and infrastructure. Though BQEs may be affected through loss or change from coastal squeeze and changes in water depth, the policy is unlikely to result in the overall deterioration of Ecological Status of the water body. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.26 & 16.30	N/A	✓	✓	✓
		PU16.28	Hirael		Consider options for re-development and flood proofing.	HTL	HTL	MR		N/A	✓	✓	✓
		PU16.29	Porth Penrhyn		Subject to alternative funding.	HTL	HTL	HTL		N/A	✓	✓	✓
	46	**PU16.32**	Afon Aber		Adapt defences to maintain natural sediment drift with long term intent to protect transport route from potential flooding.	MR	MR	HTL	**TraC Water Bodies (WFD 2):** This MU's frontage progresses from NAI through MR to HTL reflecting the nature of the coastline and ability to allow the frontage to naturally evolve where it can. At Llanfairechan the current defences protect infrastructure that lies just behind those defences. The BQEs will not be affected by these policies.	N/A	✓	✓	✓
		PU16.33	Llanfairfechan		Maintain defences with long term aim to adjust to a more favourable alignment.	HTL	HTL	MR	**Other Water Bodies (WFD 3):** **Ogwen River - Lower** (PU16.31) - The Ogwen is already susceptible to coastal flooding and this will be increased upstream over the 3 epochs. Saline intrusion can also be expected to reach further upstream. However, the policy for this PU is NAI so any changes to the river's BQEs would be due to natural adaptation. **Aber River** (PU 16.32) - There will be an increase in potential for coastal flooding and saline intrusion can be expected to reach further upstream. This will be as a result of the MR. The BQEs may be affected but the change will be small and may not necessarily preclude achievement of good ecogical status by 2015. **Ddu River** (PU 16.33) - There will be a slight increase in the area that could be susceptible to coastal flooding over the 3 epochs and there may be an increase in saline intrusion by the 3rd epoch. The policy of HTL in the first two epochs will not preclude achievement of good ecological status by 2015. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 16.31	N/A	✓	✓	✓
17	**47**	**PU17.3**	Aberffraw	**Ffraw (Transitional – T17)**	Adapt road and quay to support natural function of the estuary	HTL	MR	MR	**TraC Water Bodies (WFD 2):** **Ffraw (Transitional)** The frontage at Aberffraw protects properties and infrastructure and the building of the road and bridge are thought to have stabilised the dunes in the vicinity. The policy of HTL and then MR by the 2nd and 3rd epochs is unlikely to have a detrimental affect on the BQEs in this transitional water body. **Other Water Bodies (WFD 3):** **Ffraw River** (PU17.3) – Where this river outflows there is a policy of NAI. Natural change will occur as a result of sea level rise but it is unlikely that there will be deterioration in Ecological Status.	N/A	✓	✓	N/A

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts): 17.1, 17.2 & 17.4				
	48	**PU17.5**	Porth Trescastell to Rhosneigr	**Caernarfon Bay North (Coastal – C7)**	This would not preclude management of defences at Cerrig Defaid in the first two epochs.	MR	MR	NAI	**TraC Water Bodies (WFD 2):** **Caernarfon Bay North (Coastal)** The policy for the frontage along PU17.5 would allow the beach to continue to roll back in a controlled way and eventually naturally. No BQE adverse affects are predicted. The frontage at Rhosneigr is very close to a large number of properties and infrastructure. The sandy shoreline is backed by higher ground behind. There could be loss of beach area (intertidal) as the policy of HTL is maintained through the first 2 epochs and MR in the 3rd epoch would potentially be selective rather than across the whole frontage. The potential loss of some intertidal could cause an adverse affect on the BQE for macroalgae. However, losses here would be very low in proportion to the rest of the water body's potential for supporting macroalgae. **Cymyran Bay (Coastal)** At Crigyll Valley south the policy of HTL will inhibit the dunes from rolling back naturally. With sea level rise the dunes will come under pressure and erosion may occur. There is uncertainty here but due to the size of the frontage no impact can be predicted on the BQEs of the coastal water body at present. **Other Water Bodies (WFD 3):** **Unnamed - Crigyll / Caradog catchment** (PU 17.5) – the policy of MR followed by NAI in the long term will mean that this river and its mouth can adapt naturally to sea level rise and is therefore unlikely to deteriorate in Ecological Status. **Crigyll** (PU17.7) - As per the comments above the Crigyll may be inhibited from evolving naturally as its southern bank will be held as at present. This may affect the BQEs, however it is unlikely to result in deterioration in Ecological Status. More information may clarify this situation. **Groundwater Bodies (WFD 4):** **Tywyn Trewan Landfill** - An active landfill is present inshore from PU17.8 known as Tywyn Trewan landfill. An historic landfill is also present at the same location, which received inert waste (Twyn Trewan). The SMP policy within PU17.8 is NAI. The 100 year flood extent encroaches into the southern half of the landfill sites. There is therefore a risk that the quality of Ynys Mon Minor Groundwater Body within the Ordovician Rocks (sandstone and conglomerate, interbedded) and overlying blown sand could be affected by leaching of contaminants potentially present within the landfill during extreme tidal floods.	N/A	✓	✓	✓
		PU17.6 (part)	Rhosneigr		Develop long term realignment to a sustainable headland.	HTL	HTL	MR		N/A	✓	✓	✓
		PU17.6 (part)	Rhosneigr	**Cymyran Bay (Coastal – C9)**	Develop long term realignment to a sustainable headland.	HTL	HTL	MR		N/A	✓	✓	✓
		PU17.7	Crigyll valley south		Local defence to main access road	HTL	HTL	HTL		N/A	✓	✓	✓
		PU17.8	Treath Crigyll and Traeth Cymyran		Relocation of facilities to RAF Valley	NAI	NAI	NAI		N/A	✓	✓	x
