

Vale of Glamorgan LDP Coastal Study



Final Report

for

Vale of Glamorgan Council

June 2008

18-19, Park Place

Cardiff
CF10 3DQ

Tel: 029 2064 0971

Fax: 029 2064 0973

Email: sw@whiteconsultants.co.uk
Web: www.whiteconsultants.co.uk

WHITE
consultants

CONTENTS

| | |
|---|----|
| 1. Introduction | 2 |
| 2. Planning context..... | 5 |
| 3. Landscape and Seascape Character Overview | 11 |
| 4. Pressures for Change | 16 |
| 5. Proposed Coastal Zones Boundaries and Descriptions | 19 |
| 6. Policy Recommendations..... | 32 |

Figures

| | |
|-----------|---|
| Figure 1 | Designations and constraints |
| Figure 2 | Existing Glamorgan Heritage Coast in relation to LANDMAP aspect areas |
| Figure 3 | Existing Eastern Vale coastal zones in relation to LANDMAP aspect areas |
| Figure 4 | Seascape Visibility- Regional Seascape Unit 47 |
| Figure 5 | Seascape Visibility- Regional Seascape Unit 48 |
| Figure 6 | Seascape Visibility- Regional Seascape Unit 49 |
| Figure 7 | Proposed coastal zone boundary changes- Llantwit Major |
| Figure 8 | Proposed coastal zone boundary changes- Barry |
| Figure 9 | Proposed coastal zone boundary changes- Penarth South |
| Figure 10 | Proposed coastal zone boundary changes- Penarth North |
| Figure 11 | Proposed coastal zone boundaries- West |
| Figure 12 | Proposed coastal zone boundaries- East |

Appendices

| | |
|------------|---|
| Appendix A | TAN15 Flood Risk Categories and figures showing areas |
| Figure A1 | Flood risk Areas- Vale |
| Figure A2 | Flood risk Areas- Barry |
| Appendix B | Extracts from the Vale of Glamorgan UDP Policies |
| Appendix C | Shoreline Management Plan extracts |
| Appendix D | Extract from Landscapes Working for the Vale of Glamorgan |
| Appendix E | LANDMAP Coastal Areas Value analysis |
| Appendix F | Seascape Unit Descriptions and mapping |

1. Introduction

- 1.1. White Consultants were appointed in early September 2007 by the Vale of Glamorgan Council to undertake a coastal study to inform the Local Development Plan (LDP). This study aims to review existing policies and put forward new policies and coastal zone boundaries which are supported by a robust evidence base. The report will be used to feed into the LDP process.
- 1.2. The coastal area has already been assessed as part of two local landscape assessments and a national seascape assessment as well as being considered in two shoreline management plans and being subject to numerous designations. This provides a strong evidence base to define the extent and characteristics of the coastal zones. This is supplemented by specific site assessment to ensure that the coastal zones defined are relevant, justifiable and relate to what is important about the coast in the Vale of Glamorgan.
- 1.3. The report covers method [1.0], the planning context [2.0], landscape and seascape overview [3.0], pressures for change [4.0], proposed coastal zone boundaries and descriptions [5.0], policy recommendations [6.0] and finally conclusions [7.0].

METHOD

- 1.4. This study is essentially a technical exercise to provide an evidence base and underpinning for recommendations on the extent of coastal zones and related policy. Coastal zones are taken to mean areas of land and directly adjacent sea which are mutually interdependent or related in terms of physical processes, human activities or character. The latter is an important issue for the Vale of Glamorgan. Coastal zones include both the developed and undeveloped coast. A key issue is defining the inland boundary for the coastal zones. This must be justifiable and in some respects is a minimum boundary taking into consideration the influence of the sea on land. The method is discussed below.

Desk Study

- 1.5. The planning framework was examined paying particular attention to national policy and guidance. This provided the starting point for consideration of what a coastal zone's purpose was and its potential extent. The approach taken by the Council in its existing UDP was examined and the inspector's report leading to the definition of coastal zones was also studied to provide the context of what was seen as important locally and which had gained general consensus.
- 1.6. A desk study of relevant designations revealed what was perceived as being of value in and around the coast. Documents underpinning designations such as the Glamorgan Heritage Coast Plan Statement and Vale Coastal Zone Topic Paper are useful starting points for focussed consideration of the coast. The former is still relevant in terms of its aims, objectives and management recommendations. The shoreline management plans provide information on the key issues facing the coast in relation to erosion, instability, flooding, coastal protection, and climate change. The Environment Agency flood plans provided information on areas potentially at risk of flooding.
- 1.7. The landscape baseline information consists of LANDMAP studies. LANDMAP seeks to achieve an objective and structured approach to landscape assessment which allows access to baseline data. The Landscapes Working for the Vale of Glamorgan study carried out by White Consultants was reviewed including the character areas and strategy themes. The updated LANDMAP aspect layers to the revised Countryside Council for Wales 2003 methodology have now been completed. The revised aspects provide a consistent and up-to-date basis for consideration of coastal character areas. The main issue is that the Historical

- Landscape aspect does not include an evaluation of value at present. The aspect area boundaries were compared with the current coastal zone boundaries in order to identify any differences.
- 1.8. The draft Assessment of the Seascape of Wales has been used to inform consideration of seascape issues and also to inform visibility inland. The study has been undertaken by White Consultants for the Countryside Council for Wales [CCW] as part of a move towards marine spatial planning and integrated coastal zone management. It is intended to establish, for the first time, and at a broad-brush scale, the characteristics and qualities that make each part of the Welsh coastline distinctive and give its sense of place. The report defines regional seascape character units which are defined using a methodology substantially developed by CCW. These are defined by major headlands and visibility rather than the character of the coast and its hinterland between. Therefore it is considered that the LANDMAP studies are most appropriate to define character and thus zones. The extent of visibility [using Zone of Theoretical Visibility [ZTV] data] was compared with the current coastal zone boundaries in order to identify any differences. As the study will in due course be used to assess the effects of renewable energy development at sea the visibility analysis is based on what areas of land can see objects on the sea upto 24 km offshore in various bands rising to 160m in the case of potential wind turbines some distance offshore. This means that the areas defined as having some visibility of the sea are likely to be slightly larger than those areas seeing just the surface of the sea. The ZTV has therefore been verified by on site assessment in the course of this study [see below].
 - 1.9. Mapping of the area at a variety of scales from 1:50,000 to 1:1,250 was studied alongside aerial photographs. The designations, LANDMAP and seascape information were all overlaid to discern any patterns or areas of particular sensitivity.
 - 1.10. The local authority were consulted on a number of issues. These included the success of the current policies and their predecessors, a review of development that had occurred within and close to the coastal zones, which had been applied for and not permitted and current proposals which were being considered as part of the Local Development Plan site allocation process. The officer concerned with the revision of the Shoreline Management Plan was also consulted on any information that might be helpful. This allowed a picture to be built up on pressures for change.
 - 1.11. The desk study and consultation provided the basis for draft coastal zones. These were mapped manually and areas at issue identified. These included areas where there was significant development pressure either within or adjacent to the coastal zones and areas which had visibility of the coast or were associated with the coast in other ways and which were not at present included in the coastal zones.
 - 1.12. The impact of climate change was considered briefly in the context of national guidance and broad information. At a local level Environment Agency flood maps, LEAP and the Shoreline Management Plans were considered to understand the potential issues and identify future studies.

Site Assessment

- 1.13. The existing coastal zones and their hinterland, and in particular their current boundaries, were put under scrutiny by a chartered landscape architect visiting the area by car and on foot during October and November 2007. The boundaries were refined as necessary and the condition of the area broadly assessed in order to ensure that resulting policies would support appropriate management.

Definition of Coastal Zones and Policy

- 1.14. The coastal zones were then finalised for the draft report and descriptions of their key characteristics set out. The relevant policy text was then devised.

2. Planning context

National

- 2.1. Planning Policy Wales gives concise guidance to local authorities on coastal planning. Its objectives are stated in 5.6.2:
- *'recognise the importance of the coast for conservation of the natural and historic environment*
 - *recognise the importance the coast for urban and rural development, including housing, local industry and agriculture; and*
 - *recognise the importance of the coast to tourism, leisure and recreation.'*
- 2.2. It goes on to advise local authorities to establish what the coast means to them in 5.6.3:
- 'Local planning authorities should clearly establish what the coast means to them and develop, or apply, specific policies which reflect the characteristics of their coastlines. In doing so, local planning authorities should acknowledge the inter-relationships between the physical, biological and land use characteristics of a coastal areas and the likely effects of climate change. This will enable local planning authorities to identify those areas likely to be suitable for development, those subject to significant constraints and those considered to be unsuitable for development. Areas subject to constraints or considered unsuitable for development may include those where conservation or enhancement of the natural and historic environment requires development to be limited, where visual intrusion will need to be carefully considered and where there are maybe risks of erosion, flooding or land instability. In other areas economic potential of the coast may be unlocked in a sustainable manner.'*
- 2.3. It goes on to state that in preparing plans local planning authorities will need to consider landward and seaward pressures. The landward pressures may include major developments on the coast and port and harbour works while seaward pressures may include dredging and marine aggregates extraction.
- 2.4. A key item of advice is that local development plans [LDPs] should normally only propose coastal locations for development which needs to be on the coast. In particular the undeveloped coast will rarely be the most appropriate location for developments. In contrast, the developed coast may provide opportunities for regeneration and may be the most appropriate option for new development.
- 2.5. The undeveloped coastline should be protected or enhanced in terms of its character. Planning policies related to Heritage Coast areas should be incorporated into plans. Although this particular designation does not affect the

- status of the area in planning terms, the features which contributed to the designation may be important in formulating policies.
- 2.6. **Technical Advice Note (TAN14) Coastal Planning** deals specifically with the issue. It defines the coastal zone generally as
- 'an area of land and adjacent sea that are considered to be mutually interdependent.'* [3].
- 2.7. The guidance states that it is up to each local planning authority to define the most appropriate coastal zone in its area and should consult with neighbouring authorities:
- 'The overall limits of the coastal zone are determined by the geographical extent of coastal physical processes and human activities related to the coast. For land-use planning purposes the seaward limit of the coastal zone is generally mean low water mark, but between high and low water mark the planning system usually needs to operate in tandem with a range of sectoral controls over coastal and marine development.'* [4]
- 2.8. The geographical boundaries at the western and eastern end of the Vale coastline raise the issue of the degree to which consultation is necessary with adjacent authorities. Clearly there are coastal processes occurring which do not respect boundaries such as sediment movement. However, the Ogmore valley to the west divides the liassic plateau and cliffs of the Heritage Coast in the Vale from the dunes and lower land between Bridgend and Porthcawl in Bridgend County Borough. To the east, the docks and lower land on the coastal plain in Cardiff similarly contrast with the cliffs of Penarth Head in the Vale. Overall, cooperation between neighbouring authorities on coastal issues is both desirable and necessary.
- 2.9. Coast specific considerations will need to be incorporated into the planning framework including onshore risks associated with physical processes and ground conditions, geomorphological processes and features and offshore intertidal zone physical system and the sensitivity of the overall coastal environment and natural change or human influences.
- 'Consideration of these issues will allow local planning authorities to reflect variations in physical and biological conditions along their stretches of coastline instead of adopting a blanket approach to coastal planning'.* [10].
- 2.10. **TAN15 Flood Risk's** aim is to provide a precautionary framework which in order of preference directs new development away from those areas which are at high risk of flooding or, secondly, where development has to be considered in high risk areas [zone C] only those developments which can be justified or are less vulnerable are implemented. A development advice map is provided containing three zones- A, B and C. Development is advised to be directed towards zone A or parts of the zone B which are not subject to 1:1000 year flooding. Explanations of these definitions are set out in **Appendix A**. Those areas subject to flooding potentially related to the coast, all classed as C2, include:
- Barry Docks and Cadoxton Valley running inland as far as Cog Moors- this is an extensive area including docks and commercial properties including the chemical works
 - Thaw Valley floor- running inland adjacent to the power station.
 - Cwm Colhuw valley floor
 - Ogmore River valley floor

These are shown in **Figures A1 and A2 in Appendix A**.

- 2.11. **Local Development Plans Wales [2005]** guidance [2.13 and 2.18] sets out that area wide policies should be succinct and set out the general criteria against which planning applications for the development and use of land and buildings should be considered. The policies should accord with the overall vision and objectives. In key areas of protection there should be positive policies for action to protect and enhance the resource [2.21]. Reasoned justifications should be succinct and kept to a minimum [2.22].

Unitary Development Plan

- 2.12. It is appropriate to consider the current UDP as it has so recently been completed and gone through a process of consultation, inquiry and adoption. The plan states that the Vale is heavily influenced by the sea and coastal activities. There are two key policies relating to the coast- ENV5 and ENV6. These divide the coast into the west- covered by the Heritage Coast designation, and east which consists of developed and open coast. These are set out in full in **Appendix B**. Policy ENV3 covers Green Wedges which are located close to the coast, such as west of Barry. Coastal designations such as the Severn Estuary Special Area for Conservation are protected in Policy ENV13.

- 2.13. The Inspectors Report relating to the UDP has been studied. This reached the following conclusions:

In respect of the Glamorgan Heritage Coast the coastal designation itself is confirmed:

3.6.8 There is a continuing and fundamental need to conserve the undeveloped character of the Heritage Coast and the Council's recent landscape study recognises it as one of the most outstanding landscapes within the Vale. Consequently, in that I have found no reason to promote additional development within this area I do not consider such a review of the boundaries to be necessary at this time. Whilst there are areas of land within the designation that slope downwards towards the towns and villages and which do not form a backdrop when viewed from the coast, this does not decrease the importance of such areas as part of the Heritage Coast. The land forming part of the Hoddnant Valley at Llantwit Major provides such an example as does the land adjacent to Collugh Park in the same town.

- 2.14. The fact that housing within the area may be acceptable, if appropriate to the character of the area:

3.6.10 An objector points to the fact that the settlement of Ogmore-by-Sea is listed in Policy HOUS2 indicates that a degree of residential development is to be expected as it cannot be regarded as a "remote zone". This is considered to be in conflict with Policy ENV4. Other objectors have pointed to the need for the boundaries of the Heritage Coast to be amended in the vicinity of Llantwit Major in order to accommodate development. The Council however points out, as has been demonstrated over the years, that the fact a settlement is included within the Heritage Coast designation does not preclude some development taking place. I am in agreement with this view and, although I recognise that the Heritage Coast designation adds an additional level of protection from development over and above these policies, I consider this to be appropriate given its landscape importance. I have, however, recommended a change to Policies ENV1 and HOUS2. Although such changes make clear that small-scale extensions to settlement boundaries may be considered subject to meeting the criteria of Policy HOUS9, it is appropriate that the importance of the landscape of the Heritage Coast is recognised in the consideration of any development proposals. Having regard to the above I do not consider Policy ENV4 to be in conflict with Policy HOUS2.

- 2.15. In respect of the East Vale coast the inspector concluded:

3.6.11 Objectors point to the wording of Policy ENV5(i) as being too restrictive. The Council considers such wording to be desirable in order to protect the undeveloped coast and to ensure that a coastal location is necessary for any development. Para.11 of TAN14 "Coastal Planning" is referred to which indicates that: "Development Plans should not provide for development on the coast which does not require a coastal location". Such advice is also clearly supported in para.6.2 of PGW and, as such, I see no reason to recommend the deletion of, or change to, Policy ENV5(i).

3.6.12 Conversely one objector considers that Policy ENV5 contains the presumption that the whole of the East Vale coastal area is available for such development as boat related activities or car parks for access to the sea. I do not accept this view. The policy is designed to protect the undeveloped coast and to direct appropriate new coastal development towards that part of the coast that is already developed. Moreover, Policy ENV5 has to be read in conjunction with other protective policies in the plan, e.g. Policy ENV12, and strikes an adequate balance between development and protection/conservation.

- 2.16. Therefore the inspector supported the approach taken by the Council in respect of coastal policy. The planning and development context and has not significantly changed since this time.

Shoreline Management Plans

- 2.17. There are two current plans which relate to the Vale coast. These are the Swansea Bay [March 2001] and Severn Estuary Plans [December 2000]. These are non-statutory but inform the LDP and other strategies and actions. They are prepared with the involvement of all key stakeholders including local authorities. The key point is that the LDP and SMP should be mutually supportive. These plans are in the process of review over the next couple of years with a working group established for Swansea Bay. The key differences between an SMP and an LDP is set out below:

| Development Plans | Shoreline Management Plans |
|--|---|
| <ul style="list-style-type: none"> • Deal with all land uses. • Have a statutory time horizon of up to 20 years. • Cover County, Unitary Authority or District Council areas. • Must be prepared by statute. | <ul style="list-style-type: none"> • Deal with coastal defence issues. • Have a longer term horizon of up to 100 years; are reviewed periodically (typically about every 5 years). • cover the coast or estuary, boundaries are defined primarily by geomorphology. • Preparation is encouraged by DEFRA and the National Assembly for Wales. |

[extract from Severn Estuary SMP Non Technical Summary December 2000, 1.6.2]

- 2.18. The SMP is divided into Process Units which has broadly coherent characteristics in terms of coastal processes. These are then subdivided into Management Units which are governed by land use and related issues such as urban areas or areas subject to flooding.
- 2.19. The relevant Process Units are:
- Ogmore to Nash Point
 - Nash Point to Barry
 - Barry to Lavernock Point
 - Penarth

2.20. The strategy is generally to:

- Manage retreat of coastline on the undeveloped coast eg setting back the coastal path and rerouting accesses such as at Dunraven Bay and Cwm Colhuw.
- Holding the line [ie maintaining the current coastal edge] in key developed areas including the railway line at Rhoose, Aberthaw Power Station, Barry Harbour and Barry Docks [pending their long term future].
- Holding the line in other developed areas dependant on further monitoring and studies.

These are summarised in **Appendix C**.

2.21. The coast is subject to a number of designations. The key designations are:

- Severn Estuary RAMSAR site [1995]- this is an internationally important designation which covers the estuary and parts of the intertidal area around Penarth.
- Severn Estuary Special Protection Area [SPA] [1995]- this area also an important nature conservation designation which covers the intertidal area.
- Severn Estuary/Dunraven Bay pSAC- area also an important nature conservation designation which covers the intertidal area.
- Sites of Special Scientific Interest - there are a number of SSSIs mostly focussing on intertidal areas and cliffs eg Penarth Coast, Sully Island, Barry Island, East Aberthaw Coast, some including the lower parts of incised valleys eg Nash and Porthkerry The pSACs, RAMSAR and SPA are concurrent with these in parts.
- Scheduled Ancient Monuments are located on the coast, often due to its strategic location.- These include forts such as Sully Island, the Bulwarks, Summerhouse Point, Cwm Colhuw Point, Nash Point, Traeth and Dunraven.
- Conservation Areas lie in the core of the larger built up areas- Penarth and Barry Marine Conservation Areas.
- Historic Parks and gardens are located at Alexandra Park, The Knap, St Donats and Dunraven Park. Some have settings adjacent along the coast which are especially important in respect of their coastal qualities.
- Glamorgan Heritage Coast [non- statutory]. This designation is derived from a study in 1976 and as one of the first heritage coasts in the UK was subject to widespread consultation. This designation therefore has a significant weight in terms of its validity.

2.22. All these designations reinforce the inherent sensitivity of the coast and its limited capacity for change and are shown in **Figure 1**.

Local Environment Agency Plan: Ely and Vale of Glamorgan

2.23. The Plan was completed in 2001 by the Environment Agency. The main focus is on river catchments and related issues.

2.24. Sea defences are listed at Aberthaw [2.4km] which are maintained by National Power and at Swanbridge which are privately owned.

2.25. Targets for the area include

- Reducing development in flood areas

- Promoting urban regeneration and re-use of brownfield land
- 2.26. The Environment Agency flood maps define areas which are subject to flooding - Zones B, C1 and C2. These are shown in Figures A1 for the Vale and A2 for the Barry area in **Appendix A**.

3. Landscape and Seascape Character Overview

General

- 3.1. In order to define what coastal zones mean to the Vale of Glamorgan Council it is necessary to understand the landscape and seascape character of the area.
- 3.2. The landscape of the Vale has been assessed at a local level by two main studies. The Landscapes Working for the Vale of Glamorgan study was completed in 1999 and was an early LANDMAP study. The design guidelines element of the report was adopted as Supplementary Planning Guidance [SPG] in 2006. The LANDMAP assessment was updated in 2007 in terms of five LANDMAP aspects and an updated landscape character assessment is in preparation. A seascape study for Wales has been undertaken by White Consultants for the Countryside Council for Wales [CCW] and has recently been completed. The available studies are discussed in more detail below.