	49	**PU17.9** (part)	General policy for Southwest		Management to local bays is defined below.	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Cymyran Bay & Caernarfon Bay North (both coastal)** This coast (i.e. outer coast of Holy Island) comprises mainly of hard rocky cliffs and rocky foreshore and reefs that support diverse macroalgae communities. There is also the occasional sandy bay. The area is recognised for its environmental value as part of the Holy Island Coast SPA and numerous SSSIs. The policy for the frontage along Porth Diana, Trearddur and Porth Dafarch is one of HTL. However, the approach to doing so needs to recognise this long term risk of beach loss and coastal squeeze. Where possible creating width at the backshore either through realignment of the road or through adapting defences to work better with the natural form of the beach would be recommended or alternatively looking to increase the influence of headlands to effectively reduce energy entering the bays. However whilst the policy for all 3 epochs remains as HTL some concerns remain that for this water body loss of intertidal will take place along the coastline in several areas unless other local solutions can be found. The BQEs have the potential to be adversely affected. However, the MR policy for the	N/A	✓	✓	✓
		PU17.9 (part)	General policy for Southwest	**Caernarfon Bay North (Coastal – C7)**	Management to local bays is defined below.	MR	MR	MR		N/A	✓	✓	✓
		PU17.10	Borthwen		This would not preclude local private defence subject to normal approvals	MR	MR	NAI		N/A	✓	✓	✓
		PU17.11	Porth Diana		Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL		N/A	✓	✓	✓
		PU17.12	Trearddur		Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU17.13	Porth Dafarch		Adaptation of defence in the long term to sustain the beach	HTL	HTL	HTL	frontage along PU17.9 and 17.10 will allow the shore to adapt to sea level rise in a controlled way, which will mitigate for the loss of elsewhere in this management unit. Therefore, it the SMP2 policy is unlikely to result in the deterioration of the Ecological Status of the water body, which is presently 'Good'. **Other Water Bodies (WFD 3):** There are no discharging rivers along this coastline. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 17.14	N/A	✓	✓	✓
	50	**PU17.15 (part)**	Holyhead			HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** The inner coastline of Holy Island from Holyhead to Stanley Embankment consists of rocky cliffs and large bays, and which is heavily developed in areas (i.e. Holyhead and Stanley Embankment) with coastal defences protecting against flooding and coastal erosion, in particular the breakwater at Holyhead. The area is sediment starved potentially due to the prevention of erosion of the surrounding cliffs. **Caernarfon Bay North & Holyhead Bay (both Coastal)** The policy is to continue to HTL around Holyhead which will continue to modify the marine and intertidal environment. In particular, by maintaining the breakwater at Holyhead, which prevents the coast from being more exposed through changing the hydrodynamics and sediment transport regime and thus changes the habitats and BQEs that are present. For example, the macroalgae and benthic communities are atypical of sheltered environments but without the available sediments, whereas there should be more algal communities typical of exposed rocky shores. This is why Holyhead Bay is classified as being heavily modified. The remainder of coastline within the Holyhead Bay coastal water body is to be a combination of MR within Penrhos Bay and NAI around the Penrhos Headland. Within the bay the policy is to manage the retreat of the bay so as to allow its natural development, whilst allowing local private defences to be maintained, for example, to protect the aluminium works, as otherwise there would be a risk of contaminated water if this were to flood. This would allow the beach to respond better to sea level rise with reduced coastal squeeze; however the beach is unlikely to receive large quantities of sediments because of the defences at Holyhead. Penrhos Headland is to continue to be undefended. Overall, continuing to maintain defences within this management unit will mean it is very likely to continue to be a HMWB as the hydrodynamics are significantly affected. However, the MR within Penrhos Bay helps to mitigate for this by achieving one of the Western Wales RBMP mitigation measures "Managed Realignment of Defences" and potential for others to be achieved (e.g. removal of hard bank / revetment, or replacement with soft engineering, or modify structure or reclamation) and is likely to aid in achieving Good Ecological Potential by 2027. **Holyhead Strait (Coastal)** The defences at Stanley Embankment modify the behaviour the hydrodynamics within the northern end of the Inland Sea i.e. Holyhead Strait. If this headland was not held it would erode back into small inlets. Continuing to HTL is likely to result in coastal squeeze within the immediate policy unit, thus reducing the area available for benthic invertebrate BQEs, as well as changing the hydrodynamics further within the water body. However, this loss is mitigated for by the gains elsewhere within this water body where the policy is MR, which will allow the coastline to adapt to sea level rise. It is therefore considered unlikely that there will be a deterioration in Ecological Status. **Other Water Bodies (WFD 3):** There are no discharging rivers along this coastline. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 17.17	N/A	✓	✓	✓
		PU17.15 (part)	Holyhead	**Holyhead Bay (Coastal – C10)**		HTL	HTL	HTL		N/A	x	✓	✓
		PU17.16	Penrhos Bay		Examination of potential flood risk	MR	MR	MR		N/A	✓	✓	✓
		PU17.18	Stanley Embankment	**Holyhead Strait (Coastal – C11)**		HTL	HTL	HTL		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
	51	PU17.19	General policy for Inland Sea		Local defence to sustain Four Mile Bridge and local defence against flood within hinterland	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Holyhead Strait (Coastal)** Holyhead Strait comprises predominantly of rich mudflats with benthic invertebrates dominated by polychaetes and saltmarsh shores in the area to the north of Four Mile Bridge and of more sandy nature on the southern inlet of the Strait. It is suggested that the southern section of the Strait is flood dominant, while the northern section only now receives finer silts with the potential for sediment accumulation during high water slack periods. The overall intent in this area would be to allow natural development of the Strait, which will allow increased flooding within the creeks and inlets off the main channel meaning that no intertidal BQEs are lost with sea level rise. However, there are areas that will require the defences to be maintained, for example, at Four Mile Bridge, Trearddur and to important roads within the Southwest area of Holy Island. Therefore, the policy is MR, but is unlikely to result in significantly affecting the BQEs. There is one area where the defences will be held at Valley which will cause localised coastal squeeze and loss of the sand flat benthic invertebrates. Overall, it is regarded that it will be unlikely that these policy options will result in the deterioration of the GES of this water body. **Other Water Bodies (WFD 3):** **Unnamed - Crigyll / Caradog catchment** (PU 17.20) – The HTL policy for the mouth of the river body means that the tidal gate that is presently in place will remain and likely to be improved to deal with rising sea levels – this will mean the freshwater area landward of the tidal gate will remain. It is unlikely that the HTL will result in the deterioration in Ecological Status. **No PUs scoped out.**	N/A	✓	✓	✓
		PU17.20	Valley		Long term planning to reduce residual flood risk	HTL	HTL	HTL		N/A	✓	✓	✓
	52	PU17.21	Newlands		Co-ordinated approach to slowing erosion	MR	MR	MR	**TraC Water Bodies (WFD 2):** **Holyhead Strait (Coastal)** and **Alaw (Transitional)** This section of coast consists of low lying cliff with the Newlands Park housing development landward of the protected cliffs. To the north-east of this lies Alaw Estuary which has extensive sand and mudflats supporting benthic invertebrates, saltmarsh, with migratory fish passing through and up the River Alaw. The intent of this area is to allow natural development of the coastline with the exception of at Newlands, where the intent is to reduce erosion rather than halt it altogether. The BQEs within this water body are therefore unlikely to be deteriorated by the SMP2 policy, nor are the hydrodynamics likely to be interrupted. Therefore, failure of the WFD Environmental Objectives will not occur. **Holyhead Bay (Coastal)** This section of coast is largely undeveloped with a series of bay backed by dunes in places and interrupted by low lying rocky outcrops. The management intent for this stretch of coastline (PU 17.23) is to allow natural development of the dunes and also the adaptation of the land to new areas of saltmarsh in the long term. Therefore, the BQEs (benthic invertebrates and saltmarsh) will not deteriorate with sea level rise but rather help mitigate for other losses of habitat within this water body around Holyhead. **Other Water Bodies (WFD 3):** **Alaw** and **Tan R'Allt rivers** (PU 17.22) – Alaw river is classified as being heavily modified due to over-extraction of drinking water and water storage with Moderate Ecological Status, whilst Tan R'Allt has GES. The preferred policy of MR is unlikely to cause deterioration in Ecological Status / Potential. **Unnamed river (Wygyr Catchment)** (PU 17.23) – This river will not be negatively affected by the SMP2 policy of MR, since the coast will be allowed to adapt more naturally than previously. Therefore, deterioration in Ecological Status is considered unlikely. **No PUs scoped out.**	N/A	✓	✓	✓
		PU17.22	Afon Alaw		Long term planning to reduce residual flood risk	MR	MR	MR		N/A	✓	✓	✓
		PU17.23 (part)	Traeth Gribin to Twyn Cliperau	Holyhead Bay (Coastal – C10)	This would not preclude local private defence subject to normal approvals	MR	MR	MR		N/A	✓	✓	✓
		PU17.23 (part)	Traeth Gribin to Twyn Cliperau	Holyhead Strait (Coastal – C11)	This would not preclude local private defence subject to normal approvals	MR	MR	MR		N/A	✓	✓	✓
		PU17.23 (part)	Traeth Gribin to Twyn Cliperau	Alaw (Transitional – T18)	This would not preclude local private defence subject to normal approvals	MR	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
18	**53**	**PU18.3**	Porth Trefadog	**Caernarfon Bay North (Coastal – C7)**		MR	NAI	NAI	**TraC Water Bodies (WFD 2):** **Caernarfon Bay North, The Skerries and Anglesey North (all coastal)** This management unit sits within three coastal water bodies, which are driven by the orientation of the coast and subsequent coastal processes. The coastline predominantly consists of high rocky cliffs of varying geology intermingled with shingle ridges and sandy bays that support benthic invertebrates. The rocky intertidal and subtidal reefs at the base of the cliffs support macroalgae communities. Much of this management unit is undefended and will continue to be allowed to function naturally under erosional processes. There are a few pockets where there are settlements that are currently defended. The only area where HTL will continue for the following 100 years is to protect the Wylfa nuclear power station, this will result in the some loss of the rocky intertidal through coastal squeeze which will reduce the extent of the macroalgae communities. In addition, there are two areas where the policy is to manage the retreat followed by NAI in the long term, which will allow the coast to adapt to sea level rise without. Overall, it is unlikely that the Ecological Status of these three coastal water bodies will deteriorate as a result of the SMP2 policies within this management unit. **Cemlyn Lagoon (Coastal)** Cemlyn Lagoon sits landward of large shingle bank in Cemlyn Bay, in the lee of the rocky headland of Trwyn Cemlyn. The lagoon and headland are designated as a SSSI, SPA and SAC. The main lagoon is partially divided by a ridge of high ground running down to the back of the lagoon from the farm at Plas Cemlyn. The lagoon is classified as being heavily modified due to a weir and sluice system that controls the water levels. The management intent is to establish a system that is allowed to function naturally whilst retaining the BQEs (i.e. macrophytes and benthic invertebrates) and ecological function. This will require an immediate detailed action plan so that the lagoon can be managed in the short to medium term to allow gradual adaptation. Providing this management takes place so that the lagoon is no longer dependant on artificial structures then the lagoon is likely to improve its Ecological Potential rather than deteriorate it, and it is already classified as having GEP. Therefore, the policy is unlikely to result in failing WFD 2. **Other Water Bodies (WFD 3):** **Unnamed Wygyr Catchment** (PU18.6) – the SMP2 policy with not cause this water body to deteriorate in Ecological Status. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 18.1, 18.2, 18.4 and 18.5	N/A	✓	✓	✓
		PU18.6 (part)	Cemlyn Bay and Headland	**Cemlyn Lagoon (Coastal – C13)**		MR	NAI	NAI		N/A	✓	✓	✓
		PU18.6 (part)	Cemlyn Bay and Headland	**The Skerries (Coastal – C12)**		MR	NAI	NAI		N/A	✓	✓	✓