Landscapes Working for the Vale of Glamorgan

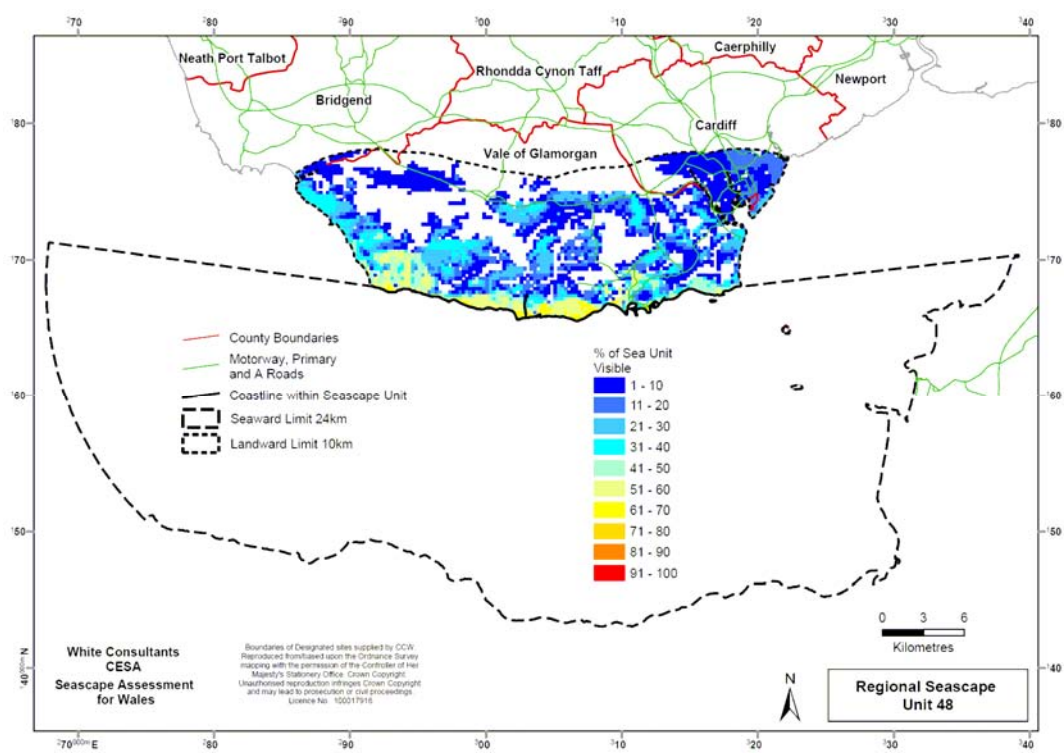
- 3.3. The study consisted of the analysis of five main LANDMAP aspects- visual and sensory, earth science, cultural associations, history and archaeology and ecology and habitats. It also covered public perception through structured focus groups and interviews. These provided the basis for a landscape character assessment, design guidelines, strategy and action plan. The design guidelines were adopted as Supplementary Planning guidance [SPG] by the council in 2006. The rest of the document is considered to be a material consideration. Extracts can be found in **Appendix D**.
- 3.4. The coast is regarded as a key resource. Conserving the Coast is a major theme. It is considered as the most dramatic expression of natural processes in the Vale. The main recommendations are that the conservation policies for the Heritage Coast should be extended inland to the coast facing slopes of the hinterland. There should also be conservation and management of both the East Vale and Heritage Coast. Development in the undeveloped East Vale Coast should also be restricted.

LANDMAP updating

- 3.5. All five aspects have been updated to the 2003 CCW method. These include geological landscapes, landscape habitats, visual and sensory, historical landscapes and cultural landscape.
- 3.6. The relevant aspect areas and values are indicated in **Appendix E**. This shows that there are 27 aspect areas to the west of the River Thaw and 40 to the east. This is an indication of the more fine grained and fragmented nature of the eastern Vale coast. The historical landscape aspect areas have not been evaluated ie attributed a value.
- 3.7. The relevant characteristics and qualities described in the LANDMAP assessment relating to each zone will be discussed in the next chapter. **Figures 2 and 3** indicate the relationship between the current policy areas with the LANDMAP aspect areas. Though the picture appears complex, the difference in grain between east and west is apparent.

Seascape Character Assessment for Wales

- 3.8. The assessment divides the coast of Wales into 50 regional seascape units. These extend upto 10km inland and 30km out to sea and extend between major headlands or changes in coast direction. The area is defined by intervisibility of the sea and coast/landscape hinterland. The Vale is covered by three units which run from Mumbles to the west to Nash Point in the east [Swansea Bay], from Nash Point to Lavernock Head [the Glamorgan Coast] and from Lavernock Head to Goldcliff. A sample plan of the middle unit 48 is indicated below and full text and plans for the units are to be found in **Appendix F**. These are discussed in more detail in relation to the eastern and western coastal areas.



Extract from Seascape Character Assessment for Wales

Coast overview

- 3.9. It is clear from an overview of the coast that there is a difference in character between the coast west of the Thaw Valley and that to the east. Therefore these areas are considered in broad terms separately below.

VALE COAST WEST OF THE THAW VALLEY

Seascape Assessment overview

- 3.10. The key relevant characteristics of the area are defined as:
- Imposing lias cliffs, wavecut platforms and beaches of Glamorgan Heritage coast with incised valleys.
 - The area is flanked by the flat Ogmore valley to the west.
 - Gently undulating rural mixed farming to the edge.
 - Bristol Channel causes slight lateral flow and the sea is opaque with suspended solids.
 - Key views from coastal path, Porthcawl Point, Dunraven Bay and Park, Nash Point and Ogmore by Sea. Long open views of Bristol Channel are seen against

backcloth of English coast including Exmoor.

- 3.11. The geology is Liassic limestone to the west along the Vale of Glamorgan Coast. The landform is a southwest and south facing, slightly concave coast which is mostly eroding. The most prominent stretch of coast is from Ogmore to Nash Point with high vertical and sloping cliffs to 50m AOD with small incised valleys, some hanging. The cliffs are distinctly horizontally layered in parts and sometimes have overhangs. The only 'major' valley to reach the coast here is the River Thaw.
- 3.12. The seascape intervisibility analysis indicates that the visibility west of the River Thaw stretches inland to the A4265 and then to the limestone ridge around the A48 including areas of higher ground such as around Llandow [see **Figures 4 and 5** and Regional Seascape Unit 47 and 48 in **Appendix F**]. This excludes the gentle valley sides of the Afon Alun and Stembridge Brook and the steep valley sides and floor of the Thaw valley. The areas most visible are concentrated on the gentle south west falling coastal plateau slopes, particularly on the cliff edges.

Landscape assessment overview

- 3.13. The landscape character areas from the 1999 study include:
 - Coastal Strip west of Aberthaw PowerStation- This strip extends as far inland as directly related coastal features such as cliffs, wavecut platforms and beaches along with coastal path, car parks and other facilities. It is described as a superb resource with views across the Bristol Channel.
 - Coastal hinterland west of Aberthaw Power Station - This area is described as the coastal influenced lias plateau sloping towards the sea with a mixture of farmland, woodland in incised valleys with nucleated small vernacular stone settlements. The area has intermittent views of the coast and a strong sense of place, acting as a setting for the coast itself.
 - Ogmore and Old Castle Down- An elevated carboniferous limestone outcrop with extensive semi-natural limestone and acid heath, bracken and gorse. Wide views are possible and there is a sense of wildness away from settlement.

LANDMAP Assessment overview

- 3.14. The recently assessed visual aspect areas echo the character areas of the 1999 study dividing the area into three:
 - Heritage Coastal Strip.
 - Heritage Coast Hinterland.
 - Ogmore and Old Castle Down.

This indicates the simplicity of the area.

- 3.15. Of the twenty evaluated aspect areas, half [10] are considered of outstanding, ie national value. These are evenly spread over the aspects. Four areas are considered of county/regional value, 3 are regarded as of moderate or local value and 3 are of low value. This is a strong indication that the western Vale coast is highly valued. The concentrations of the higher valued areas are close to the coast or Ogmore Down. The low value areas are around Aberthaw.

EAST VALE COAST

Seascape Assessment

- 3.16. The key characteristics of the area are defined as:
- Incised plateau landscape and Lias cliffs to the west and around Lavernock with some wavecut platforms and shingle beaches ending abruptly at Penarth Head.
 - Gently undulating rural mixed farming to the edge in places.
 - Major settlement including Barry and major infrastructure at Aberthaw power station and airports. Penarth lies in an elevated position overlooking the estuary.
 - Bristol Channel/Severn Estuary causes lateral flow, a very high tidal range and the sea is opaque with suspended solids.
 - Key views from from Penarth including parks, coastal path, Barry Island, the Knap at Barry, Swanbridge, Many views include the English coast as a backdrop including Exmoor.
- 3.17. The geology is liassic limestone which forms the majority of the coastline with Triassic conglomerate occurring around Barry and Sully. Alluvium lies in the limited valley floors such as around the Cadoxton River and docks. The landform is a south and east facing slightly convex eroding coast. The coastline to the west is a coastal plateau with high vertical cliffs to 50m AOD. The lower coastline around Barry and Sully gently slopes back from the coast with a few minor cliffs in parts. The 'major' valley to reach the coast here is the Cadoxton River at the docks at Barry. Sully Island is joined to the coast by a wavecut platform and Barry Island is linked by a causeway.
- 3.18. The seascape intervisibility analysis indicates that the visibility east of the River Thaw stretches inland to the A4265/A4050 and then to the limestone ridge around the A48 including areas of higher ground such in North Barry and the Leckwith ridge [see **Figures 5 and 6** and Regional Seascape Unit 48 and 49 **Appendix F**]. This excludes the gentle valley sides of the Dyffryn Basin and Cadoxton River with its levels and the steep valley sides of Nant Carfan and around Wenvoe and Cwrt-yr- Ala. Sully Ridge also screens views to the north such as to Cosmeston Lake. The areas most visible are concentrated on the cliffs around Penarth, Lavernock and Barry, the gently sloping plateau around Rhoose and the slopes around Swanbridge and Sully.

Landscape assessment overview

- 3.19. This area is split between developed and undeveloped, rural coast, in close proximity and at a fairly fine grain. The 1999 LANDMAP study divides the area into the following:
- Lower Thaw Valley- a narrow valley cut into the Lias Plateau with the Aberthaw Power Station lying at its mouth and a large cement works just to the north east.
 - Rhoose Environs- an exposed plateau landscape of arable fields and low cut hedges dominated by Cardiff Wales airport.
 - Cardiff Wales Airport- a commercial airport which is widely visible to the north.
 - Coastal Strip East of Aberthaw- a narrow coastal strip from low water line to settlement infrastructure related to the coast including Sully Island. The area

has superb views of the Severn Estuary/Bristol Channel and Somerset. There are sandy beaches, wavecut platforms, low cliffs, wind sculpted vegetation. Settlement focussed on Barry and Penarth with associated commercial and leisure uses and intervening caravan/leisure parks.

- Porthkerry Country Park- steep sided valley on the western outskirts of Barry cut into the coastal plateau with wooded slopes, open grassy valley bottom and watercourse. The railway viaduct is noted as a prominent feature.
- Sully Ridge- limestone ridge of well managed arable and pastoral farmland and low cut hedges.
- Lavernock Hinterland- gently rolling mixed farmland acting as a coastal hinterland with intermittent views of the sea. Hedgerows are overgrown in parts with a range of field sizes and erosion of rural character on some roads.

3.20. At present the landscape character of the Vale is being updated to reflect the updated LANDMAP assessment.

LANDMAP Assessment overview

3.21. The Visual and sensory assessment sets out the following coastal aspect areas from west to east.

- Aberthaw to Barry coastal edge
- Aberthaw Power Station
- Aberthaw estuary
- Rhoose Hinterland
- Rhoose
- Porthkerry Country Park and Environs
- Barry
- Barry and Sully Coastal Gap
- Lavernock Hinterland
- Penarth

This level of relative complexity is again echoed in the other aspects.

3.22. Of the 32 aspect areas evaluated 5 aspect areas are considered of outstanding value and 11 of high value ie half of the area of regional/county value and above. 12 areas are of moderate value and 4 are of low value. As with the western Vale, the highest value areas are concentrated closest to the coast. The low value areas are the settlements of Barry, Penarth and Rhoose. This indicates a difference in value between the settlements and intervening open countryside.

3.23. The character of the east and west Vale coasts merit consideration as separate zones. The boundaries and descriptions are set out in Chapter 5.

4. Pressures for Change

Coastal flooding and erosion and the effects of Climate Change

- 4.1. The coast is a dynamic environment with natural processes making change inevitable. The Severn Estuary Strategy [Severn Estuary Partnership, 2001, p37] states that the estuary presents a challenging environment for coastal defence with the second highest tidal range in the world. Adverse weather conditions can raise water 2m above predicted levels and at the time of publication it was calculated that average sea level was rising at 5mm a year.
- 4.2. The Marine Climate Change Impacts Partnership [MCCIP] has stated in its annual report 2007-2008 that coastal erosion is expected to increase with larger wave heights and severe winds. The majority of the coast in the Vale of Glamorgan is eroding soft rock cliffs apart from a stretch west of Barry so this is likely to be exacerbated. Increased flooding is expected but the precise effects are uncertain and dependent on location. The report also states that the steepening of the gradient of coasts, with attendant increased vulnerability to erosion, is tending to increase and the effect is more marked in coasts with sea defences. This applies to most of the developed Vale coast.
- 4.3. Environment Agency flood risk information [Appendix A] does not make clear the difference between areas subject to flooding from the sea and those from rivers. It is therefore not possible to map the extent of the coastal zone without this information. It is considered that further work on this should be carried out, possibly as part of informing the Shoreline Management Plan. This could then inform the need for coastal protection. A precautionary approach is needed in areas where information has not been obtained and/or where action has not been taken.
- 4.4. Mineral extraction of marine aggregates from the Nash Bank offshore has led to claims that this may increase wave action on the coast and therefore erosion. It is understood that there is no specific evidence for this but is a process that should be closely monitored.
- 4.5. The related pressures for change can be summarised as:
 - Climate change leading to more severe storms and sea level rise.
 - Erosion of soft rock cliffs and coast leading to potential need for strengthening of defences in the developed coast and setback of facilities in rural areas.
 - The potential for flooding especially around Barry Docks/ Cadoxton River with potential in the Thaw and Ogmere valleys and minor incised valleys such as the Thaw and Cwm Colhuw.

Development pressure - East

- 4.6. In recent years there have been a number of developments which have changed the character of the area. The major development has been at Rhose Point on allocated land including a quarry. Elsewhere, existing developments have been converted and or replaced such as the housing on Nell's Point replacing the Butlins Camp, the Bindles at Cold Knap and the conversion of Sully Hospital into flats. Proposals to extend Fontygary Caravan Park have been resisted. Overall the policy of protecting undeveloped coastal land has appeared to be successful.
- 4.7. There is a need to find housing and employment land to meet the Local development land requirements. The Draft Preferred Strategy concentrates development in the South East so there is likely to be increased pressure on the

- undeveloped eastern coastal zone. The current candidate sites for the eastern coastal area taken together would amount to a change from a mixed coastal character to a built character with occasional green recreational and nature reserve sites. The area's fragmented character makes each undeveloped area vulnerable to the erosion of its extent and character from at least two sides and significantly change the balance of built and open land. A key issue to be addressed is whether the potential development has a need to be within or adjacent to the coastal zone.
- 4.8. There is potential for development in future around Lavernock Point associated with the potential development of the Severn Barrage. This potential use would be outside the control of the Vale Council. The area separates the urban areas of Penarth from Sully and thence Barry to the west. Currently, it therefore has an important role as a green gap, minimising ribbon development.
 - 4.9. Any future development south of the railway line at Rhose resulting from the candidate site process has the potential to reduce the amount of clifftop open land to a minimum between Porthkerry and the Heritage Coast. The issue of balance between green open space and built form is a key issue here.
 - 4.10. Development on Penarth promenade is a very sensitive issue as the area has a distinct Victorian resort character which has already been eroded. Further development of an insensitive and/or large scale nature may change the character significantly adversely.
 - 4.11. Candidate sites for employment east of Rhose Airport behind Porthkerry lie on the exposed coastal plateau and incised valley which runs down to the country park. The area has views of the sea and is a currently a Green Wedge lying between Barry and the airport. The UDP Green Wedge designation may be reviewed as part of the LDP process. Proposals raise the issue of the role of the area as setting to the undeveloped coastal zone.
 - 4.12. Leisure development sites related to caravan parks such as at St Mary's Well Bay, Sully and Fontygary potentially seek to increase the permanence of facilities, buildings and structures. This raises the issue of challenging the essentially undeveloped coastline status of these sites and increases visual impact, potentially further eroding character.
 - 4.13. Ongoing major development at Aberthaw Power Station for power and employment may have implications for seascape, landscape and visual impacts and for nature conservation on the adjacent sensitive sites. A proposed visitor/education centre should respond to, and enhance, the coastal frontage and improve coastal access especially by cycle.
 - 4.14. Other developments include minor development related to minor settlements.

Development pressure - West

- 4.15. Recent developments which have changed the character of the Heritage coast have been relatively small scale in comparison to the eastern Vale. Apartments altering and extending Craig yr Eos Hotel at Ogmere-by-Sea are a prominent development visible from the coast and approach road to the settlement, further eroding the area's character. On the same road further east at Southerndown, the Little West development, another apparent conversion and extension is also prominent in extending the built form of the dispersed, linear settlement. The character of the proposals appear suburban and contrast with this rural location, not matching the character or scale of the original buildings. It is clear that intensification of development such as this has as much effect as

- green field development in terms of adverse effect on character. Overall, though, the wider area has substantially retained its character.
- 4.16. Major developments have potential for reducing tranquillity of the Heritage Coast and, along with cumulative smaller scale developments, eroding its character over time.
- 4.17. The largest potential development is at St Athan. Here, there is a proposed Stage 1 implementation of a Defence Support Group [DSG] facility. . A draft development brief and masterplan dated July 2006 had indicated proposals for a Defence Training facility and an Aerospace Centre of Excellence with Welsh Assembly Government proposals to extend development of large structures around Batslays on the southern edge of the airfield including using what is currently arable land. The eastern end of the Heritage Coast is more vulnerable to development pressure due to the presence of the power station and St Athan which erode the tranquil character of the coastline. Currently these uses are fairly well contained by clear boundaries and the area retains an open rural coastal character with views.
- 4.18. There are a number of candidate sites around Llantwit Major. These are focussed on the areas which lie on valley slopes facing into the settlement and not generally intervisible with the coast, although they are within the settlement. Some affect the setting of the conservation area with the church and other historic buildings and features to the west. Others seek to extend or modify the caravan and camping site to the east, some of which is visible from the distinctive Cwm Colhuw. A large site to the east of Boverton runs south of the B4265 on the open rural plateau with views of the sea. This area also raises the issue of reducing the gap between Llantwit Major and the more developed coast to the east.
- 4.19. Candidate sites at Ogmore-by-Sea and Southerndown pose issues of expanding small settlements into the essentially rural western Vale. Southerndown is a scattered linear settlement with important gaps which is already indicating signs of over expansion and a change in character with incremental development. Ogmore-by-Sea does not reflect the low key rural character of the Western Vale, being more akin to Porthcawl to the west. Recent developments further erode the open coastal character on its outskirts and further development may be difficult to integrate.

Recreation

- 4.20. Recreational use and some abuse of coastal path and other low key facilities is leading to signs of deterioration. Stiles/gates, walls and fences are worn or broken in places and there is rubbish dumping. This is evident particularly to the east relating to urban fringe issues but the heritage coast is also affected. This is an indication of limited ongoing investment and management. Horse related development leads to a deterioration of pasture and associated structures and field boundaries tend to be small scale detractors.

5. Proposed Coastal Zones Boundaries and Descriptions

- 5.1. Coastal zones need to be defined within the framework set by Planning Policy Wales [PPW] and TAN 14. Whilst most of the guidance indicates that the area is fairly closely related to the coast in terms of physical features or land use, PPW states that areas subject to constraints may include those where conservation of the natural or historic environment requires development to be limited and where visual intrusion may occur. It also states that local planning authorities should clearly establish what the coast means for them.
- 5.2. TAN14 makes it clear that the definition of a coastal zone is '*an area of land and adjacent sea that are considered to be mutually interdependent.*' [3]. It is up to each local planning authority to define the most appropriate coastal zone in its area and should consult with neighbouring authorities. '*The overall limits of the coastal zone are determined by the geographical extent of coastal physical processes and human activities related to the coast.....*'
- 5.3. While the boundaries must be limited to comply with the terms of TAN14 and PPW, guidance emphasises the need to define in policy that the effects of proposed development and management on areas adjacent to the coastal zones must be considered in terms of coastal character.
- 5.4. The key findings in relation to the Vale's coastal area are:
 - The coast west of Aberthaw power station is relatively simple and consistent with considerable integrity. It is considered an area of outstanding value which should be conserved.
 - The gently rising plateau, especially to the west, allows a significant degree of intervisibility between the sea and land stretching as far inland as the A48 and some of this acts as a setting to the coast.
 - Because of the exposed nature of some of the plateau landscapes, windswept trees are found in some way inland.
 - The coast east of the Thaw valley is more complex and varied with pockets of rural landscape interspersed with significant areas of urban development. The pockets of undeveloped landscape exhibit qualities of urban fringe in places but close to the coast they have many positive characteristics which should be conserved and enhanced. Parts of the urban areas also have special qualities, partly reflected in conservation area status.
 - The above characteristics mean that a significant proportion of the Vale is associated with the sea which makes a contribution to its character.
- 5.5. In order to define a coastal zone in the Vale of Glamorgan the key criteria are taken as follows:
 - The physical coastline itself
 - Land uses related to the coast and sea
 - Areas vulnerable to natural processes associated with the coast eg areas vulnerable to coastal flooding
 - Land that provides a setting to the coast especially where the coast is enjoyed for recreation.
 - Land and features that are visible from the coast or sea or that overlook the coast, sea or landform beyond the Severn Estuary or associated waterbodies, such as docks.
 - Land which forms part of a wider character area which is influenced by its

coastal location that may or may not be intervisible with the coast/sea.

- Land that may not be intervisible with the coast/sea but which, if developed, may adversely affect the setting and character of the coast, or views to it or the sea.

- 5.6. The proposed boundaries are shown in Figures 7-10 in conjunction with existing boundaries so differences are apparent. The revised boundaries are shown here for the settlements.

DEFINITION OF BOUNDARIES AND JUSTIFICATION

Glamorgan Heritage Coast

- 5.7. Only limited changes are proposed to the Heritage Coast boundary as the area was studied in depth before designation, the boundaries have met with consensus over the years and the character of the area has broadly been successfully managed to the benefit of the Vale. It is important to continue to maintain the boundaries so adjacent settlements do not adversely impinge on its character.
- 5.8. To the west, the boundary includes the Ogmore River valley floor from the environs of Ogmore Castle to the coast. The valley is becoming coastal in character with the river being tidal for part of its length. As an historic defensive feature related to the coast the castle and its northern setting is a sensible north western limit defined by the B road as the boundary.
- 5.9. The boundary then climbs the valley side and cuts across Ogmore Down along the line of a public footpath/bridleway, leaving the valley of Pant St Brides to the north. While some of the area is not intervisible with the sea, the significant proportion of the down is and overall forms a coherent unit of landscape character. It is therefore proposed to maintain this boundary.
- 5.10. To the south east, the boundary tightly skirts and excludes St Brides Major including land falling towards the settlement and not visible from the sea. It then follows the B4265.
- 5.11. East of St Brides significant areas of land are intervisible with the sea to the north of the B4265 particularly around St Donats where the road runs close to the coast. The visual and sensory aspect area, which defines itself by the visual relationship of the landscape with the sea tends to follow the gentle ridge top at around 90 m AOD to the north while the historical aspect area follows the B4625 further north still [see Figure 2]. Superb views of the sea and Exmoor are possible from properties such as Splott Farm and presumably also from Channel View Farm. However, as field boundaries are potentially more transitory than roads it is proposed to maintain the existing boundary. It is important that planning policy ensures that the area to the north particularly within the visual and sensory aspect area is covered by coastal character considerations as it forms a role as setting to the heritage coast.
- 5.12. The boundary skirts around the western edge of Llantwit Major following the Conservation Area boundary. Logic would dictate that the boundary went as far as the built form as this is a very important edge to the settlement which includes a conservation area around the church. The area complements the

- Heritage Coast landscape and is effectively part of it. It is therefore proposed to **amend** the boundary to follow the development boundary.
- 5.13. To the south of the settlement, the boundary follows the edge of the built form which is defined to an extent by the Hoddnant valley and watercourse. Some development has occurred within the Heritage Coast boundaries, including leisure uses such as a caravan park and camping facilities at Ham Manor. It is considered that the boundary is still valid to remain the same around this area as it does not constitute in itself a total constraint on development providing this is of appropriate scale and character. It is considered that the Ham Manor development needs to be carefully controlled to minimise effects on the Heritage coast landscape and removing it from the area will not encourage this approach.
- 5.14. To the west of Boverton the boundary diverges away from the settlement edge. Part of this follows the Conservation boundary but it departs from this. It is proposed to **amend** the boundary to follow the settlement boundary to the B road and then continue east. The justification for this is to be consistent with the proposed approach to the west, to maintain a traditional edge to the settlement, to maintain the gap between Boverton and Aberthaw on the southern side of the B4265, and because the included area is of similar character to the rest of the Heritage Coast adjacent.
- 5.15. To the east, the boundary follows B4265 before turning south along a minor lane through Gileston and West Aberthaw. There is clear intervisibility between the road and the coast and intervening south sloping open arable land. The airfield at St Athan to the north provides a significant change in character although there are sea views possible from this area. The built form is to an extent contained by the railway line and road. To the east, the power station becomes a major detractor and it is appropriate that the land north of this is not included in the Heritage Coast. Therefore, the existing boundary is considered robust and justifiable and remains the same.
- 5.16. The entire intertidal area adjacent to the land described above is included within the proposed boundary.

Undeveloped East Vale Coast

- 5.17. It is considered that the East Vale coast should be divided between developed and undeveloped land. This is because there is a substantial difference between the character of the two areas and because Planning Policy Wales clearly makes this distinction suggesting restraint in the undeveloped area and positive development relating to the coast in the developed area. The undeveloped coast is considered starting from the west.
- 5.18. The entire intertidal area adjacent to the land described below is included within the proposed undeveloped eastern coastal zone.
- 5.19. The land east of west Aberthaw is intervisible with the coast with the power station to the south. It is proposed to maintain the existing boundary with the railway line to the north which provided a visual screen and limits to views to the sea with the power station and associated infrastructure access road providing the eastern boundary, the power station itself the southern boundary and Heritage Coast to the west.
- 5.20. Land west of Rhoose has extant consent for an extensive quarry extension and is covered by a Green Wedge designation. It is therefore considered inappropriate to include it in the undeveloped coast category. However, it is considered that it provides a setting for the undeveloped coast and therefore is sensitive. It is

- recommended that the green wedge designation is retained as this is an important area to maintain the separate character of Rhoose and East Aberthaw. Land to the south and south west of the settlement, including the Fontygary Caravan Park, should remain as undeveloped coast with the railway line as a robust boundary to the north and recent development north of Rhoose Point as the eastern boundary. This should ensure that the coastal edge is dominated by landscape rather than built development in this area. Though the caravan park has undergone significant development over recent years it is still a leisure use with moveable caravans and green space. Housing or other uses here would increase the density of built form, form a precedent outside Barry and Penarth of permanent structures on the clifftop and in effect be a major extension of the settlement to the west. The balance between built form and open space is delicate in this area and needs maintaining as predominantly green.
- 5.21. The undeveloped coastal area should continue east ensuring that the new development to the east keeps back from the cliff edge, then running north along the access road to the airport perimeter road. Areas within Rhoose proposed for development in due course should not be included within the area.
 - 5.22. The airport provides a reasonable northern boundary. To the east the boundary follows a minor road to Porthkerry and then follows the railway line which is partly on viaduct to the east until it enters a tunnel. The area includes Porthkerry Country Park which is an important recreational resource associated with the coast even though it is highly enclosed in parts. The area to the north of the railway line is still intervisible with the sea with views possible from the A4226. This area is subject to a Green Wedge designation separating Barry from the airport. It is considered that it provides a setting for the undeveloped coast and therefore is sensitive. Overlaying the coastal zone and green wedge designations may be unacceptable in policy terms. It is strongly recommended that the green wedge designation is retained as this is an important area to maintain the separate character of the adjacent areas. It is also considered that the undeveloped coast boundary should remain following the railway line as a well-defined feature.
 - 5.23. To the east the boundary follows the edge of the built frontage of Barry and includes the adjacent parks, spaces and leisure facilities which are strongly associated with the coast at Birch Grove Wood, the Knap, Cold Knap Point, Little Island, Whitmore Bay and Nells Point. It is proposed to **amend** the boundary to closely follow the built edge of the new housing development to ensure that the majority of open space on Nell's Point is included in the area as a highly visible and sensitive promontory.
 - 5.24. East of the entrance to the Docks, the undeveloped coast follows the coastal strip and intertidal area including the coastal footpath and broadens out to include the relatively open land between the Atlantic Trading Estate and Sully. This includes the newly converted Sully Hospital into flats in the former wooded hospital grounds and the Ty Hafan Children's Hospice also set within a well treed landscape. Though this area is semi-rural in character it provides an important separation between adjacent settlements and ensures that development is not continuous along the coast. It is accepted that there is a possible development site for Barry College here which will include a wide green coastal edge to maintain the vegetated frontage and minimise visual intrusion. A sensitive design brief is required for this site.
 - 5.25. The area continues further east with the coastal strip including footpath and playing fields fronting the coast south of Sully.
 - 5.26. East of Sully the boundary runs north along the development edge and then continues east along the B4267 with sports grounds and the settlement of

- Swanbridge and its associated caravan parks to the east. The open Sully ridge to the north towards Cog provides a subtle backcloth to the coast with views of the sea orientated towards the south and south west. While this area is intervisible with the sea it is not generally visible from the coastal edge itself to the south and in particular from Sully Island. It is therefore considered that this area should not be within the undeveloped coastal area although the impact of any potential developments on the setting of the coast should be carefully considered and any potential views from Sully Island should not be affected.
- 5.27. Further east, the boundary follows the northern foot of the dismantled railway embankment which provides a strong visual feature separating land which is partly intervisible with the coast to the south from land not intervisible to the north.
 - 5.28. The open countryside south of Penarth potentially affected by any Severn Barrage works is included as part of the undeveloped coast at present. It is hoped that areas affected by any temporary uses, such as forwarding areas, would be reinstated to their open character.
 - 5.29. To the north, the boundary currently follows the edge of built development boundary in Penarth. It is noted that the boundary does not include the open space directly connected to the coast including the strip of open parkland on the clifftop, the Miniature Golf Course and the small open space close to Penarth Head. In Barry these sorts of elements are included in the undeveloped coast although these are not within the settlement boundary. It is considered beneficial to amend the boundary to include the open spaces mentioned above in the undeveloped coast for consistency of approach in terms of physical features on the ground. The rest of the boundary follows the settlement boundary excluding the built form and the sea wall but including the pier and the coastal clifftop around Penarth Head and the Cardiff Bay barrage.

The developed Eastern Vale Coast

- 5.30. The developed coast includes the main settlements of Barry, Penarth, Rhoose and Sully. These will be revised as part of the Local Development Plan process and boundaries may change.
- 5.31. The boundary around Aberthaw power station and associated tips and the River Thaw estuary is defined by the coastal protection area to the south, the limits of the power station curtilage and railway access to the west, the Bridgend /Barry railway line to the north east and old limeworks and other infrastructure to the east.
- 5.32. The northern boundary of the Rhoose coastal zone is the main street- Fontygary Road/Porthkerry Road as this includes the main properties that front/back onto the coast. The southern and eastern boundaries are the limit of built edge or proposed sites.
- 5.33. In Barry, the southern boundary is defined by the undeveloped coast boundary- usually the built edge and settlement boundary [discussed above]. The northern boundary is proposed to continue as the line of the railway, whether in tunnel or on the surface. The reason is that it provides a firm permanent line which encompasses most areas which are coastal in character with views of the sea, leisure facilities and associated with the docks. The railway line runs along the break of slope in central and eastern Barry. It is apparent that there are buildings north of this line, especially those in Park Avenue to the west through to Dock View Road in the east which have views over the coast and are prominent from the area. However, the complication in moving the boundary to include these is considered inconsistent with the approach taken elsewhere

- where a firm line of a road or railway is followed, irrespective of visibility variations.
- 5.34. In Sully, the B4267, South Road, forms the northern boundary as this contains the housing most associated with the coast and continues the boundary of the undeveloped coast from the east and west. The southern, eastern and western boundaries are the settlement boundary and undeveloped coast.
 - 5.35. The eastern boundaries in Penarth are defined by the suggested **amended** undeveloped coast revised boundaries. To the west, the boundary is defined by dismantled railway line, The Paddocks, Raisdale Road, Marine Parade and Bridgeman Road. The boundary follows Alexandra Park inland including adjacent properties on Plymouth Road and then the boundary moves coastwards along Rectory Road and Bradford Place. At Clive Crescent and Uppercliff Place it is proposed to **amend** the boundary to include the properties adjacent to the cliff and open space as these are prominent and visible in views from the pier.

DESCRIPTIONS OF COASTAL ZONES

- 5.36. Each coastal zone is described with key characteristics for each area set out.

Glamorgan Heritage Coast

- 5.37. The key characteristics of the areas are as follows:
 - An eroding south and south west facing coastline of imposing lias cliffs, wavecut platforms and beaches with reefs of significant nature conservation interest.
 - The low lying flat Ogmore valley to the west.
 - Undulating open rural plateau hinterland gently sloping to the coast with small incised valleys.
 - Mixed farming to the cliff edge with limited enclosure of low hedges and distinctive stone walls with windswept trees, mostly confined to valleys.
 - Settlement of scattered traditional stone built and sometimes whitewashed farms and clustered traditional small villages with very sparse development on the coast with the exception of Ogmore-by-Sea.
 - Ogmore Down with its elevated, exposed and unenclosed character and semi-natural vegetation.
 - Important historical features including St Donat's Castle and Dunraven Park, with associated coastal settings, and prehistoric clifftop forts including at Nash Point, Summerhouse Point and Traeth.
 - Coastal path and low key recreation and access at Southerndown, Nash Point and Cwm Colhuw.
 - Key views from the coastal path and recreation areas including Ogmore by Sea. Long open views of the Bristol Channel are seen against the strong backcloth of the English coast including Exmoor. Scenic views are also possible along the coast with the open rural backcloth of the plateau inland.

- 5.38. The area can be divided into four broad areas; the Heritage Coastal Strip, coastal hinterland, Ogmore and Old Castle Down and Ogmore valley.

Heritage Coastal Strip

- 5.39. The area consists of coastal cliffs which run between Cold Knap Point in the east and Ogmore-by-Sea to the west. The cliffs are eroding high lias cliffs [50m in parts], interspersed with small incised valleys. The cliffs are strongly layered and form highly distinctive patterns and forms. They are eroding and there is evidence of recent cliff falls. They support an array of protected and notable species from Chough and Peregrine to Shore Dock Purple Gromwell, True Service-tree and Maidenhair Fern. The intertidal area is a mix of wide sweeping beaches, pebbles and wavecut platforms. The wave-cut platforms are a major feature with their distinctive rectilinear bedding patterns but local variation including scoured areas, drop-offs, rock pools, sediment banks and channels present opportunities for a multitude of inter-tidal species. Sabellaria reef (*Sabellaria alvolata*), a UKBAP habitat is present along parts of the coastline.
- 5.40. Usually there is a narrow coastal strip of rough grass, and wind sculpted shrubs, subject to erosion on the cliff top. In places this extends over a wider areas such as where there are the remains of ancient fortifications such as at Nash Point, Summerhouse Point and Traeth. There is also a lighthouse at Nash Point and the remains of settlement as such as at Dunraven in an otherwise very sparsely settled coastal edge [apart from Ogmore by Sea to the west]. There are superb views along the coast and across the Bristol Channel to Somerset/Devon, including Exmoor, and the area feels open and exposed. There is a cliff top footpath in places, with other areas remaining relatively inaccessible. There are also occasional car parks on the cliff tops, such as at Nash Point, or the back of the beach, such as at Dunraven and Cwm Colhuw. These affect the unspoilt character to an extent but are generally fairly low key. The path has distinctive stiles over stone walls and is popular with walkers from the nearby large urban areas. Overall, with the cliffs, wavecut platforms and beaches, views across the Bristol Channel and the backcloth of sparsely settled rural plateau and incised valleys, the area is a superb landscape.

Heritage Coast Hinterland

- 5.41. The area is a rolling coastal lowland lias plateau sloping towards the coast. This is interspersed with distinctive small incised steep sided valleys with streams which allow access to the beaches. There is a small fixed dune habitat at Ogmore. The landcover is a medium sized rectilinear pastoral and arable fields set within managed low hedgerows and stone walls. The plateau has a sense of openness with long views out to sea, and occasionally to Somerset/Exmoor. The area is visible from the coastal path and coastal road to the west, providing a rural backcloth to the coast. Trees display coastal windblown characteristics. There are several small woodlands. Deciduous woodlands tend to be concentrated within the coastal valleys which are a feature of the landscape. Isolated coniferous woodlands/shelterbelts occur.
- 5.42. There are several small linear settlements such as Marcross and Monknash [with its monastic grange remains] scattered throughout the area and some isolated farms with distinctive grey limestone or whitewash. Many settlements have historical cores, but have recently developed additions to the edges. Southerndown and Ogmore-by-Sea appear to be expanding to exploit the coastal location and contrast with the traditional settlement patterns and otherwise restrained, sparsely populated character of the area. Llantwit Major lies inland and though hidden is an historic settlement related to the coast and linked by

Cwm Colhuw. The south and western sides are most sensitive with a Conservation Area and a SAM around the church. Boverton Conservation Area to the east also has a sensitive setting of the open heritage coast separating it from the urbanised St Athan and Aberthaw. Access is limited to the B4524 close to the coast serving these settlements and minor cul de sac roads to the coast to the east.

- 5.43. Historic features St Donat's Castle is a substantial listed medieval monument of concentric polygonal curtain walls enclosing buildings that have been varyingly altered over many centuries and is now a school- Atlantic College. The castle has a complete, large-scale Tudor terraced garden, which steps down towards the coast and the complex is in a sheltered wooded setting apart from the designated setting of playing fields to the west. Dunraven Castle was a large castellated gothic castle and the seat of the Wyndham family and later Earls of Dunraven. The castle was demolished in the 1960s and all that remains is a deer park, castellated garden and a tower which also has a designated setting. The earthworks of a prehistoric fort are also located here. The area is open to the public and visited in conjunction with the nearby beach.

Ogmore Down

- 5.44. The area consists of a Carboniferous limestone heath reaching 93mAOD separated from a Old Castle Down to the east by Pant St Brides. The down is the last significant area of unenclosed upland in the Vale, but even here it has been partially enclosed by the encroachment of regular fieldscapes, mainly to the south. The area is perhaps the most significant inland habitat in the Vale. Heather, Heath Bedstraw, Tormentil, Western Gorse and Fescues grow beside Wild Thyme, Common Rock Rose, Ladies Bedstraw and Fairy-flax. The area is mainly grazed by sheep with bracken invasion in parts. Mown grass fairways and greens are apparent at Ogmore golf course. There is a deciduous woodland and scrub to the west on the Ogmore Valley sides.
- 5.45. Generally the character is of an open and exposed area with long views over the Ogmore Valley and the Vale with glimpses of the sea to the west. The golf course buildings on Ogmore Down are the only built forms in the area. Public rights of way [bridleways] criss cross the downs although a substantial part of the area appears to be open access. Tranquillity is affected by occasional blasting at the quarry. Overall the feeling of the area is wild and remote on the downs themselves. The quarry adjacent is relatively discreet.

Ogmore valley floor

- 5.46. The valley floor is gently sloping generally focussed on the River Ogmore which is tidal for part of its length, to just above Portobello House. The area is pasture, enclosed to the east with walls and fences and open to the west with some invading bracken and scrub, visually continuing the valley side character. The Ogmore saltmarsh lies to the south of the river and sheep grazing of this is heavy. The distinctive landmark of Ogmore Castle lies by the river to the east with stepping stones and provides an appropriate gateway to the coastal section of the river. Views are possible across to Merthyr Mawr warren and to the sea lower down the valley.

Undeveloped East Vale Coast

- 5.47. The key characteristics of the undeveloped East Vale coast are:
- An eroding south and east facing coast of lias cliffs to the far west and east and lower cliffs of Mercia mudstone around Sully.

- Wave-cut platforms and shingle dominate with a few sandy beaches.
- Inland the incised plateau landscape dominates to the west and around Lavernock. A lower gently hilly undulating landscape with flat floored valleys lie around Sully.
- Gently undulating rural mixed farming to the edge in places with some enclosure of low hedges.
- Substantial deciduous woodland occurs in valleys such as at Porthkerry Country Park and there is distinctive conifers on the hill backcloth between Sully and Lavernock.
- Settlement of scattered traditional stone built and brick settlement with additional development of caravan and small residential leisure parks.
- There is a well used coastal path and low key recreation and access in parts although this is interrupted at points such as where there are caravan parks.
- Key views are from the coastal path, Porthkerry Country Park, Swanbridge, Many views include the English coast as a backdrop including Exmoor.

- 5.48. The area consists of the coastal edge and hinterland which is split into several areas separated by development at Rhoose, Barry, Sully and Penarth. These are described below.