		PU18.7	Wylfa power station			HTL	HTL	HTL		N/A	✓	✓	✓
	54	**PU18.9**	Ffordd y Traeth	**Anglesey North (Coastal – C14)**		HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Anglesey North (Coastal)** The coastline predominantly consists of high rocky cliffs, with rocky intertidal and subtidal reefs at the base supporting macroalgae communities and a sandy bay which supports benthic invertebrates. The River Wygyr discharges into the bay between two defences that creates a small estuarine area with sand flats. The management intent for this stretch of coast supports the natural development of the coast with the exception of within part of Cemaes Bay. The defences within this bay only have a localised effect on the water body by preventing the natural roll back and flooding of the bay, since the hard rock coast within the main bay holds this shoreline forward. The harbour in the south-western corner where the River Wygyr discharges is to be continued to be held, whilst the intent for the defences either side is to hold them for the short to medium term and investigate possibilities for holding the shore in a more sustainable manner that will retain the beach rather than for it to be squeezed by sea level rise in the longer term. Since HTL will only have a localised effect with some loss of sandy beach in the long term, and there is unlikely to be any significant interruption of hydrodynamics that affect the whole water body it is unlikely that there will be any deterioration in Ecological Status.	N/A	✓	✓	✓
		PU18.10	Cemaes Harbour			HTL	HTL	HTL		N/A	✓	✓	✓
		PU18.11	Treath Mawr Promenade			HTL	HTL	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Other Water Bodies (WFD 3): **Wygyr** (PU18.10) – by continuing to hold the defences in place the mouth of this river will remain as it is presently, with sea level rise there may be some squeeze of the sandflats within the harbour and the tidal extent of the river may increase upstream but it is unlikely to result in the deterioration or the prevention of achieving Good Ecological Status by 2027. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 18.8 & 18.12				
	55	**PU18.14**	Porth Wen Brickworks			MR	MR	NAI	**TraC Water Bodies (WFD 2):** **Anglesey North (Coastal)** As with Management Areas 53 and 54 the coast comprises of high rocky cliffs of varying geology intermingled with shingle ridges and sandy bays that support benthic invertebrates. The rocky intertidal and subtidal reefs at the base of the cliffs support macroalgae communities. Much of this management unit is undefended and supports the natural development of the coast. There are five areas where there are either settlements or assets that are currently defended. The first is **Porth Wen Brickworks (PU18.14)** which is a designated Scheduled Ancient Monument that has previously been protected by a small harbour within a sandy bay. The management intent is to maintain the existing defences in the short to medium term with NAI in the long term. This policy is likely to result in insignificant loss of benthic invertebrates to the adjacent beach, and will change the water depth for the macroalgae communities, though this is very unlikely to significantly affect the quality of the BQEs of this water body overall. The second area is the village of **Porth Llechog (PU18.15)** which is located in the shelter of the Tywyn Melyn headland with a small masonry wall to protect from erosion and flooding that is fronted by a small sandy beach intermingled with macroalgae colonised bedrock. The policy is to HTL in the medium to short term then MR to plan for adapting the sea front to be more sustainable. In the short term there is little risk of any loss of the beach or change to water depth for the macroalgae communities. The third area is at **Amlwch (PU18.16>18.17)**, which is the largest settlement within this Management Unit. This comprises a rocky headland from which the River Goch Amlwch flows down through the old chemical works and a small narrow estuary with steep cliffs either side on which Amlwch harbour is located. There are two areas that are presently protected by hard defences, the old chemical works on the Trwyn Costog headland and Amlwch Harbour, around which the town is situated. The main issue within these two policy units is flooding rather than coastal erosion, with the potential for contamination of the water body from the old chemical works. The management intent is to continue to hold the harbour, which is unlikely to affect any BQEs. Whilst for the old chemical works, the policy of MR over the three epochs is to stimulate the understanding that this site cannot continue to be held but that a plan as to whether the site will be re-developed is determined. If the site were to be redeveloped then this policy recognises that defences are not really the option to continue to protect the site. However, with regards to the water body it would be important to determine whether this site is a contamination issue and by leaving it at risk to flooding whether this would affect the adjacent coastal water body. The Goch Amlwch River fails the Chemical Status, and this is mostly due to the works. In the short term it is unlikely that there is risk of the deterioration of the Ecological Status and the associated BQEs overall for this water body, however there could be in the future if significant overtopping occurs prior to an investigation into the contamination issues. The last area is **Port Eilian (PU18.18)**, which is a small bay to the north-eastern corner of Anglesey. It is situated in a larger bay formed between two hard rocky headlands that support a diverse macroalgal community both in the intertidal and subtidal. The beach consists of shingle and is backed by a low but steep coastal slope. There is a short section of defence and because there is no significant risk of coastal flooding the policy is one that supports natural development in the long term but allowing time for local adaptation. There is unlikely to be any loss of BQEs due to coastal squeeze.	N/A	✓	✓	✓
		PU18.15	Porth-Llechog			HTL	HTL	MR		N/A	✓	✓	✓
		PU18.16	Trwyn Costog			MR	MR	MR		N/A	x	x	x
		PU18.17	Amlwch			HTL	HTL	HTL		N/A	✓	✓	✓
		PU18.18	Porth Eilian			HTL	MR	NAI					

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									Overall, the defences within each of these five areas do not alter the hydrodynamics along the coastline and any small loss of benthic invertebrates and shifting of macroalgae communities up the shore is very unlikely to affect the Ecological Status of the water body. **PU18.16 has failed the WFD Environmental Objectives 2, 3 and 4 due to the potential for chemical contamination into the adjacent surface and groundwater bodies. Allowing the failure of any of the coastal defences may prevent the coastal water body from achieving High Chemical Status by 2027.** To remedy this it is necessary to investigate use of innovative passive treatment technologies. **Other Water Bodies (WFD 3):** **Goch Amlwch River** (PU18.16) – this river fails Good Chemical Status though the reasons for this are unknown, but it could be due to the old chemical works through which it flows. **Ground Water Bodies (WFD 4):** **Ynys Mon Minor GWB** - See comments above. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 18.13				
19	**56**	**PU19.2**	Portobello			MR	MR	NAI	**TraC Water Bodies (WFD 2):** **Anglesey North (Coastal)** This management unit comprises high rock cliffs with rocky shores colonised by macroalgae communities either side of the entrance to Dulas Bay into which two river flow (Unnamed – Wygyr Catchment and Goch Dulas). Dulas Bay is a narrow estuary infilled by sand and mudflats, with two sand spits that extend across the estuary mouth, with the larger one to the south backed by saltmarsh. The spit is formed behind the rock outcrop and promontory at Craig y Sais. The southern bank of the estuary and the inner spit are both recognised for their environmental value under designation as a SSSI. The intent of this management unit is to allow the coastline to function naturally and adapt to sea level rise, whilst precluding the maintenance of private defences providing they show they do not interfere with the natural development of the coast. The small hamlet of Portobello is protected by local defences that do not interact with the seaward beach. These defences will be maintained in the short to medium term with the view to encourage future natural function of the frontage in the long term with a policy of NAI. The benthic invertebrate BQEs within the beach sediments fronting the defences are unlikely to be significantly affected and therefore it is unlikely that this policy will result in the deterioration of Ecological Status. **Other Water Bodies (WFD 3):** **Unnamed – Wygyr Catchment** and **Goch Dulas** (19.3) – both these river bodies flow into Dulas Bay which is undefended and will continue to function naturally and therefore these river water bodies will not be deteriorated in their Ecological Status. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 19.1 & 19.3	N/A	✓	✓	✓
	57	**PU19.4**	Porth Lydan			MR	MR	MR		N/A	✓	✓	✓
		PU19.5	Porth Moelfre			HTL	HTL	MR		N/A	✓	✓	✓
		PU19.7	Treath Bychan Centre			MR	NAI	NAI		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									coastline around Porth Lydan is rocky intertidal with macroalgae communities, which will adapt to sea level rise by shifting up the shore. This is unlikely to be significantly constrained by the localised defences. Traeth Bychan is the next bay to the south, which has an extensive sandy beach with a rocky outcrop colonised by macroalgae. In the northern corner of this bay is a slipway and watersports centre that currently uses an old flooded quarry to launch and store boats. The area is not defended by hard linear defences and the policy is to allow continued managed realignment without the addition of hard defences with a policy of NAI in the long term, which will allow the beaches to roll back naturally. The benthic invertebrate and macroalgae BQEs are unlikely to be affected by the policy. Overall, this management unit is unlikely to result in the deterioration of Ecological Status of this coastal water body. **Other Water Bodies (WFD 3):** **Unnamed – Lligwy catchment** (19.5) – this river body discharges onto the coast at Porth Moelfre where the policy is to HTL in the short to medium term. The mouth of this river will continue to be unnaturally constrained with some increasing saline intrusion with sea level rise, however this is unlikely to affect the Ecological Status or the associated BQEs. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 19.6 & 19.8				
	58	**PU19.10**	Benllech Beach road			HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Anglesey North (Coastal)** This is a large management unit comprising of high rocky cliffs and rocky intertidal shores supporting diverse macroalgal communities on either side of a large mobile sandy bay known as Red Wharf Bay that supports some benthic invertebrates (the most part of the sandflats are not particularly diverse due to its highly mobile nature). The landward edge of the bay comprises richer fine sediments and ephemeral algae that support rich benthic invertebrate communities with some limited areas of saltmarsh. The subtidal area is designated as part of Menai Strait and Conwy Bay SAC; however the extensive intertidal sandflats are not, apart from one small area around the headland of Trwyn Dwlban, which is a SSSI. The main community within the area is Benllech, north of Red Wharf Bay and situated along a river valley (un-named – Lligwy catchment) and on a fine sandy beach known as the Benllech Sands. The River y Marchogion outflows at the northern end of the bay. The management intent is to HTL for the short to medium term but then to encourage more sustainable flood and erosion management in the long term with a policy of MR. The defended area is relatively small, with a hard linear sea wall protecting the road and fronted by stable shingle in the upper foreshore. However, these defences interact with the natural coastal processes and significantly prevent erosion of the shoreline. Importantly there is a sewage works at the crest of the cliffs to the southern end of the beach. The HTL policy is likely to result in loss of some of the beach in the medium term as sea levels rise and the beach is prevented from naturally rolling back and will reduce in volume. Since this is unsustainable, in the long term the policy is for managed realignment with the potential set back of some amenities to allow the coast to naturally roll back so as not to cause the loss of the beach and its associated BQEs, since the water table will also change. There is a small stretch on the western side of Red Wharf Bay, known as Porthllongdy, where there is a sea wall protecting an established caravan park, the same approach is being taken as at Benllech Beach Road. Similar effects will occur with sea level rise on the benthic invertebrates, with some loss in the medium term. On the south side of Red Wharf Bay, is the mouth of the River Nodwydd. The location of this river marks the change in the backshore from the saltmarsh and mudflats to the west and the increasingly sandier frontage along the gently rising coastal slope of the eastern frontage. Landward shingle backed sandier side of the beach is a minor road and car park. It is unsustainable to continue to defend this road and a policy of MR to investigate how this road can be managed in the future has the potential for the natural roll back of this area, so that	N/A	✓	✓	✓