Coastal edge

- 5.49. This rugged and dynamic edge landscape consists of distinctive layered lias cliffs, lower than to the west, most prominent around Porthkerry and Lavernock, and mudstone and conglomerate forming lower, sloping cliffs east of Barry and with limestone beneath forming Barry island and Sully Island. The land has been quarried behind at Rhoose creating a cliff wall which now protects and screens new housing. Wave-cut platforms are a major feature of the coastline but local variation including scoured areas, drop-offs, rock pools, sediment banks and channels present opportunities for a multitude of inter-tidal species. Sabellaria reef is present along parts of the coastline. Shingle beaches are more numerous than sandy beaches although the latter are found at Whitmore Bay and St Mary's Well Bay. At some locations such as East Aberthaw, specific local conditions such as base-rich groundwater seepage through beach sediments provides unique conditions enabling species such as the flatworm to exist. Tidal ponds behind Watch House Beach form a nature reserve. This area is also an SSSI.
- 5.50. The cliff and coastal edge is a mix of unimproved grassland, gorse, bracken and scrub and sculpted woodland to the east of Sully Island. Views out to sea across Bristol Channel to Somerset/Devon are spectacular with views of Steephelm and Flathelm becoming more prominent further east. This can be enjoyed by walkers along the well used coastal path in places. The Bulwark fort is a scheduled ancient monument and with the Bull Cliffs is an important landmark when viewed from the Knap. Throughout, visual intrusion occurs in places from settlements and developments including caravan sites such as Fontygary, Porthkerry, Sully, St Mary's Well Bay and Lavernock which directly abut the cliff edge. This reduces the tranquillity of this stretch of coast.

Gileston and West Aberthaw

- 5.51. A small area of gently rolling mainly arable land with low cut hedges with medium sized fields surrounding the historic villages of Gileston and West Aberthaw which are linked by small lanes. Power lines cross the area to the east and views towards the coast are dominated by Aberthaw power station. The area

effectively continues the Heritage Coast's open rural character eastwards, separated only by a treed lane.

Rhoose southern hinterland

- 5.52. The area is the edge of a lowland plateau landscape gently sloping to the coast. The landcover is a pattern of mostly medium to small arable pasture fields set in managed hedgerows with playing fields and a small disused quarry to the west. The area contains no woodland. A railway line runs close to the coast linking Barry and Bridgend. The Fontygary caravan site and complex lies between the railway and coast to the west contrasting with the settlement adjacent in Rhoose which lies to the north. Porthkerry lies between the railway and coast to the east. These consist of caravans and a small leisure complex moderately well screened from the roads to the north although the Porthkerry caravans are visible from along the coast to the east. Long views are possible across the sea to Somerset from the road and coastal edge. There is suburbanisation of parts of the area especially along the roads where lighting and edge detailing are modifying the rural landscape and to the west around Fontygary.

Porthkerry Country Park and Environs

- 5.53. The area is a steep sided lowland valley cutting through the coastal plateau running parallel to the coast and turns to reach the coast. It includes the prehistoric Bulwarks Fort on the cliffs to the west, the settlement of Porthkerry and Porthkerry Country Park to the east. It is situated next to the outer housing estates of Barry to the east. The landcover is a mixture of woodlands on the valley sides, grassland areas on the valley floor and open grassland by the fort. The deciduous woodland is the dominant landcover and gives the valley a confined quality. There is one minor access road which terminates at the park facilities and car park. The railway line linking Barry to Bridgend borders the area and the viaduct provides a dramatic and positive feature. The valley to the northwest of this contributes to the setting of the coast and allows positive views to the viaduct and the sea beyond from further inland. Porthkerry church tower acts as a landmark which is widely visible and the settlement is traditional and well integrated into the landscape. The area is well used by local people for dog walking and other recreational pursuits. The tranquillity of the area is affected by noise from low flying planes using Cardiff Airport.

Barry and Sully Coastal Gap

- 5.54. Small area of gently sloping crowned land bounded by industrial and housing development on three sides and the coast to the fourth, southern side. The character is essentially semi-rural with trees and overgrown hedgerows enclosing areas of pasture used for grazing and the grounds of several substantial buildings. These include a new flats development in the wooded grounds of a former hospital and a children's hospice at Ty Hafan. The hospice is a fine modern building. The tree cover is very important especially to the west in integrating the built form and runs along the coastal edge along with outgrown hedgerows. All buildings sit within the landscape although the white Ty Hafan is noticeable in views along the coast. The area provides a welcome green contrast to the built up areas to the east and west. There are signs of wear and urban fringe characteristics with its amenity disposal area. Views out to, and along the coast are attractive to the east including to Sully Island, Flatholm and Steephholm. Barry Island housing is a detractor to the west.

Lavernock Hinterland

- 5.55. The area is a rolling/undulating lowland with its highest point a rounded hilltop to the east of Swanbridge [Hopkins Mount]. It is covered by a mosaic of pastoral fields enclosed by hedgerows. Often these hedgerows are overgrown, many

containing trees. The dismantled railway line to the north west of the area is also overgrown with vegetation and creates a strong edge to the area and also gives a surprisingly enclosed feel to parts of it. Pines feature in the area east of Swanbridge and with the hill [Hopkins Mount] create a distinct rural skyline and backcloth to the coast viewed from the south and west. Mixed tree cover along the coast in the lee of Sully Island provides a highly distinctive character on cliffs. A local nature reserve lies on the land behind cliffs west of Lavernock with evidence of World War 2 structures. There are several settlements in the area, including farms and hamlets linked by narrow roads which show signs of overuse at parking places. Lavernock Farm to the south east of the area has been developed as a campsite/holiday village and there are caravan parks at St Mary's Well Bay and Swanbridge. The area's feeling of tranquillity and rural character has been affected by these developments and together with some refurbished houses are suburban in appearance. Though views of the sea and more limited inland the area provides an important backcloth and essentially rural hinterland. This area would be likely to be significantly affected by a potential Severn Barrage.

Developed East Vale Coast

5.56. The key characteristics of the area are:

- The urban settlement of Barry
- focussed on An eroding south and east facing coast of lias cliffs to the far west and east and lower cliffs of Mercia mudstone and conglomerate over limestone around Barry and Sully.
- Wave-cut platforms and shingle dominate with a few sandy beaches.
- Inland the incised plateau landscape dominates to the west and around Lavernock and Penarth. A lower undulating landscape with flat floored valleys lie around Sully and Barry.
- Gently undulating rural mixed farming to the edge in places.
- Major settlement including Barry and major infrastructure at Aberthaw power station and airports. Penarth lies in an elevated position overlooking the estuary.
- Bristol Channel/Severn Estuary causes lateral flow, a very high tidal range and the sea is opaque with suspended solids.
- Key views from from Penarth including parks, coastal path, Barry Island, the Knap at Barry, Swanbridge, Many views include the English coast as a backdrop including Exmoor.

Aberthaw Power Station

- 5.57. The area is part of an estuary dominated by a power station and ancillary uses (coal dumps and access railway lines). It is a flat landscape. The landcover is made up of large power station buildings dominated by a large chimney with carparks, hard standing areas with fencing, a coal tip and a concentration of pylons. There is a large amount of tree planting but this is relatively small in scale to the power station itself. Noise is generated by the number of departing and arriving trucks, by the railway line for incoming coal deliveries, the hum of a concentrated number of pylons and night time lighting to the station. Overall the Aberthaw Power Station is a large scale landscape of massive structures and spaces.

Aberthaw estuary

- 5.58. This area adjacent to the River Thaw lower reaches is used for the disposal of ash from the power station. A plateau has been formed with sloping sides which is graded and seeded in parts. Areas of standing water lie to the east. Power lines and pylons run across the site to the power station adjacent which visually dominates the area. The area abuts the intertidal area to south and the beach edge is reinforced with structures/groynes.

Rhosee

- 5.59. The southern part of this 20c settlement lies south of the B road on the coastal plateau sloping towards the coast. The town has recently undergone massive expansion to the south into quarries which have a character distinct from the plateau level settlement. There are views of the sea and English coast from approach roads and from houses, interrupted by the cliff 'wall' in the former quarry at lower levels. The area is bisected by the Cardiff to Bridgend railway line. The airport to the north has some impact on the town's tranquillity with aircraft clearly visible.

Barry

- 5.60. The main part of the town of Barry slopes down from the plateau to the flat low lying Cadoxton Valley, now dominated visually by the docks with Barry Island as the backcloth. The largest town in the Vale, the area is highly urban but with late Victorian red brick low rise housing and buildings. These buildings, particularly on the roads adjacent to the railway line act as a backcloth to the coast and docks, and are important in terms of its setting. The policy area just includes the area south of the railway line for simplicity which lies around the break of slope or in tunnel to the west. Overall the town is very difficult to find one's way around due to the confusing road pattern and lack of coherent urban structure.
- 5.61. The eastern docks and environs still function with related warehousing and storage as well as other commercial properties set within large areas of open hardstandings with security fencing. The western docks are being redeveloped to the north with housing and retail uses retaining an urban waterfront. The Docks Office is the most prominent building and a red brick symbol of the original purpose of the area. Views out to the sea are possible with the English coast beyond.
- 5.62. Barry Island, once a major tourist destination, is now lower key with a promenade with various amusements and a fun park and new housing on the sensitive peninsula replacing the former Butlins Camp. Older housing still remains on its northern, dock facing slopes, beyond the railway. The urban form lacks a degree of coherence in itself but benefits from the sandy sweep of

Whitmore Bay, the enclosing rocky peninsulas and the character of muddy Barry Harbour which separates the area from western Barry. These areas are part of the undeveloped coast. The new housing on Nell's Point is prominent in views along the coast. Views are also possible from this peninsula and in particular highlight the backcloth role of Hopkins Mount along the coast and the enclosure of the high cliffs to the west.

- 5.63. The 20c housing to the west reflects an established seaside character to a degree. It rises from the flat area around the Knap up to the plateau level. It is interspersed with the prominent grassy slope at Birch Grove Wood which is visible from the coast and from Barry Island and also continues as an important green edge to the housing to the west keeping it back from the cliff edge. Other parkland with water bodies provides a green recreational hinterland to the pebbly beach. These areas are considered undeveloped coast. Views to the west along the coast dominate with high cliffs, woodland and Porthkerry church, spoilt to an extent by Porthkerry caravan park on the cliff edge.

Penarth

- 5.64. The area of Penarth is an urban area and lies mainly on elevated land next to the River Ely and Bristol Channel. It falls to coastal level on its east facing side to a promenade with pier at the mouth of two small steep valleys in which Alexandra Park lies. Penarth is historically a genteel suburb of Cardiff and has a Victorian core of local stone buildings with brick detailing to doors and windows or sandstone detailing to brick walls.
- 5.65. Overlooking the coast are large Victorian villas interspersed with flat infill. This includes Marine Parade and Bridgman Road. A denser mix of smaller villas lie to the north, with some smaller mid 20c social housing of very limited merit in an unfortunately prominent clifftop location on Penarth Head visible from the pier and to the north. A mixed pattern is echoed on the seafront/promenade and here recent, larger, monolithic blocks of flats are threatening to dominate the more domestic scale original buildings which have an attractive mix of restaurants, bars and other seaside uses, albeit in slightly deteriorating condition. The pier has been renovated to a fine standard and is very popular with visitors and locals including fishermen and acts as the mooring point for seasonal pleasure boats. It is complemented by the renovated promenade which allows access to the pebbly beach.
- 5.66. There are several open spaces/parks which enjoy a coastal location but which are included in the built boundary. Alexandra Park lies in the steep valley a running back from the built coastal edge. The park boasts a mix of steep grassy slopes, traditional park features such as a pavilion and mature tree cover which forms an important backcloth to coastal edge and to adjacent buildings. There are glimpsed views of the coast from various locations. The sloping formal Windsor Gardens run parallel to the coast and allow clear views over the coast and the Severn estuary to England. To the south, land rises to the cliff top and there is an informal mown grass strip allowing access for walkers on the coastal path and further open views. This widens to include a miniature golf course forming a rectilinear space between 20c estate housing on the flat clifftop. To the north, in the Victorian part of the town, there is a small open space by Clive Crescent which allows fine views along the coast, across the estuary and to Cardiff Bay.
- 5.67. The 20c housing to the south changes from large villas to standard estate housing with the southernmost area having been reclaimed from a cement works. The housing is set back from the cliff edge by a grass strip which reduces its visual effect.

6. Policy Recommendations

- 6.1. The current policies relating to coastal zones have been developed for the unitary development plan over a number of years despite its adoption only two years ago. These policies have a track record of success in protecting and conserving the Glamorgan Heritage coast and to an extent the Eastern Vale undeveloped coast although this latter area is under constant pressure. The wording and justifications are therefore considered to be fairly robust. Current Welsh Assembly guidance indicates that policies should be succinct and justifications kept to a minimum.
- 6.2. The suggested policy for the *Glamorgan Heritage Coast* is:

The special environmental qualities and characteristics of the Glamorgan Heritage Coast will be conserved and enhanced. With the exception of limited informal recreation facilities at Cwm Colhuw, Ogmores-by-Sea and Dunraven, the remainder of the area will be treated as an undeveloped remote rural zone with priority being given to agriculture, landscape, seascape, nature and historical conservation. Modifications of the coast in respect of coastal defence and flood control shall respect the character of the area.

Planning Policy Wales 2002 states that LDPs should normally only propose coastal locations for development which needs to be on the coast. In particular, the undeveloped coast will rarely be the most appropriate location for development.

Designated as one of the first Heritage Coasts in 1976, the area has essentially maintained its character as a coast of great importance to the Vale of Glamorgan and beyond. The objective of the designation is to ensure that the undeveloped character of the coastline is conserved and to enable the provision of appropriate recreational facilities.

The zone has been subject to a review of its boundaries in 2007. This study also considered that the undeveloped, unspoilt nature of the coastline is fundamental to the character of the Glamorgan Heritage Coast. The distinctive lias cliffs, beaches and wavecut platforms with the hinterland of open undulating agricultural plateau and stone settlements and walls are considered to be very important to the character of the Vale. Long views out to the Bristol Channel and Severn Estuary and along the coast combined with tranquillity and remoteness make the area attractive for low key recreation. To maintain these qualities development needs to be strictly controlled within the area as well as in the areas adjacent which act as setting or are intervisible.

Farming is the major activity on the good agricultural land. The maintenance of a viable agricultural industry including appropriate farm based diversification proposals are supported. Agricultural land in the area will be protected from any influences that inhibit good farm management.

The above policy does not specifically preclude informal recreational development in appropriate locations but if there is irreconcilable conflict between recreation and conservation objectives, conservation and enhancement of the natural beauty should take precedence.

The Management Plan for the Glamorgan Heritage Coast project, which remains unchanged by the recent boundary review, identified much of the coastal area as a "Remote Zone" where conservation and environmental protection is paramount. Cwm Colhuw, Dunraven and Ogmores-by-Sea attract many visitors

each year and these areas will continue to act as a local focus for informal recreation activity, thereby relieving pressure on the other, more sensitive areas of the Heritage Coast.

Climate change may result in increased erosion and localised instability particularly of the cliffs and flooding in the valley bottoms. A precautionary approach is to be taken in terms of the location and design of any small scale development minimising the manmade modification of the coast in order to protect its natural character.

6.3. The suggested policy for the East Vale Undeveloped Coastal Zone:

In the East Vale undeveloped coastal zone development will be permitted if:

- i. A coastal location is necessary for the development and*
- ii. The proposal would not cause unacceptable environmental effects by way of:*
 - *Exacerbation of flooding or erosion risk;*
 - *Air, land, noise or water pollution*
 - *Hazardous operations*
 - *Visual intrusion especially in views to, from and along the coast;*
 - *Effect on unspoilt coastal landscape and seascape character*
 - *Impact on features of ecological, historical, geological or geomorphological importance associated with the coast.*

Planning Policy Wales 2002 states that plans should normally only propose coastal locations for development which needs to be on the coast. In particular, the undeveloped coast will rarely be the most appropriate location for development.

A review of the Coastal zone has been carried out from Aberthaw to the Taff Barrage analysing the landscape and seascape character and related environmental and historical designations. Criteria for defining the boundary have been used relating to TAN 14 and what is important to the coast of the Vale of Glamorgan. The Undeveloped East Vale Coastal Zone is generally, but not exclusively, areas or open spaces lying outside the settlement boundaries of the main towns and villages which have not been developed for employment use or allocated in the Plan for development purposes. The presence of significant development along the East Vale Coast give increased importance to those areas of undeveloped coastline.

The undeveloped coast provides a positive resource of cliffs, rocky coast, wavecut platforms, beaches and a hinterland of agricultural land, open spaces and parks. There are historic features and important nature conservation designated areas, in particular, the Severn Estuary Special Area of Conservation (which includes the coast between Penarth and Lavernock Point). These open areas perform a valuable role in providing a setting for the adjacent built up areas, facilitating views and for recreation and leisure facilities on the coast.

The Plan will seek to ensure that development which requires a coastal location is located in areas that are presently developed, in order to ensure that the

natural character, landscape and seascape of the undeveloped coastline is protected. Within the undeveloped coastline, development proposal for which a coastal location is not necessary will be strongly resisted.

Climate change may result in increased erosion and localised instability particularly of the cliffs and flooding in the valley bottoms. A precautionary approach is to be taken in terms of the location and design of any small scale development minimising the manmade modification of the coast in order to protect its natural character.

6.4. The suggested policy for the East Vale Developed Coastal Zone is:

In the East Vale developed coastal zone development will be permitted if it is designed and located to respect:

- *Its coastal setting and character;*
- *Views to, from and along the coast;*
- *Local built form context.*

Planning Policy Wales 2002 states that plans should normally only propose coastal locations for development which needs to be on the coast. However, the developed coast may provide opportunities for restructuring and regenerating existing urban areas. Due regard must be paid to the risks of erosion, flooding or land instability. Here, proposals for new development should be of a type and character compatible with its location and sensitive to its coastal setting, particularly where its visual or environmental impact would be significant.

Much of the eastern part of the Vale of Glamorgan coastline is developed. The Council recognises that the operational requirements of some developments clearly necessitates a coastal location.

Barry has a strong leisure emphasis on its coastline and the relationship between this and the natural features and setting of the coast will be conserved. The development of the western docks will continue to provide a high quality of built form appropriate to the waterfront setting. Penarth's distinctive historical character will be conserved, particularly on its seafront.

Though outside the defined settlement boundary for Barry, the port estate is clearly a developed area and its continued use and development as a commercial/ industrial estate and operational port by Associated British Ports, is endorsed. Aberthaw Power Station is a prominent feature on the coastline. The continued use of the site for electricity generation is recognised, particularly in view of the existing connection to the National Grid system and access to water for cooling purposes.

Climate change may result in increased erosion and localised instability particularly of the cliffs and flooding in the valley bottoms. A precautionary approach is to be taken in terms of the location and design of any development to minimise vulnerability.