		PU19.12	Red Wharf Bay			HTL	HTL	MR		N/A	✓	✓	✓
		PU19.14	Afon Nodwydd			MR	MR	MR		N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
									there is no loss of beach through coastal squeeze or change in the water table that might affect the benthic invertebrate BQEs. The remaining coastline is to be allowed to adapt naturally to erosion and coastal flooding. Overall, it is considered that the policy suite for this management unit strongly supports the natural development of the coastline which sits within the Anglesey North coastal water body. It is predicted that there is unlikely to be any significant losses or changes to the BQEs of this water body that would result in the deterioration in Good Ecological Status. **Other Water Bodies (WFD 3):** **Y Marchogion River** (PU19.10) – this river has Moderate Ecological Status and the SMP2 policy is unlikely to result in either the deterioration or prevention of achieving GES by 2027. **Nodwydd River** (PU19.14) – this river is allowed to adapt naturally, with increasing saline intrusion with sea level rise, however this will be gradual and the freshwater BQEs will be able to adapt and not deteriorate. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 19.9, 19.11, 19.13, 19.15>19.17				
20	**59**	**PU20.1 (part)**	Gerizim	**Menai Strait (Coastal – C8)**		HTL	HTL	HTL	**TraC Water Bodies (WFD 2):** **Menai Strait (Coastal) & Conwy Bay (Coastal)** This management unit covers the southern shoreline of the Penmaenmawr, which forms the immediate backshore to a large bay area, and which sits within two HMWBs (for coastal protection and shellfisheries) that have Moderate Ecological Potential. The coast rises steeply from the foreshore, which has a shingle upper and sandy lower foreshore, with submerged sandbanks (Four Fathom Banks) supporting that valuable benthic invertebrate communities and which is a designated feature of the Menai Strait and Conyw Bay SAC. This frontage is defended along its entirety. The area is dependant to a degree on the recycling of sediment by estuary flows from the Conwy Estuary, but is largely independent and undergoes oncoming wave attack. The HTL policy for this unit will prevent the natural roll back of the coast, however, since there is rising land some intertidal (which has poor quality sediments) would have been lost naturally with sea level rise. Importantly as the intertidal decreases the water depths around the sandbanks will increase, as well as increase the extent of the banks. Overall, it can be deemed that the HTL policies are unlikely to result in the deterioration of Ecological Potential. **Other Water Bodies (WFD 3):** **Conwy (Transitional)** - Maintaining the defences in this management unit will not affect the adjacent transitional water body, but rather the other way round. With sea level rise there is potential for the main ebb channel to flow more directly northwards which has the potential to reduce the amount of sediment supplied to the shore at Penmaenmawr. This will be investigated with Conwy TraC below. **Unnamed to Conwy Bay** and **Gyrach** (PU20.2) – By continuing to HTL along this Penmaenmawr frontage the mouth of these two rivers continues to be artificially constrained as they have to pass under the main road and rail track. This could be influencing the ability of fish to migrate further up the river. However, this is unlikely to result in the deterioration of Ecological Status for the whole water body. **No PUs scoped out.**	N/A	✓	✓	✓
		PU20.1 (part)	Gerizim	**Conwy Bay (Coastal – C15)**		HTL	HTL	HTL		N/A	✓	✓	✓
		PU20.2	Penmaenmawr		Joint funding approach to sustain use of the promenade, road and railway.	HTL	HTL	HTL		N/A	✓	✓	✓
	60	**PU20.3**	Conwy Morfa	**Conwy (Transitional – T19)**	Possible realignment forward, to be considered in conjunction with management at Deganwy.	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Conwy (Transitional)** This management unit covers the outer and middle section of the estuary from Conwy Morfa across to Traeth Melyn and down the estuary to the Causeway where the railway crosses the estuary. The hydrodynamics and sediment transport pathways of this estuary are complex and have the potential to affect the adjacent	N/A	x	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU20.4	Conwy Marina			HTL	HTL	HTL	Conwy Bay coastal water body, particularly with sea level rise. The estuary is classified as being heavily modified due to flood protection, and presently is of Moderate Ecological Potential. In the outer section of the estuary there is an extensive sand bank (Conwy Sands) that forms much of the outer estuary and supports large areas of mussel banks as well as benthic invertebrates, both of which provide food for migratory fish. There are pockets of sand and mudflats within the narrower outer estuary between Conwy Morfa and the Causeway. The defences stop erosion and roll back of the various frontages, however, it is only the Causeway that plays a fundamental role in modifying the way in which the natural system performs. The management intent is to continue to HTL, with some managed realignment and retreat in the 3rd epoch, which will require a strategic plan that takes into account the functioning of the whole estuary, so as to develop a more sustainable coastal management plan and adaptation to sea level rise. This will result in a loss of the already limited sandy foreshore and intertidal habitat, affecting phytoplankton, macroalgae, benthic invertebrates and fish BQEs through potential changes in water depth, turbidity, abrasion, sediment loading and changes in beach water table. Deterioration of Ecological Potential is considered likely in the short to medium term, with the potential for improvement in the long term providing a more sustainable estuary management plan is devised. **Other Water Bodies (WFD 3):** **Unnamed Conwy Estuary west** (PU20.5) – The mouth of the river is presently constrained by the developments around the Conwy Estuary. The HTL will continue to constrain the natural development, which could be the reason why this is only of Moderate Ecological Status – though there is not enough information to determine this. It is unlikely that the HTL will cause deterioration in Ecological Status but there is potential that this could prevent achieving GES, though more information is required. **Gyffin** (PU20.6) – The mouth of this river is more natural than that discharging in PU20.5, and is of GES. It is unlikely that the HTL policy around the railway line will result in deteriorating GES. **No PUs scoped out.**	N/A	x	✓	✓
		PU20.5	Conwy			HTL	HTL	HTL		N/A	x	x	✓
		PU20.6	Gyffin Valley			HTL	HTL	MR		N/A	x	✓	✓
		PU20.7	Causeway			HTL	HTL	HTL		N/A	x	✓	✓
		PU20.8	Deganwy		Decisions in relation to the railway line and from a spatial planning perspective. MR to be considered in conjunction with management at Conwy Morfa	HTL	HTL	MR		N/A	x	✓	✓
		PU20.9	Deganwy Point		MR to be considered in conjunction with management at Conwy Morfa and the unit above.	HTL	HTL/ MR	MR		N/A	x	✓	✓
		PU20.10	Traeth Melyn		Subject to maintaining the railway line. The default policy would MR.	HTL	HTL	HTL		N/A	x	✓	✓
	61	**PU20.11**	West Shore and Golf Course		With the intent to sustain and improve flood defence in line with sea level rise to Llandudno	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Conwy (Transitional)** The management intent of the eastern side of the outer estuary is to continue to HTL around the West Shore and the golf course through controlling and managing sediment along the shoreline. This will result in the loss of the shingle beach fronting the defences through increased wave action with increasing sea level rise, as well as coastal squeeze. The loss of this habitat will be mitigated for by allowing the coast north of West Shore through to Great Orme Head to adapt naturally with a policy of NAI, which will allow the cliffs to erode and thus provide some sediment to help reduce coastal squeeze. Therefore, it is considered that the SMP2 policy for this management unit is unlikely to result in deterioration of Ecological Potential. **Other Water Bodies (WFD 3):** The boundary of Conwy Bay coastal water body lies part way across PU20.13, however since the policy is of NAI and so is the down drift policy unit (PU20.12) it is unlikely that the policies will result in the deterioration in Ecological Potential. There are no river bodies within this management unit. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 20.12 & 20.13	N/A	✓	✓	✓
	62	**PU20.15**	Llandudno Junction and Ganol Estuary		With the intent to sustain defence in line with sea level rise. Realignment would be through the Nature Reserve	HTL	HTL	MR	**TraC Water Bodies (WFD 2):** **Conwy (Transitional)** The inner section of the estuary comprises large areas of mud and sand flats supporting benthic invertebrates, with areas of saltmarsh, in particular Glan Conwy Nature Reserve. The main estuary (excluding the nature reserve) is designated as	N/A	✓	✓	✓

SMP2 Policy Boundaries				TraC Water Body	Preferred Policy				WFD Assessment of Deterioration by Management Unit (TraC, Freshwater and Groundwater Bodies with the relevant PUs)	Environmental Objectives met?			
PDZ	MAN	PU	Policy Name		Policy Comments	2025	2055	2105		WFD1	WFD2	WFD3	WFD4
		PU20.16	Glan Conwy		Subject to maintaining the railway line	HTL	HTL	HTL	a SSSI (Aber Afon Conwy). With sea level rise there will be some increase in tidal prism, though there is sufficient width to accommodate change, particularly along the western side to Tal-y-Cafyn. The management intent is to allow the western side of the estuary down to Tal-y-Cafyn to adapt naturally, whilst moving from a strictly HTL policy further upstream to managed realignment with the long term intent of allowing natural roll back through relocating the railway. This will result in the creation of further intertidal habitat and the natural morphology of the river. The eastern side of the estuary needs to be held mainly to protect the railway, and this will result in changes in slope, shoreline complexity, inundation and vertical accretion of saltmarshes limiting access to nursery areas for fish with sea level rise. However, this will be mitigated by the 2nd epoch as the managed realignment of estuary at Tal-y-Cafn to Llanrwst is introduced, and again in the 3rd epoch along the Ganol Estuary, which will create habitat. **Other Water Bodies (WFD 3):** There are a number of rivers that discharge into the Conwy Estuary within this management unit – **Wydden** and **Ganol** in PU 20.15, **Unnamed to Conwy Estuary east** in PU 20.16, **Hiraethlyn** in PU20.17, and **Roe, Dulyn**, **Porth-llwyd, Ddu, Crafnant** and **Conwy** in PU 20.19. **Wydden** is the only water body that is classified as heavily modified due to flood protection rather than over extraction of water, and it is in Good Ecological Potential. The suite of policies within the management unit is unlikely to cause them to deteriorate in Ecological Potential as sea levels rise as the management intent is to allow the estuary to adapt naturally where it is possible, with areas of managed realignment and retreat in the second and third epochs. **Scoped Out PUs (due to NAI/NAI/NAI on undefended coasts):** 20.14	N/A	x	✓	✓
		PU20.17	Glan Conwy to Tal-y-Cafn		Subject to maintaining the railway line	HTL	HTL	HTL		N/A	x	✓	✓
		PU20.18	Tal-y-Cafn		Retire defence to the railway line	HTL	MR	MR		N/A	✓	✓	✓
		PU20.19	Tal-y-Cafn to Llanrwst		The intent would be to relocate the railway line to the edge of the tidal flood plain. Under the long term policy local defence to villages would be considered further.	HTL	MR	NAI		N/A	✓	✓	✓

Annex VI: Consultation Comments

Client Steering Group and Interested Parties Document Review

Document Title:	WFD Asessment - Stage 1 Review	Project No.:	9T9001	o be returned to:	e.jolley@royalhaskoning.com
General Comments:		Reviewer:	Sarah Vincent-Piper	Organisation:	Environment Agency Wales

Very little to comment on, a really good report. Everything from the EA guidance for the first 2 stages was covered well.