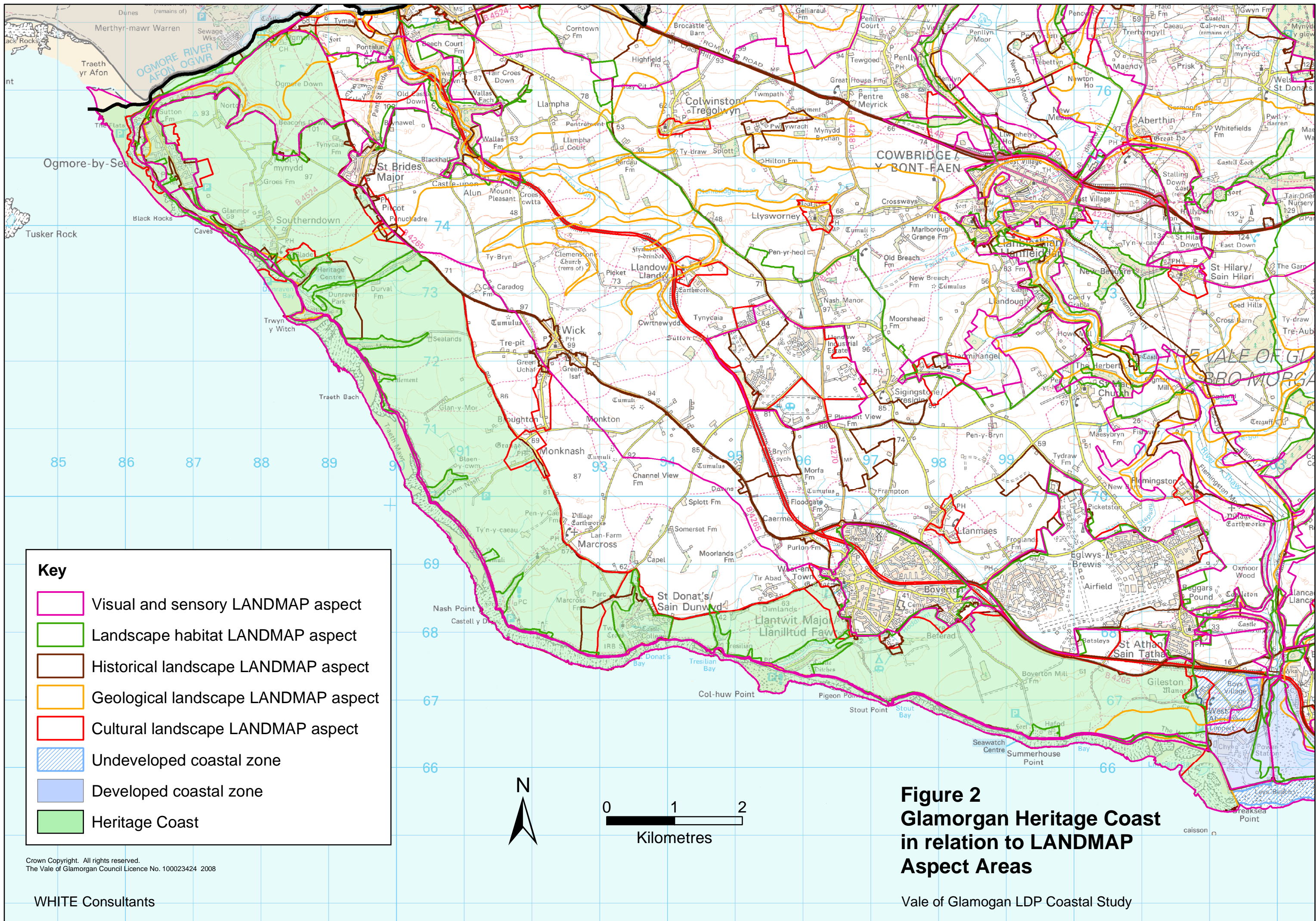
7. Conclusions

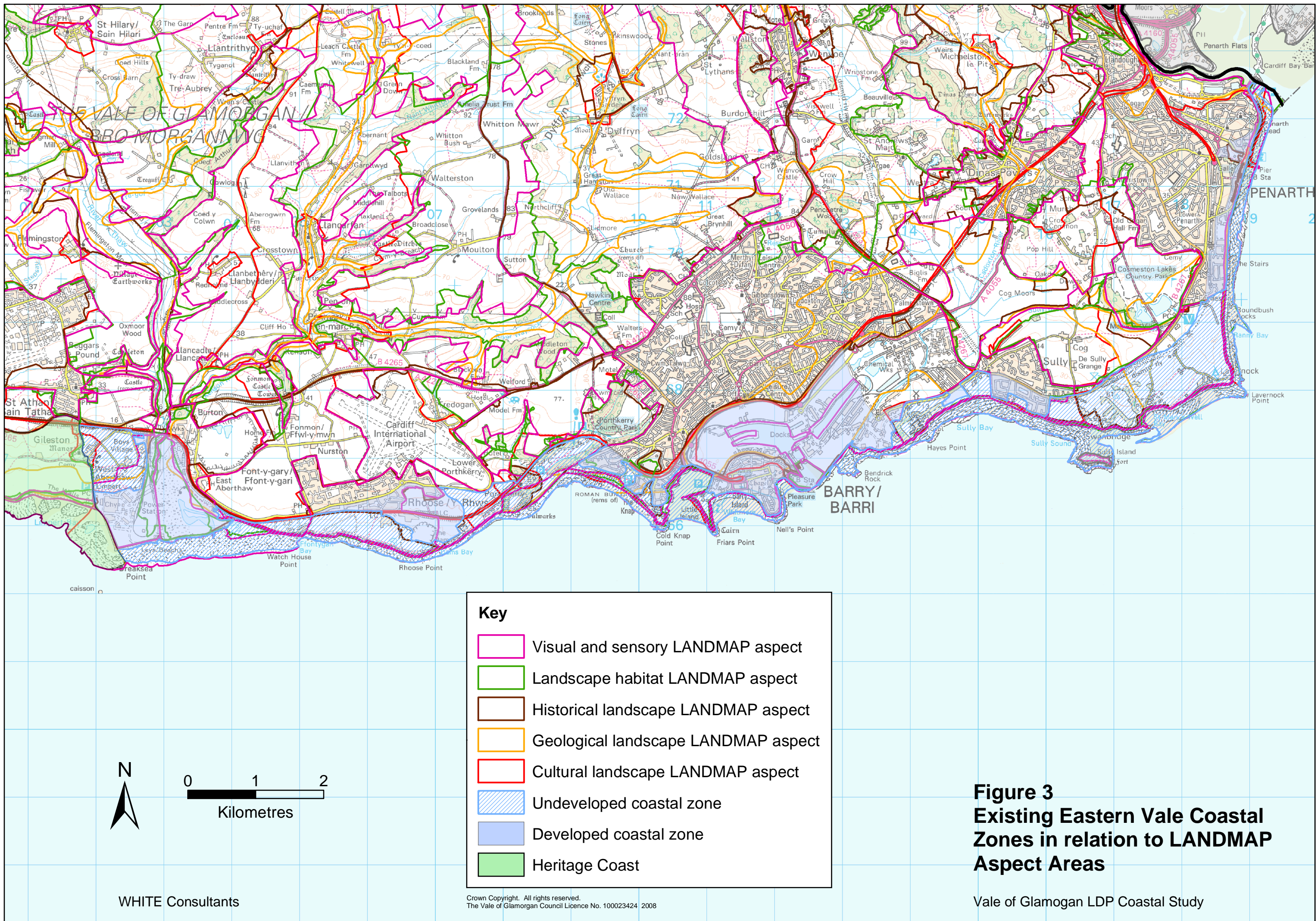
- 7.1. The boundaries of the existing designations of the Glamorgan Heritage Coast and the East Vale coast have been reviewed in order to inform the LDP. Updated LANDMAP and seascape character assessments along with mapping, aerial photographs and on site survey have informed the study.
- 7.2. It has been found that the Glamorgan Heritage Coast area is of great importance to the Vale of Glamorgan and is a valuable landscape and seascape resource. The boundaries are considered substantially sound but some small additions have been made around Llantwit Major in order to be consistent with the approach used in other settlements and because previously omitted areas are of similar character and importance to that within the Heritage Coast boundary.
- 7.3. Areas adjacent to the coastal policy areas which are intervisible with the sea, coast or English coast are considered of importance even if outside the zones and the effects of development on coastal issues and setting should be taken into account in these areas.
- 7.4. The East Vale coast is divided into two zones. The undeveloped coast is considered important as a resource in itself and as a setting to the built up areas. It is fragmented by development and is therefore more vulnerable to character change. The boundaries of the area have been amended to achieve consistency and include all key open spaces related to the coast. It is suggested that the policy for this area should be separated from the developed coast to clearly define and protect the asset with increased pressure on the South East of the Council area.
- 7.5. The East Vale developed coast includes conservation areas and land uses which require a coastal location including docks and power station. The use of the area for leisure is recognised and achieving the correct balance between positive regeneration and respect for coastal character and the adjacent undeveloped coast is considered important. The boundaries for the areas are amended slightly to omit the open spaces previously included and to include prominent buildings on the clifftop in Penarth.