Maps and diagrams were really useful, clear and relevant and made the document more understandable.
Boundary issues maps were really good and matched the descriptions in the text well. I see no reason not to change the boundaries to the suggestions - would want to make sure the rest of the steering group was happy with the decision though.

Just a few minor typos and errors....

Page No.	Paragraph	Line	Comment	Name	Date	RH Response	Name	Date
1	1	4			27-Aug-10	Changed	L.Jolley	01.09.10
1	3	3			27-Aug-10	Changed	L.Jolley	01.09.11
3	2	4			27-Aug-10	Changed	L.Jolley	01.09.12
3	4	1	When referring to Environment Agency Wales there is no 'the'.		27-Aug-10	Changed	L.Jolley	01.09.13
7	1	4			27-Aug-10	Changed	L.Jolley	01.09.14
7	4	2			27-Aug-10	Changed	L.Jolley	01.09.15
42	1	2			27-Aug-10	Changed	L.Jolley	01.09.16
10	5	1	There are a large number of river water bodies....		27-Aug-10	Changed	L.Jolley	01.09.17
39	4	3	Defences range from soft cliff.....		27-Aug-10	Changed	L.Jolley	01.09.18
40	3	4	doubled up on comma		27-Aug-10	Changed	L.Jolley	01.09.19

Client Steering Group and Interested Parties Document Review

Document Title:	Stage 1 - Initial WFD Investigation Report	Project No.:	9T9001	to be returned to:	e.jolley@royalhaskoning.com
General Comments:		Reviewer:	Helen Millband	Organisation:	Environment Agency (Area)

No General Comments

Page No.	Paragraph	Line	Comment	Name	Date	RH Response	Name	Date
10	k3.1.3		This and the paragraph below refer to candidate HMWB. HMWB were referred to as candidates at earlier stages of the designation process, but since the first river basin plans in Dec 2009, they should be referred to as "HMWB" rather than "cHMWB".	Helen Millband	03-Sep-10	This has been taken on board and any cHMWB have been changed to HMWB	L.Jolley	06.09.10
10	k3.1.3	3	"Many of the water bodies have not yet been assessed for their Ecological Quality." - again, these had been assessed for ecological status at the time of the first river basin plan in Dec 2009, although chemical status remined not yet assessed for many. Question if latest classification dataset was used?	Helen Millband	03-Sep-10	Amended against the GIS data from Geostore.	L.Jolley	06.09.10
1	table 3.2 line F53, li		Ho were "relevant mitigation measures" chosen? F53 Llyfni has 3 relevant measures listed, yet line F44 Ysgethin has some of the same mititgation measures (listed in Annex B of River basin plans) which are not lised in table 3.2	Helen Millband	03-Sep-10	Been checked and amended against the Geostore spreadsheet.	L.Jolley	06.09.10

Page No.	Paragraph	Line	Comment	Name	Date	RH Response	Name	Date
24	table 3.2 F47		Discrepancies between table 3.2 and annex B of river basin plan - need rechecking. I cross checked a few entries in Table 3.2 with annex B of the Western Wales river basin plan. Found discrepancies e.g. Dwyryd estuary south GB110065053500 is not a HMWB in annex B yet Table 3.2 suggests it is; Wnion - lower GB110064048800 is a HMWB in aanex B, table 3.2 says it isn't.	Helen Millband	03-Sep-10	Been checked and amended against the Geostore spreadsheet.	L.Jolley	06.09.10
	table 3.2		Surprised not to see GB110102058670 Cefni - tidal limit to Ceint or the Glaslyn tidal limit to Croseor GB110102058670 in table 3.2 of freshwater bodies - looks like it should be from map in annex K 1 - Freshwater Bodies for PDZs in the West Wales SMP2 Area, unless certain percentage of the length of the surface water body needs to lie within the flood zone? Cefni and Glaslyn estuaries get specific mention in k3.2.9	Helen Millband	03-Sep-10	These were accidentally missed and have been added into the assessment.	L.Jolley	06.09.10
39	k3.2.4	lines 7-	Not sure what meant by "There are only candidate HMWBs, and those that are designated for coast protection reasons. The uncertainty (i.e. candidate status) could be due to the lack of confidence as to whether the coast protection is contributing to anything other than GEP."	Helen Millband	03-Sep-10	This sentence has been changed and amended to: There are xx HMWBs that have been designated for coast protection reasons	L.Jolley	06.09.10
39	k3.2.6	2	should be Cefni not Cefri.	Helen Millband	03-Sep-10	Changed error.	L.Jolley	06.09.10