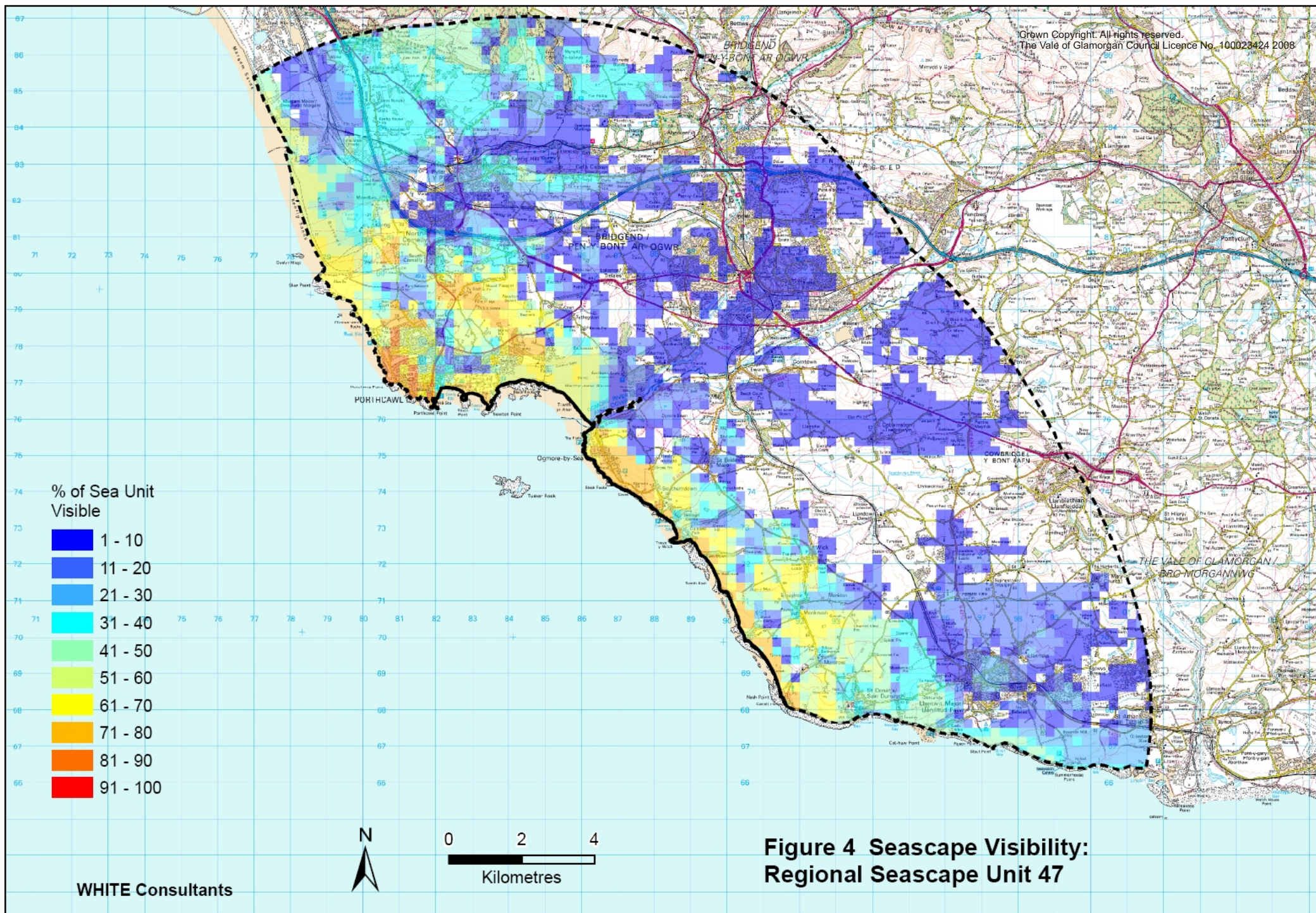
FIGURES

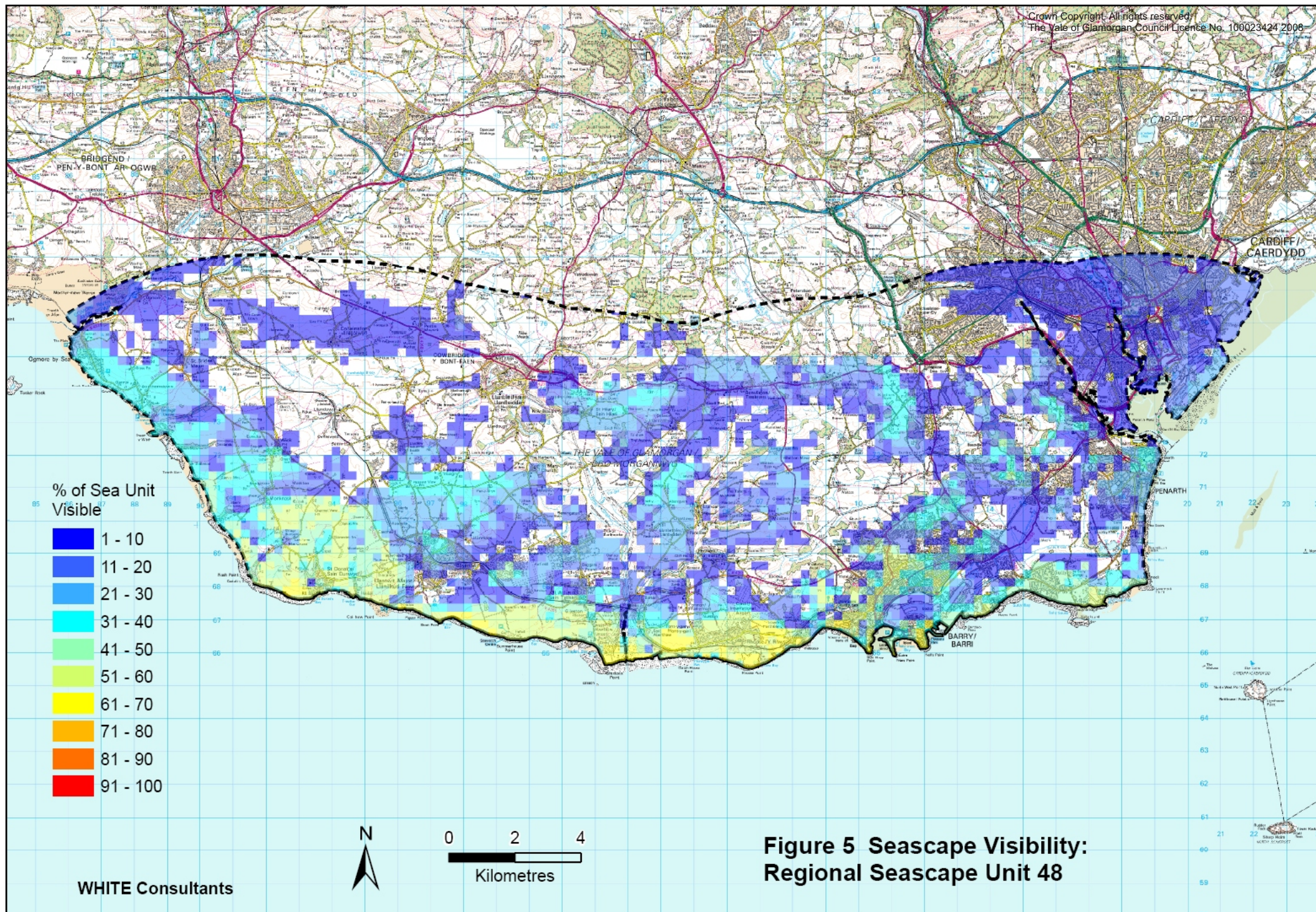


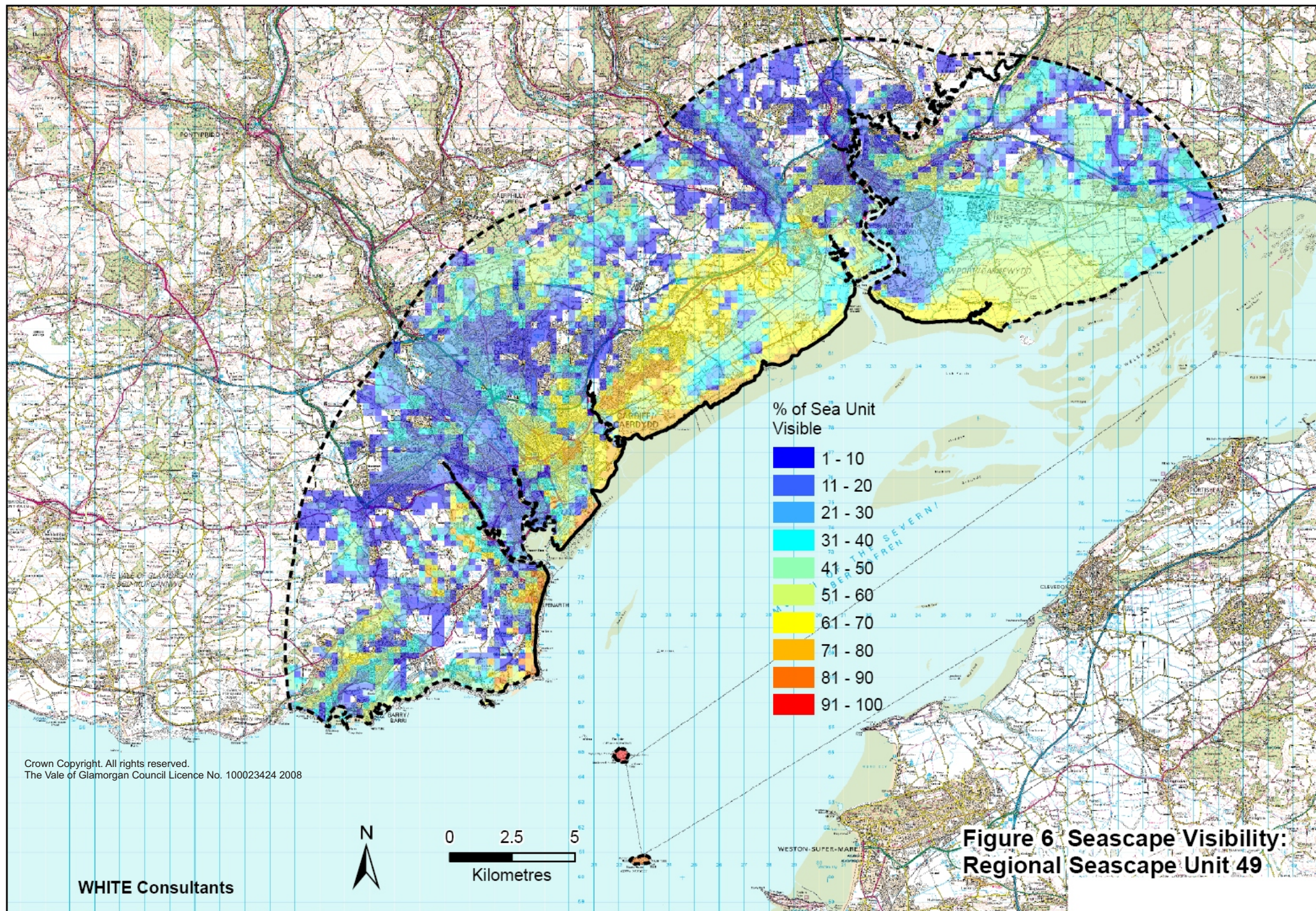
Figure 1
Designations and Constraints

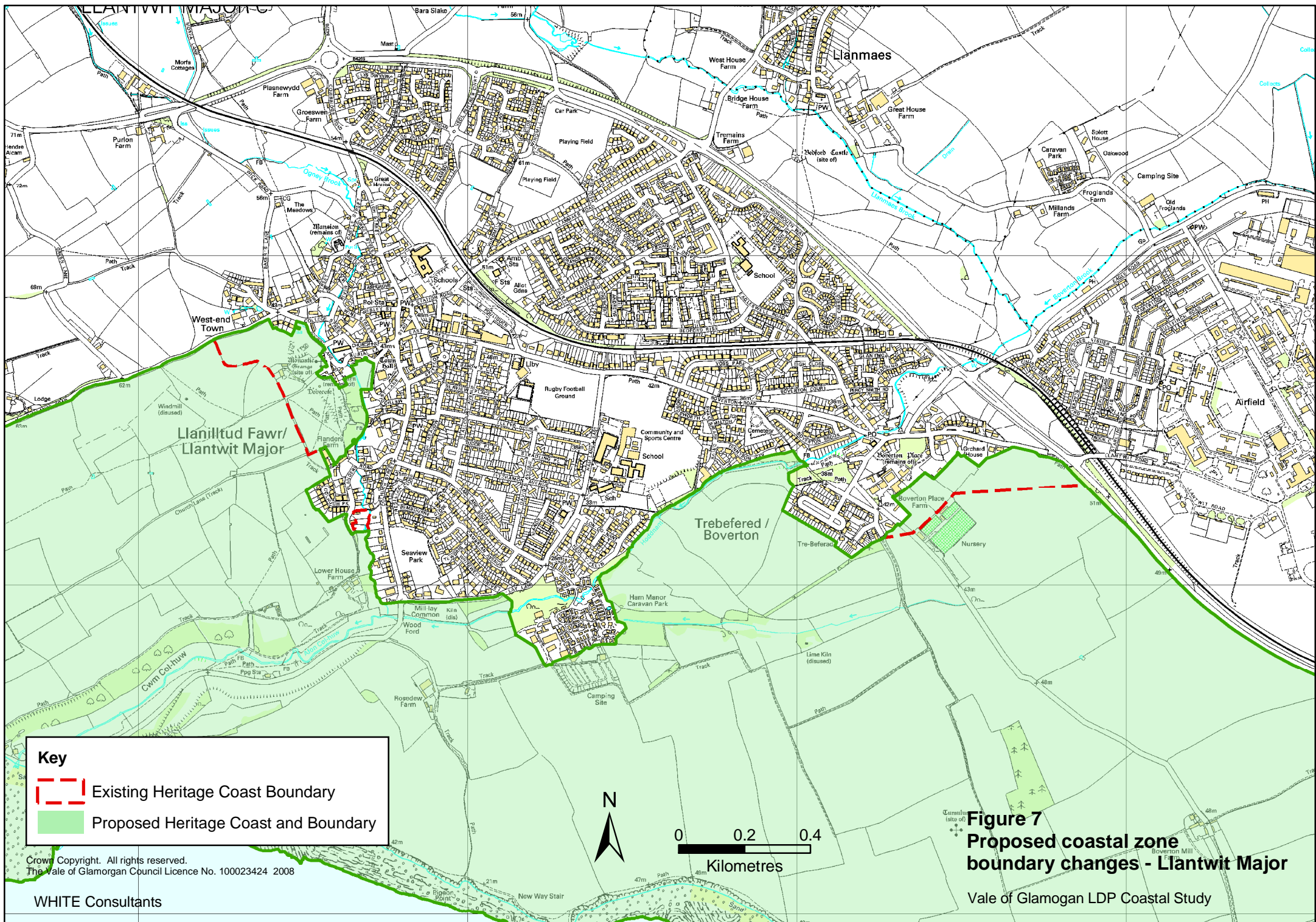


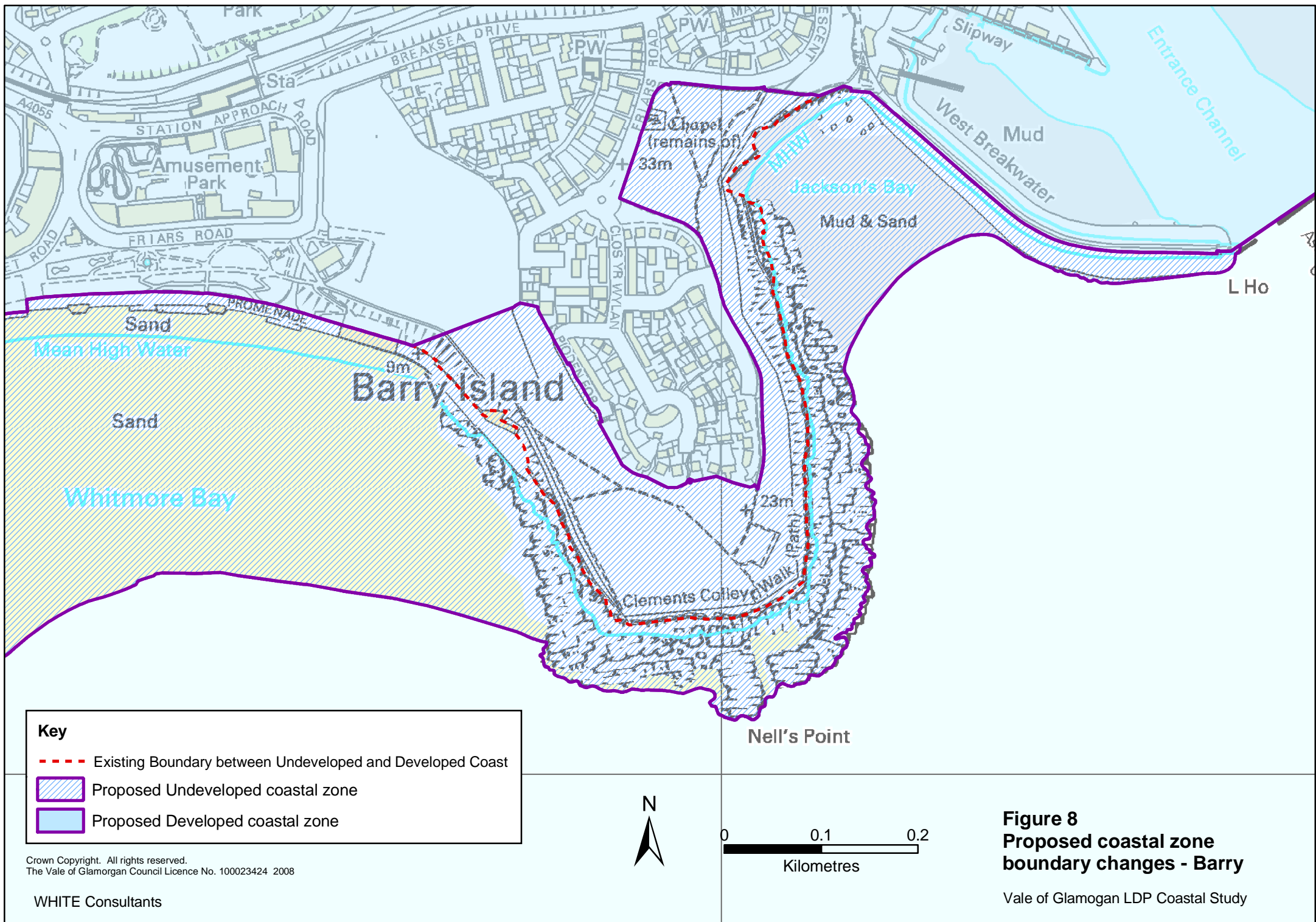


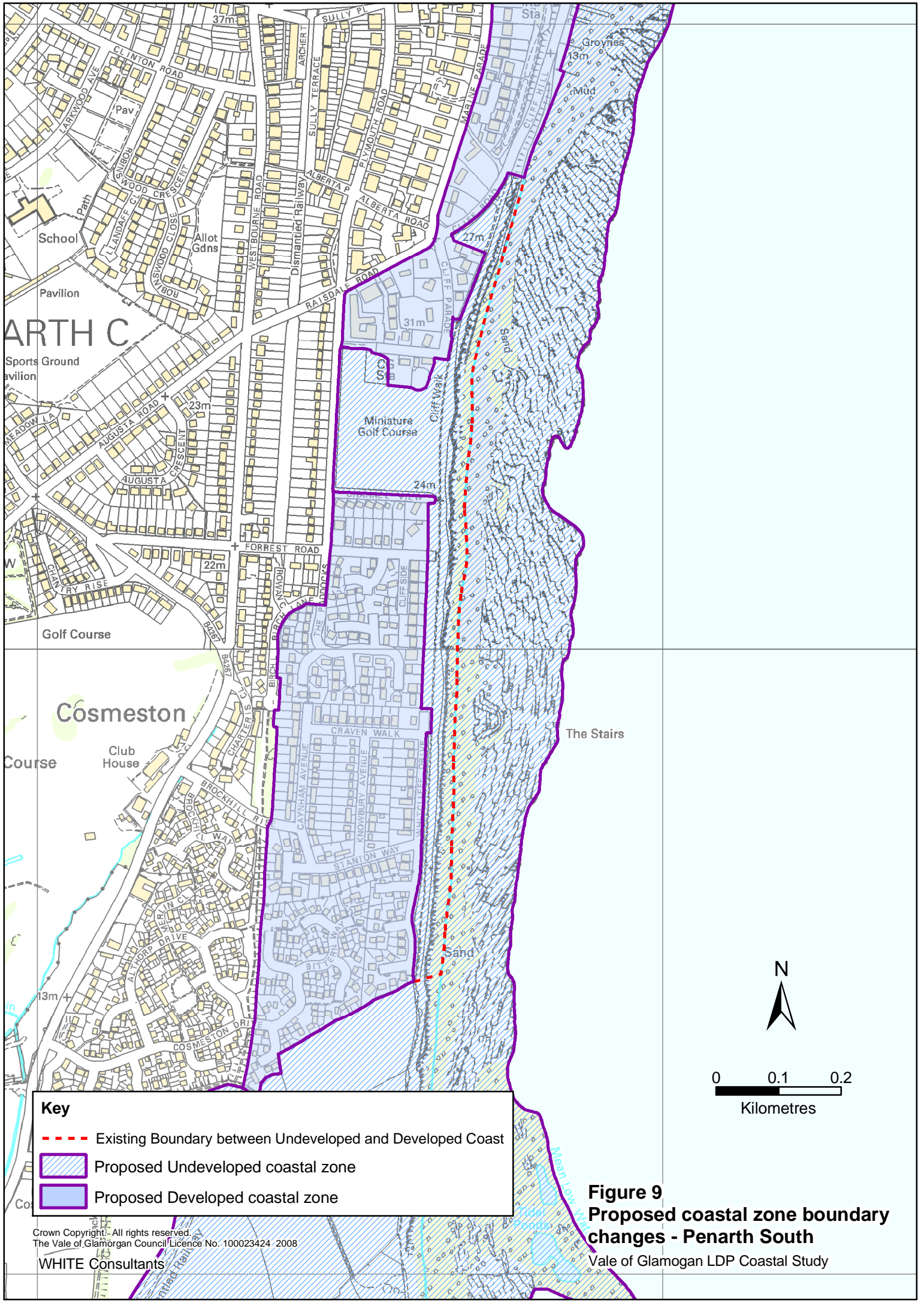


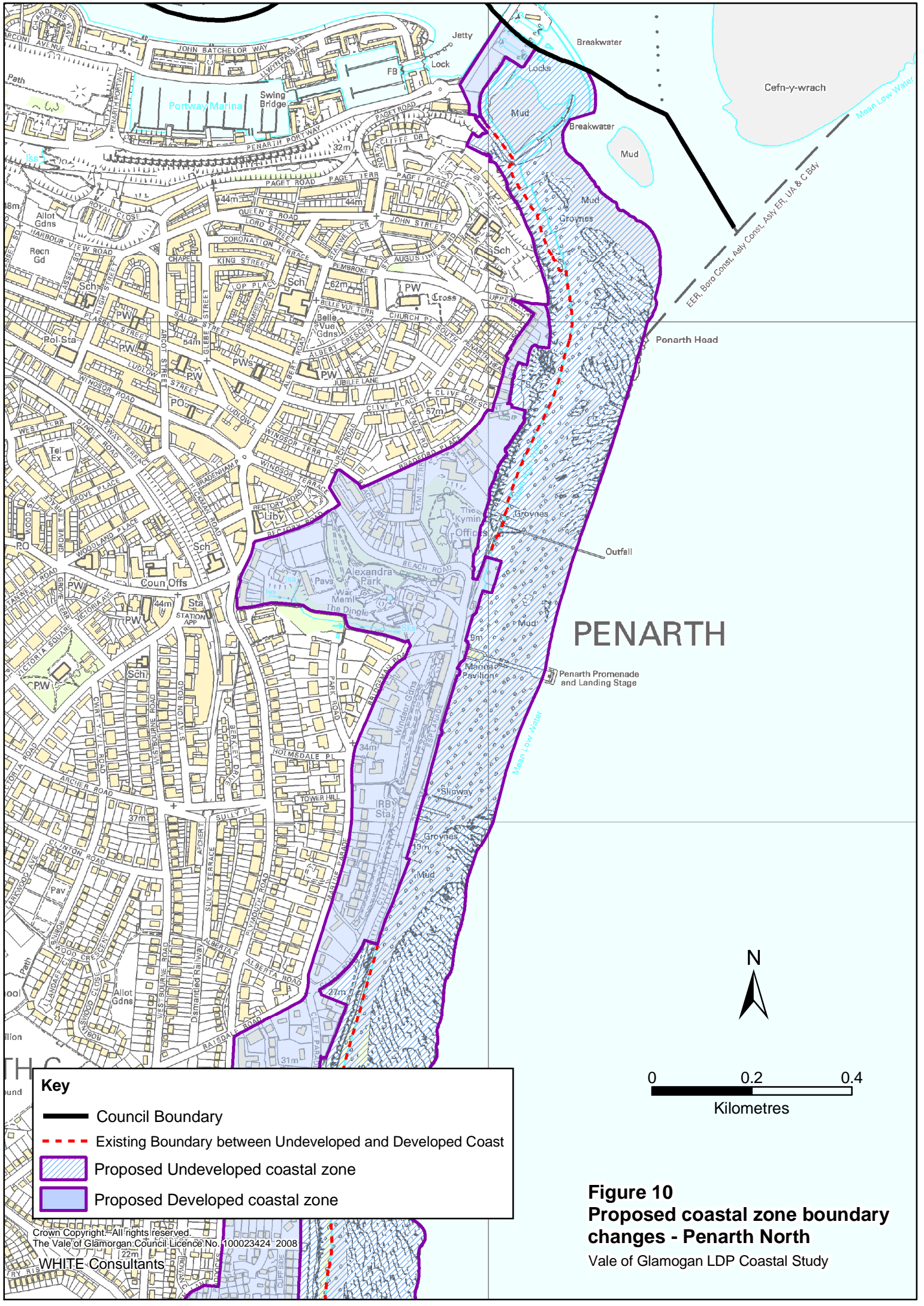












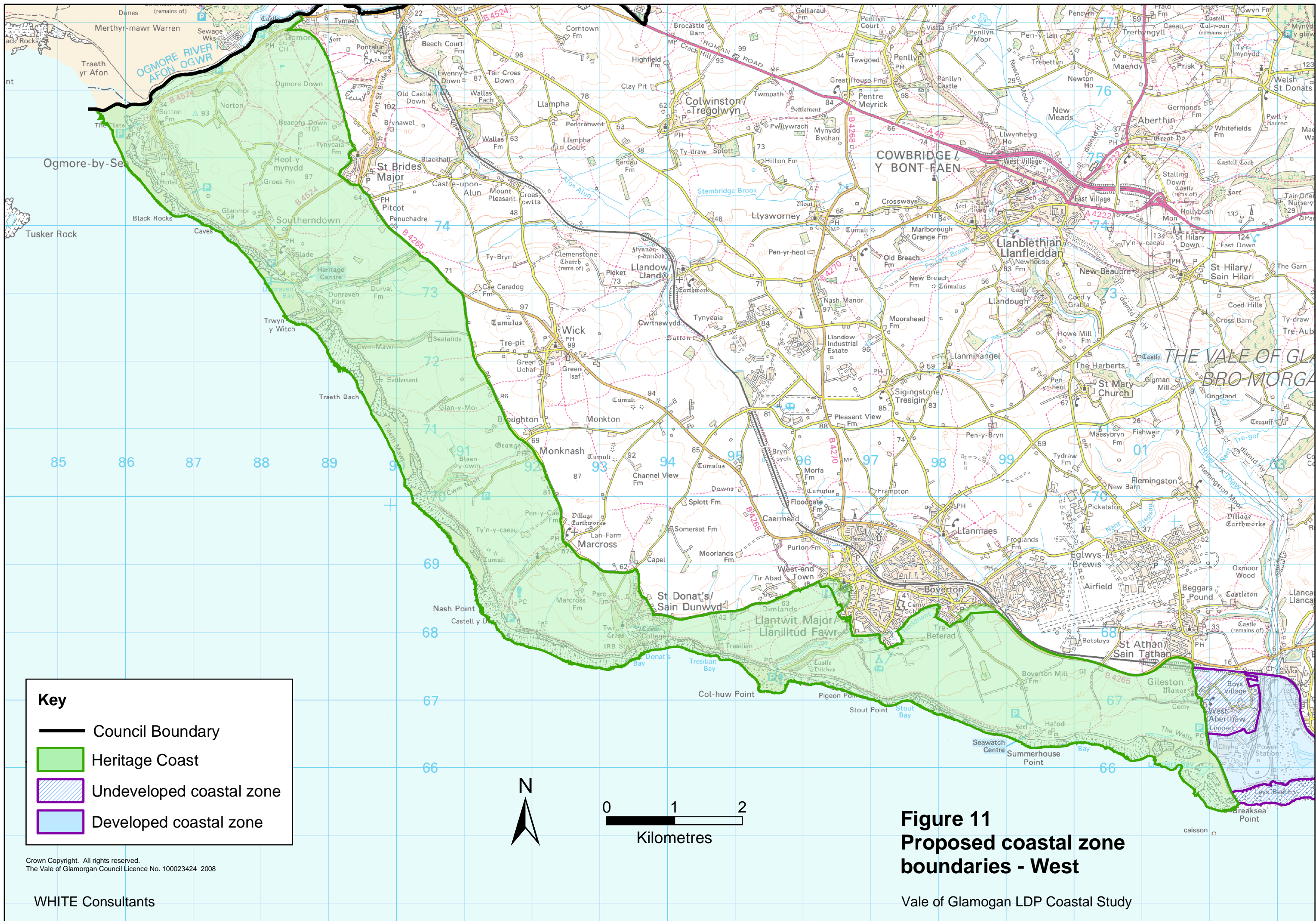
Key

- Council Boundary
- - - Existing Boundary between Undeveloped and Developed Coast
- Proposed Undeveloped coastal zone
- Proposed Developed coastal zone



0 0.2 0.4
Kilometres

Figure 10
Proposed coastal zone boundary changes - Penarth North
Vale of Glamorgan LDP Coastal Study



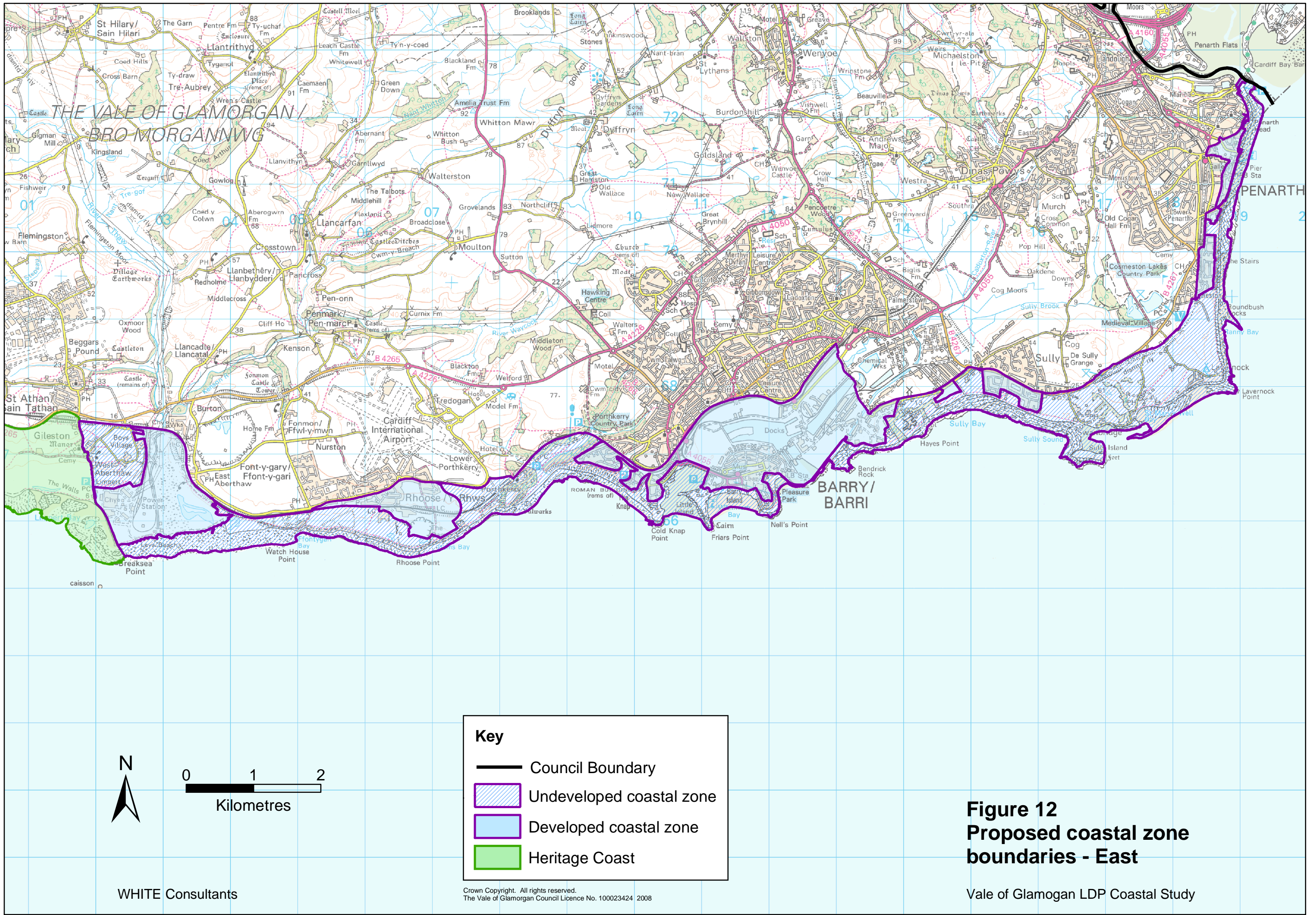


Figure 12
Proposed coastal zone
boundaries - East

Key

- Council Boundary
- ▨ Undeveloped coastal zone
- ▒ Developed coastal zone
- ▒ Heritage Coast

APPENDICES

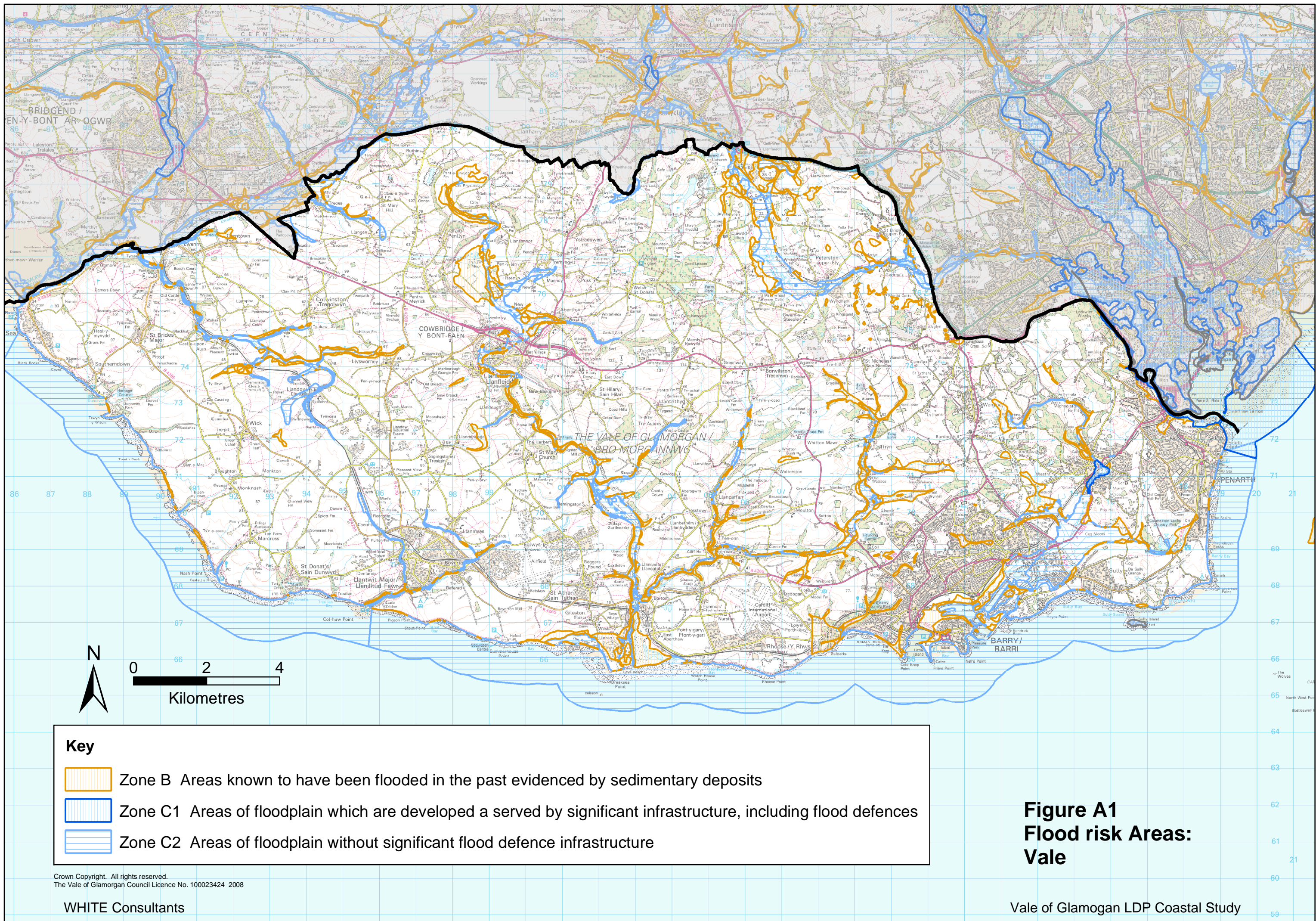
APPENDIX A: EXTRACTS FROM TAN 14

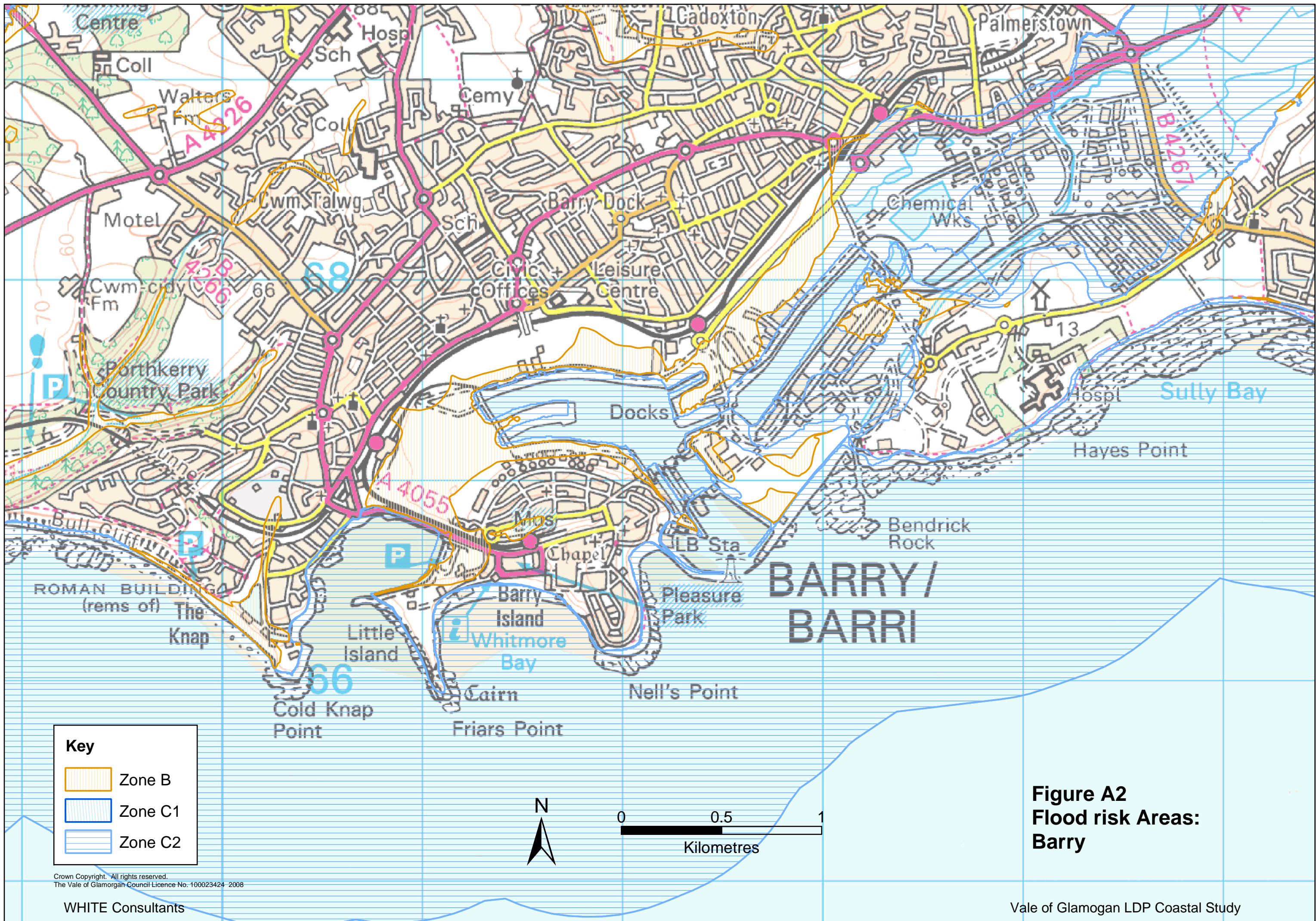
Figure 1

| Description of Zone | | Use within the precautionary framework |
|---|----|--|
| Considered to be at little or no risk of fluvial or tidal/coastal flooding. | A | Used to indicate that justification test is not applicable and no need to consider flood risk further. |
| Areas known to have been flooded in the past evidenced by sedimentary deposits. | B | Used as part of a precautionary approach to indicate where site levels should be checked against the extreme (0.1%) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further. |
| Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal) | C | Used to indicate that flooding issues should be considered as an integral part of decision making by the application of the justification test including assessment of consequences. |
| Areas of the floodplain which are developed and served by significant infrastructure, including flood defences. | C1 | Used to indicate that development can take place subject to application of justification test, including acceptability of consequences. |
| Areas of the floodplain without significant flood defence infrastructure. | C2 | Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered. |

Figure 2

| Development category | Types |
|-------------------------------|---|
| Emergency services | hospitals, ambulance stations, fire stations, police stations, coastguard stations, command centres, emergency depots and buildings used to provide emergency shelter in time of flood |
| Highly vulnerable development | all residential premises (including hotels and caravan parks), public buildings (e.g. schools, libraries, leisure centres), especially vulnerable industrial development (e.g. power stations, chemical plants, incinerators), and waste disposal sites |
| Less vulnerable development | General industrial, employment, commercial and retail development, transport and utilities infrastructure, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites |





APPENDIX B:

EXTRACTS FROM VALE OF GLAMORGAN UNITARY DEVELOPMENT PLAN

3.4.14. **The Coast**

The Vale of Glamorgan is an area heavily influenced by the sea and coastal activities. The coastal zone of the Vale of Glamorgan is for the purposes of this Plan defined as land adjacent to the coast between the Ogmore and Ely rivers comprising the Heritage Coast and the East Vale Coast. The zone includes areas of both undeveloped areas of coastline such as the Glamorgan Heritage Coast, Porthkerry and Lavernock and developed areas such as Barry and Penarth.

POLICY ENV 5 - THE GLAMORGAN HERITAGE COAST

THE SPECIAL ENVIRONMENTAL QUALITIES OF THE GLAMORGAN HERITAGE COAST WILL BE CONSERVED AND ENHANCED. WITH THE EXCEPTION OF LIMITED INFORMAL RECREATION FACILITIES AT CWM COLHUW, OGMORE-BY-SEA AND DUNRAVEN, THE REMAINDER OF THE AREA WILL BE TREATED AS A REMOTE ZONE WITH PRIORITY BEING GIVEN TO AGRICULTURE, LANDSCAPE AND NATURE CONSERVATION.

3.4.15. The designation of the Glamorgan Heritage Coast recognises its national importance as an area of attractive undeveloped coastline. The objective of the designation is to ensure that the undeveloped character of the coastline is conserved and to enable the provision of appropriate recreational facilities.

3.4.16. Strong pressure for new development, especially residential development, exists throughout the rural areas of the Vale of Glamorgan. However, the undeveloped, unspoilt nature of the coastline is fundamental to the character of the Glamorgan Heritage Coast. If the sense of isolation and natural scenery is to be retained it is considered important to strictly control new development. Similarly, development outside but close to, or prominent from within the Heritage Coast boundary can have an impact on the landscape quality of the coast and should therefore be carefully considered.

3.4.17. Farming is the major activity on the good agricultural land within the Heritage Coast. It is therefore important to recognise and support the maintenance of a viable agricultural industry including appropriate farm based diversification proposals. Consequently, agricultural land within the Glamorgan Heritage Coast will be protected from any influences that inhibit good farm management.

3.4.18. The above policy does not specifically preclude informal recreational development in appropriate locations within the Heritage Coast. If there is irreconcilable conflict between recreation and conservation objectives, conservation and enhancement of the natural beauty should take precedence.

3.4.19. The Management Plan for the Glamorgan Heritage Coast project identified much of the coastal area as a "Remote Zone" where conservation and environmental protection is paramount. Considerable effort has been expended on its protection and enhancement, and

public access is catered for at popular visitor locations and via the network of coastal footpaths. Cwm Colhuw, Dunraven and Ogmore-by-Sea attract many visitors each year and these areas will continue to act as a local focus for informal recreation activity, thereby relieving pressure on the other, more sensitive areas of the Heritage Coast.

POLICY ENV 6 - EAST VALE COAST

OUTSIDE THE GLAMORGAN HERITAGE COAST DEVELOPMENT WITHIN THE UNDEVELOPED COASTAL ZONE WILL BE PERMITTED IF:

- i. **A COASTAL LOCATION IS NECESSARY FOR THE DEVELOPMENT AND**
- ii. **THE PROPOSAL WOULD NOT CAUSE UNACCEPTABLE ENVIRONMENTAL EFFECTS BY WAY OF:**
 - **VISUAL OR NOISE INTRUSION;**
 - **IMPACT ON AREAS OF LANDSCAPE IMPORTANCE;**
 - **AIR, LAND OR WATER POLLUTION;**
 - **EXACERBATION OF FLOODING OR EROSION RISK;**
 - **HAZARDOUS OPERATIONS; OR**
 - **IMPACT ON ECOLOGY OR FEATURES OF GEOLOGICAL OR EOMORPHOLOGICAL IMPORTANCE.**

IN AREAS OF EXISTING OR ALLOCATED DEVELOPMENT WITHIN THE COASTAL ZONE, ANY NEW PROPOSAL SHOULD BE DESIGNED WITH RESPECT TO ITS LOCAL CONTEXT AND SENSITIVE TO ITS COASTAL SETTING.

3.4.20.

Planning Policy Wales 2002 states that

“UDPs should normally only propose coastal locations for development which needs to be on the coast. In particular, the undeveloped coast will rarely be the most appropriate location for development. The developed coast, by contrast, may provide opportunities for restructuring and regenerating existing urban areas. Where new development requires a coastal location, the developed coast will normally provide the best option, provided that due regard is paid to the risks of erosion, flooding or land instability” (paragraph 5.7.2 refers). Here, proposals for new development should be of a type and character compatible with its location and sensitive to its coastal setting, particularly where its visual or environmental impact would be significant.

3.4.21. A comprehensive study was carried out to define the Coastal Zone for the eastern Vale from Aberthaw to the Taff Barrage combining character and “feel” of the area with topographical, ecological and visual information. An initial area within approximately 1km from High Water Mark was studied, with landform, land use, development and nature conservation features of the area identified with the aim of determining a Coastal Zone boundary. Where reasonable this has been chosen to follow definable boundaries that are apparent on the ground. For the purposes of this Policy, the Undeveloped Coastal Zone is defined as areas within the Coastal Zone boundary lying outside the settlement boundaries of the main towns and villages, identified in Policy HOUS 2, which have not been developed for employment use or allocated in the Plan for development purposes. Employment Use is defined as those uses which fall within classes B1 Business, B2 General Industrial and B8 Storage and Distribution of the Town and Country Planning (Use Classes) Order 1987 (as amended).

3.4.22. Much of the eastern part of the Vale of Glamorgan coastline is developed. The settlements of Barry, Penarth and Sully and the electricity generating installation at

Aberthaw feature prominently along the coastline. The Council recognises that the operational requirements of some developments clearly necessitates a coastal location. Though outside the defined settlement boundary for Barry, the port estate is clearly a developed area and its continued use and development as a commercial/industrial estate and for the expansion of operational port facilities by Associated British Ports, is endorsed. The continued use of the Aberthaw Power Station site for electricity generation is recognised, particularly in view of the existing connection to the National Grid system and access to water for cooling purposes. The presence of these developments along the East Vale Coast give increased importance to those areas of undeveloped coastline. The Council will, through Policy ENV 6, safeguard the East Vale Coast from inappropriate development.

3.4.23. The Plan will seek to ensure that development which requires a coastal location is located in areas that are presently developed, in order to ensure that the natural character and landscape of the undeveloped coastline is protected. Within the undeveloped coastline, development proposal for which a coastal location is not necessary will be strongly resisted. In particular, the Severn Estuary Special Area of Conservation (which includes the coast between Penarth and Lavernock Point) will be protected in accordance with Policy ENV 13

APPENDIX B:
EXTRACTS FROM SHORELINE MANAGEMENT PLAN

APPENDIX B1: EXTRACTS FROM SWANSEA BAY SMP March 2001

Swansea Bay Coastal Engineering Group

SHORELINE MANAGEMENT PLAN - Plan Document (8b)

| | | | | |
|--|---|--|--|--|
| COASTAL PROCESS UNIT | : | CPU 5 - Ogmore to Nash Point | | |
| SHORELINE COMPOSITION | : | Rock cliffed shoreline with main exception at Dunraven Bay - Potential impact from marine aggregate extraction are not proven and are therefore not considered | | |
| COASTAL MANAGERS | : | Vale of Glamorgan Council | | |
| | DO-NOTHING | HOLD THE EXISTING LINE | ADVANCE THE EXISTING LINE | RETREAT |
| EFFECTS ON COASTAL PROCESSES | On-going erosion of cliffs and release of sediments into drift | Limited effects provided line is held only in areas where major assets are threatened - excludes coast path and therefore general cliff protection | Loss of sediment drift and increase in wave energy impacting on advanced line. | Release of additional sediment into drift |
| EFFECTS ON NATURAL ENVIRONMENT | Little anticipated change | Minor disruption provided scope is limited - that is excludes general protection of cliff | Major disruption to coastal habitats and landscape if applied unit wide | No significant change |
| EFFECTS ON HUMAN & BUILT ENVIRONMENT | Loss of specific assets such as access to Dunraven Bay, coast path and other beach access points | Minimal if above comments apply | Increased opportunities for leisure and tourism | Loss of coastal assets including car parks, roads and coast path - potential to set-back coast path. |
| EFFECTS ON DEVELOPMENT & LAND USE | Loss of foreshore access and coast path would modify current land use along coastal fringe. Visitor number to Dunraven bay would dramatically reduce if no vehicular access was available. significant coastal development is unlikely. | Maintains hinterland for agriculture. Major hinterland development is unlikely | Increased development potential | Minimal affects provided an alternative hinterland road access to Dunraven Bay is established. |
| IMPLICATIONS FOR COASTAL DEFENCES | Eventual deterioration/modification (modification applies to natural storm beaches) leading to failure. | On-going maintenance and new defences required | New, robust defences required | Minimal, unless a limit to the extent of the recession was determined. |
| EFFECTS ON ADJACENT CPU'S | No significant change | Insignificant change unless cliff protection was considered | Significant alteration in drift regime if policy is applied unit wide. | Potential for modest additional sediment |
| EFFECTS OF SEA LEVEL RISE & INCREASED STORMINESS | Increase in rate of cliff line recession (sediment yield) and accelerated loss of assets. | Earlier modification and renewal of defences as necessary | Increased exposure of new defences | Increase rate of recession and strengthen set-back defences as necessary |
| PRELIMINARY QUALITATIVE ECONOMIC ASSESSMENT | Viable provided the loss of the coast path is accepted | Viable if general cliff line is excluded. Non-viable if "blanket" application of policy is considered | Non-viable | Generally viable and acceptable along cliffed shoreline assuming coast path set-back |
| SUSTAINABILITY | | Targeted hold line - Likely | Unlikely | Generally likely |



| COASTAL PROCESS UNIT : CPU 6 - Nash Point to Barry SHORELINE COMPOSITION : Mostly Cliffed, isolated valleys onto foreshore and beaches, Aberthaw power station COASTAL MANAGERS : Vale of Glamorgan Council | | | | |
|---|--|---|--|---|
| | DO-NOTHING | HOLD THE EXISTING LINE | ADVANCE THE EXISTING LINE | RETREAT |
| EFFECTS ON COASTAL PROCESSES | Little change with on-going release of sediment from cliffs and easterly drift along upper foreshore | Minor alteration if applied to protected and low lying areas only. That is - cliff line is not held | Modest loss of sediment supply with potential significant interruption to drift flow along upper foreshore. Advancing general cliff not considered | Release of additional sediment into drift supply |
| EFFECTS ON NATURAL ENVIRONMENT | Little anticipated change to current trend of on-going erosion of natural cliffs | Significant disruption to habitats and landscape if applied unit-wide. | Significant disruption and loss of habitats and landscape is applied unit-wide. | No significant affects with exception of few specific locations |
| EFFECTS ON HUMAN & BUILT ENVIRONMENT | Loss of hinterland low lying areas and loss of coastal assets. | Minimal in short to medium term with specific exception (s) | Increase protection for existing coastal assets | Loss of existing coastal assets including footpaths, Power station and other buildings / car parks etc. |
| EFFECTS ON DEVELOPMENT & LAND USE | Limit development potential and may eventually restrict foreshore access. | Potential for undeveloped hinterland to be developed. | Increase in land available for development. | loss of development potential |
| IMPLICATIONS FOR COASTAL DEFENCES | Increased exposure and eventual failure | On-going maintenance and renewal of defences as necessary. Major implications if applied unit wide | New and more robust defences required. Major implications if policy is applied to whole unit | None, unless a limit is determined for the extent of set-back |
| EFFECTS ON ADJACENT CPU'S | No significant change | Significant modification to longshore sediment drift supply if applied to whole unit. | Significant changes to littoral drift if applied to whole unit. Potential short to medium term drift disruption from construction of isolated reclamation areas. | Potential increase in sediment supply. |
| EFFECTS OF SEA LEVEL RISE & INCREASED STORMINESS | Increase in cliff line recession, accelerated loss of assets | Accelerate affects | Need to further increase design specification for new defences or strengthen existing. | Accelerated retreat and increase in sediment release into supply |
| PRELIMINARY QUALITATIVE ECONOMIC ASSESSMENT | Non-viable unit wide. Generally viable and likely along natural cliffed coastline | Non-viable along whole unit. Generally viable at locations with significant assets | Non-viable | Generally viable along cliffed shoreline and also potentially viable at some specific sites |
| SUSTAINABILITY | | Likely at specific locations subject to conformation by monitoring | Unlikely | Likely subject to confirmation by monitoring |

| COASTAL PROCESS UNIT : CPU 7 - Barry to Lavernock Point SHORELINE COMPOSITION : Barry beaches / tourism areas, harbour and industry, Sully and natural cliffed coastline COASTAL MANAGERS : Vale of Glamorgan Council | | | | |
|---|---|--|--|--|
| | DO-NOTHING | HOLD THE EXISTING LINE | ADVANCE THE EXISTING LINE | RETREAT |
| EFFECTS ON COASTAL PROCESSES | On-going erosion will release more sediment into drift | Significant affects if applied unit wide. Minimal if extent of hold line policy is limited to high value assets | Significant changes in drift and wave exposure | Additional sediment in littoral drift supply |
| EFFECTS ON NATURAL ENVIRONMENT | No significant change anticipated | Significant disruption to of habitats and landscape if policy applied to whole unit. Minimal affect if policy is targeted to high value assets | Significant impact on intertidal habitats and landscape if applied to whole unit. Less significant and localised affect for moderate reclamation at specific sites | Not significant in short to medium term |
| EFFECTS ON HUMAN & BUILT ENVIRONMENT | Progressive loss of coastal assets including coast paths and eventually housing, roads and other assets | Provide protection to existing assets under threat | Secure existing assets under threat | Progressive loss of existing coastal assets |
| EFFECTS ON DEVELOPMENT & LAND USE | Limit development potential along coastal strip | Increase potential for development along coastal fringe | Increase area with development potential including housing, leisure and tourism | Sterilise undeveloped coastal area |
| IMPLICATIONS FOR COASTAL DEFENCES | Increase exposure and failure | Maintain, upgrade and provide new defences as required | Major new defences required is applied to whole unit. Localised advance would also require robust protection | Limited dependant on permitted extent of set-back/retreat |
| EFFECTS ON ADJACENT CPU'S | No significant change | Changes in littoral regime are likely to affect sediment supply around Lavernock point | Alteration to littoral drift regime | Modest increase in littoral drift supply |
| EFFECTS OF SEA LEVEL RISE & INCREASED STORMINESS | Accelerate affects | Increased exposure at defences and early upgrades required | Accelerate affects and increase wave impacts | Accelerate affects |
| PRELIMINARY QUALITATIVE ECONOMIC ASSESSMENT | Non-viable unit wide | Selectively viable | Non-Viable | Generally viable along cliffed shoreline (Coast path set-back) |
| SUSTAINABILITY | | Likely at specific frontages subject to monitoring | Unlikely | Monitoring to determine |



| COASTAL PROCESS UNIT : CPU 8 - Lavernock Point to Penarth Head SHORELINE COMPOSITION : COASTAL MANAGERS : | | | | |
|---|---|--|--|---|
| | DO-NOTHING | HOLD THE EXISTING LINE | ADVANCE THE EXISTING LINE | RETREAT |
| EFFECTS ON COASTAL PROCESSES | On-going erosion will feed sediment into littoral drift supply | Not significant if applied only to currently protected areas. Significant impacts if applied unit wide | Significant changes to littoral drift regime if applied to whole unit. Potential impacts depending on form for specific/localised reclamation. | Increase littoral drift supply with little anticipated benefit known at present |
| EFFECTS ON NATURAL ENVIRONMENT | No significant affects | Significant disruption to intertidal habitats and landscape if applied to whole unit. Minimal impact if applied currently protected areas. | Significant impact on intertidal habitats and landscape if applied to whole unit. | Not significant in short to medium term |
| EFFECTS ON HUMAN & BUILT ENVIRONMENT | Loss of coastal assets including promenade, coast path, properties, roads and commercial premises | Provide protection to existing assets under threat | Secure existing coastal assets | Loss of significant assets including Penarth promenade etc and eventually adjacent cliff top housing. |
| EFFECTS ON DEVELOPMENT & LAND USE | Limit development potential along coastal strip | Increase development potential if applied to whole unit | Allows potential for further development | Eliminate development potential and increase pressure on hinterland |
| IMPLICATIONS FOR COASTAL DEFENCES | Increased exposure leading to failure | Maintain, upgrade and re-new as necessary. Significant implication if policy applied to whole unit | Major new works required | No defence required if retreat allowed to develop naturally |
| EFFECTS ON ADJACENT CPU'S | No significant affects | Not significant if restricted to maintenance of protecting coastline only | Likely impact to north | No significant impacts in short to medium term |
| EFFECTS OF SEA LEVEL RISE & INCREASED STORMINESS | Accelerate affects | Increased exposure of defences and early upgrade/renewal as necessary | Increase in wave impacts on new defences. Possible early modification/enhancement. | Accelerate recession |
| PRELIMINARY QUALITATIVE ECONOMIC ASSESSMENT | Non-Viable along coastline with significant assets | Viable along protected coastline | Generally non-viable with possible site specific exceptions | Non-viable |
| SUSTAINABILITY | | Likely subject to confirmation by monitoring | Monitoring to determine | Unlikely. Monitoring to determine policy for presently unprotected cliffed areas |



| 4.2 MANAGEMENT UNIT SUMMARY | | | |
|-----------------------------|---|--|---|
| CPU / MU No | UNIT LOCATION / LIMITS | COAST EDGE / SHORE TYPE | LAND USE / ASSETS |
| MU 4/6 | Porthcawl Point to Rhydydd Point (to Newton Bay Slipway) | Breakwater, masonry seawalls, Rock Shore, Revetments, harbour and miscellaneous other minor structures. Wide sandy intertidal zone punctuated with Porthcawl, Rhydydd and Newton Points. | Leisure and fishing harbour (RNLI station), tourist beaches, caravan parks and amusement park. Assets include the breakwater, harbour, roadways, funfair, caravan park etc. Sun / sea bathing, surfing, boating & lifeguards. |
| MU 4/7 | Merthyr Mawr (Traeth yr Afon) including River Ogmore | Mixture of rocky and sandy intertidal zone with dune or shingle bank coast edge. River Ogmore discharges to east of unit. | Boating, tourism, environmental interest throughout Merthyr Mawr Warren including SSSI and cSAC. Local archaeological interest. Sun / sea bathing. |
| COASTAL PROCESS UNIT 5 | | | |
| MU 5/1 | River Ogmore (East side) to Dunraven Bay (west side) | Low level rock shore with several minor bays formed between hard points to west of unit with high nr vertical rock cliffs to east into Dunraven bay. | Tourism at Ogmore-by-Sea, car park life guard station and hinterland residential areas in west. SSSI & Heritage Coast |
| MU 5/2 | Dunraven Bay to Trwyn y Witon | Rock cliffs dipping in centre to valley (Seamouth) where a cobble storm beach is present. Sandy intertidal zone. | Tourism, environmental and archaeological interest. Cliff top access drop steeply into car park area behind cobble storm beach. Surfing, bathing, walking (coast path) etc. SSSI & Heritage Coast (HQ). |
| MU 5/3 | Trwyn y Witon to Nash Point | Rock cliffed shore with a mixture of outcropping rock and sandy foreshore. | Coast Path, SSSI's and Heritage coast. Hinterland given to agriculture. Several small valleys allowing access to foreshore (some residential properties) |
| COASTAL PROCESS UNIT 6 | | | |
| MU 6/1 | Nash Point to Cwm Col Huw (including Atlantic Collage) | Rock cliffed coast and rock shore with defended sections at Atlantic Collage (St Donat's) and Nash lighthouse.. | Nash Point lighthouse, Atlantic Collage, Tresillian bay (small valley), coast path. Significant archaeological interest at Atlantic Collage. RNLI station. Hinterland is generally agricultural. SSSI & Heritage Coast. Local marine based activities from collage. |
| MU 6/2 | Cwm Col Huw | Armour stone revetment, seawall and shingle bank with central river outlet. Rock/sand shore | Surf lifesavers building, café and car park. Tourism interest and on route of coast path. Sun / sea bathing & surfing. |
| MU 6/3 | Cwm Col Huw to Limpert Bay | Rock cliff and outcropping rock shore. | Mainly agricultural use with coast path and important landscape interest (Heritage Coast). Sea bathing at Limpert Bay. |
| MU 6/4 | Limpert Bay to Leys Beach (East side including Power Station) | Sea Wall protecting power station with groyne field. | Aberthaw (coal fired) Power Station. Calisson offshore for sea water intake / outflow. |
| MU 6/5 | Fontygary to Bullof Rocks (including Rhose Point development) | Rock Cliffs and rock shore | Coast Path and Rhose Point development. Agricultural, caravan site and country park including SSSI. Sun / sea bathing at Fontygary. |
| MU 6/6 | Bullof Rock to Cold Knap Point - Cold Knap | Rock shore with shingle beach leading to cold knap point. | Tourism, residential, and archaeological interests. Sun / sea bathing. |

4.2 MANAGEMENT UNIT SUMMARY

| CPU / MU No | UNIT LOCATION / LIMITS | COAST EDGE / SHORE TYPE | LAND USE / ASSETS |
|------------------------|--|---|--|
| MU 6/7 | Cold Knap Point to Friars Point - Barry Harbour | Rock shore with revetments, a sea wall and breakwater. Sand and silt in old harbour. | Breakwater as landing stage for paddle steamer, residential properties and access road to Barry Island. Archaeological Interest and SSSI at Friars Point. |
| COASTAL PROCESS UNIT 7 | | | |
| MU 7/1 | Friars Point to Neil's Point - Whitmore | Rock headlands with sandy embayment backed by Seawall. | Fun Fair and development at former holiday camp. Residential properties above Jackson's bay and coast path around Neil's Point. Tourist beaches, archaeological Interest and SSSI's. |
| MU 7/2 | Neil's Point to Barry Docks - Jackson's Bay | Rock cliff edge fronted by sandy beach. | Tourist beach with access via coast path or steps to east. Residential area and highway above. |
| MU 7/3 | Barry Docks to West end of Sully | Breakwaters at dock entrance with general rock (some soft) shore to Sully | Industrial estate, dock development area, Sully hospital, Ty Hafon and eroding coast path |
| MU 7/4 | Sully extending east to Swanbridge | Shingle storm bank above rocky foreshore with large sand inclusion | Sully residential area with coast edge properties, caravan park, playing fields, yacht club, boating. |
| MU 7/5 | Swanbridge extending east to Ball Rock | Sea wall and revetment at Swanbridge with cliff top coast access road to Ball Rock. | Swanbridge car park, residential properties, access road and Captains Wife Pub. SSSI's and Sully Island SPA. Cliff top access road. |
| MU 7/6 | Ball Rock to Lavemock Point (Including St Mary's Well Bay) | Rock cliff shore with sandy beach and extensive rock outcrops. | SSSI, caravan parks / tourism. |
| COASTAL PROCESS UNIT 8 | | | |
| MU 8/1 | Lavemock Point to Penarth Head - Sub Cell 8a | Rock cliff shore with defended area through part of Penarth. Sea walls, revetment and stone shingle beach - See Sub Cell 8a | Residential properties, promenade, tourism, Penarth Pier, RNLI Station, Yacht Club and other local businesses - See Sub Cell 8a |

TABLE 6.1 PREFERRED POLICY SUMMARY

| No. | M.U. EXTENTS | GRID CO-ORD. | | APPROX. LENGTH (Km) | COAST PROTECTION AUTHORITY | COASTAL MANAGERS | SHORT TERM POLICY | ANTICIPATED LONG TERM POLICY | ANNUAL MONITORING | PROPOSED STUDIES |
|-----|---|---------------|---------------|---------------------|----------------------------|------------------|--|---|---|---|
| | | START (E/N) | FINISH (E/N) | | | | | | | |
| 4/4 | Sker Point to Hutchens Point (Rest Bay) | 278600/176900 | 280700/177000 | 3.5 | BCBC | BCBC & Private | Selective Hold Line (do nothing along limestone cliff area to south) - further consultation | Selective hold line with retreat | M1, M2, M3, M4, M7, M8, M11, M15, M16 | S1, S2, S5, S6, S7, S9, S10, S11, L3 |
| 4/5 | Hutchens Point to Porthcawl Point (Porthcawl) | 280700/177000 | 281600/176300 | 1.4 | BCBC | BCBC | Hold Line | Hold Line | M1, M2, M3, M4, M7, M8, M11, M15, M16 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L3 |
| 4/6 | Porthcawl Point to Newton (slipway) (Harbour, Sandy & Trecco Bay) | 282000/176300 | 283700/176900 | 1.4 | BCBC | BCBC | Hold or possibly advance subject to development proposals. | Hold or advance. | M1, M2, M3, M4, M7, M8, M10, M11, M12, M13, M15, M16, M17 | S1, S2, S5, S6, S7, S9, S10, S11, L3 |
| 4/7 | Newton to Ogmere River (Merthyr Mawr) | 283700/176900 | 286100/175600 | 3.2 | BCBC | BCBC | Do Nothing, monitor | Retreat | M1, M2, M3, M4, M7, M12, M15, M16 | S1, S2, S5, S6, S7, S9, S10, S11, L1 |
| 5/1 | Ogmere River to Dunraven Bay (West side) (Ogmere-by-Sea) | 286100/175700 | 288200/173300 | 3.3 | VOGC | VOGC | Do Nothing/Monitor for long term set back | Set Back | M1, M2, M3, M4, M5, M7, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2 |
| 5/2 | Dunraven Bay (West) to Trwyn y Wnch (Dunraven Bay) | 288100/173300 | 288500/172600 | 0.8 | VOGC | VOGC | (managed by maintenance of cobble beach until this becomes uneconomic, re-route access road) | Retreat | M1, M2, M3, M4, M6, M7, M8, M11, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3 |
| 5/3 | Trwyn y Wnch to Nash Point (Nash Point West) | 288500/172600 | 291600/168100 | 2.2 | VOGC | VOGC | Do nothing/Set-back coast path | Do nothing/Set-back coast path | M1, M2, M3, M4, M6, M7, M8, M11, M13, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, S12, L2 |
| 6/1 | Nash Point to Cwm Col Huw (Nash Point East) | 291600/168100 | 295600/167500 | 3.0 | VOGC | VOGC | Set back (land acquisition), monitor built areas Atlantic Collage and Tressilian | As short term with possible set back throughout | M1, M2, M3, M4, M6, M7, M8, M11, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, S12, L2, L3 |

TABLE 6.1 PREFERRED POLICY SUMMARY

| No. | M.U. EXTENTS | GRID CO-ORD. | | APPROX. LENGTH (Km) | COAST PROTECTION AUTHORITY | COASTAL MANAGERS | SHORT TERM POLICY | ANTICIPATED LONG TERM POLICY | ANNUAL MONITORING | PROPOSED STUDIES |
|-----|---|---------------|---------------|---------------------|----------------------------|------------------|--|---|--|--|
| | | START (E/N) | FINISH (E/N) | | | | | | | |
| 6/2 | Llantwit Major (Cwm Col Huw) | 295600/167500 | | 0.2 | VOGC | VOGC | Hold or advance in west and managed retreat in east. Establish new access across valley floor to built assets and provide formal parking behind life savers building (Ref Study) | Allow east to retreat and eventually shoreline assets will need to be abandoned as cliff recession progresses | M1, M2, M3, M4, M6, M7, M15, M16 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3 |
| 6/3 | Cwm Col Huw to Limpert Bay (St. Athan) | 295600/167500 | 300850/166300 | 5.1 | VOGC | VOGC | Monitor for pinch points and localised set back guided by public safety | Retreat | M1, M2, M6, M7, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2 |
| 6/4 | Limpert Bay to Leys Beach (Aberthaw) | 300850/166300 | 304000/166000 | 3.2 | VOGC | VOGC | Hold line | Hold line unless power station closes | M1, M2, M3, M4, M6, M7, M8, M10, M11, M13, M15, M16, M17 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3, L8 |
| 6/5 | Fontygary to Bulcliff Rocks (Rhoose) | 304000/166000 | 309200/166700 | 5.5 | VOGC | VOGC | Hold line along railway frontage, retreat along remainder - policy at Rhoose point to determined following further investigation | Hold along railway - retreat along remainder. | M1, M2, M3, M4, M6, M7, M8, M11, M15, M16 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3, L9 |
| 6/6 | Bulcliff Rock to Cold Knap Point (The Knap) | 309200/166700 | 310400/166000 | 1.4 | VOGC | VOGC | Review feasibility of hold line | Hold or Retreat | M1, M2, M3, M4, M6, M7, M8, M9, M11, M15, M16, M17 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3 |
| 6/7 | Cold Knap Point to Fris Point (Barry Harbour) | 310400/166000 | 311100/165900 | 2.4 | VOGC | VOGC | Hold Line along built sections - excluding headlands (review erosion along soft rock shore on west side of MU - potential do nothing policy) | Hold Line | M1, M2, M3, M4, M6, M7, M15, M16 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3 |

TABLE 6.1 PREFERRED POLICY SUMMARY

| No. | M.U. EXTENTS | GRID CO-ORD. | | APPROX. LENGTH (Km) | COAST PROTECTION AUTHORITY | COASTAL MANAGERS | SHORT TERM POLICY | ANTICIPATED LONG TERM POLICY | ANNUAL MONITORING | PROPOSED STUDIES |
|-----|---|---------------|---------------|---------------------------|----------------------------------|---------------------|--|--------------------------------------|--|---|
| | | START (E/N) | FINISH (E/N) | | | | | | | |
| 7/1 | Frars Point to Nell's Point (Whitmore Bay) | 311100/165900 | 312000/166100 | 1.4 | VOGC | VOGC | Hold line/prepare local strategy to determine policy (excluding SSSI cliff coast) | Hold or possibly retreat | M1, M2, M3, M4, M6, M7, M8, M11, M15, M16 | S1, S2, S5, S6, S7, S9, S10, S11, L2, L3, L10 |
| 7/2 | Nell's Point to Bendrick Rock (Jackson's Bay & Barry Docks) | 312600/166100 | 313200/166800 | | VOGC | VOGC | As existing - Local study required to determine long term future (form) of port, condition of breakwaters, management strategy & funding | Hold line or possibly retreat | M1, M2, M3, M4, M6, M7, M8, M11, M12, M13, M15, M16 | S1, S2, S5, S6, S7, S9, S10, S11, L2, L3, L10 |
| 7/3 | Bendrick Rock to East Side of Sully (Sully Bay West) | 313200/166800 | 315200/167900 | 2.7 | VOGC | VOGC | Monitor and examine opportunities for set-back - Coast Path | Set-back | M1, M2, M3, M4, M6, M7, M8, M11, M15, M17 | S1, S2, S5, S6, S7, S9, S10, S11, L2, L3 |
| 7/4 | West Side Sully to Swanbridge West (causeway) (Sully Bay East) | 315200/167900 | 316500/167500 | 1.7 | VOGC | VOGC | Assess Vulnerability and economics for medium term hold the line - Set up monitoring package | Retreat | M1, M2, M3, M4, M6, M7, M8, M11, M15 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2, L3 |
| 7/5 | Swanbridge East to (incl. Sully Island) to Ball Rock (Swanbridge) | 316500/167500 | 317500/167500 | 1.0 | VOGC | VOGC | Hold or Advance along present defended section with retreat along cliff coast (Ex Sully Island) | Hold or advance (Ex Sully Island) | M1, M2, M3, M4, M6, M7, M8, M11, M15, M16 | S1, S2, S5, S6, S7, S8, S9, S10, S11, L2 |
| 7/6 | Ball Rock to Lavernock Point (St. Mary's Well Bay) | 317500/167500 | 318600/168100 | 1.6 | VOGC | VOGC | Do Nothing/Retreat Assess | Retreat | M1, M2, M3, M4, M6, M7, M8, M11, M13, M15 | S1, S2, S5, S6, S7, S9, S10, S11, L2 |

APPENDIX B2: EXTRACTS FROM SEVERN ESTUARY SMP NTS DECEMBER 2000

PROCESS UNIT 1 PENARTH

General Description

The Penarth process unit extends 4.6km from Lavernock Point in the south to the southern end of the Cardiff Bay Barrage in the north. The southern boundary marks the southern limit of the Severn Estuary SMP (on the Welsh side). The northern boundary at Penarth Head marks a transition from the cliff coastline at Penarth Head to Cardiff Bay and the Barrage (PU2).

The majority of the east facing unit has a soft cliff coastline of Triassic mudstone, with the exception of the low-lying frontage at Penarth esplanade. There are extensive areas of intertidal rock exposures fronting Ranny Bay and Penarth Head. The foreshore includes a wave-cut rock platform, which is partially covered by shingle in the vicinity of Penarth Pier. There is evidence of slow cliff line retreat and erosion of the shingle beach. The process unit is subject to international and national statutory conservation designations and is within the Severn Estuary possible Special Area of Conservation.

Land use is largely residential, commercial and recreational from Penarth Head to the southern end of Cosmeston. The Penarth frontage is mostly defended, whilst the cliffs by Cosmeston are largely undefended. The coastline south of Cosmeston is mostly undeveloped and undefended. Cardiff Grounds spoil site is located offshore two miles east of Penarth Head.

The unit is not designated a flood risk area; however the low-lying frontage of Penarth is prone to flooding due to waves overtopping the defences in storm conditions. Risks from coastal erosion and cliff instability are currently thought to be low because cliff erosion rates are low and in undefended areas the cliff top is largely undeveloped.

| Unit | Location | Description | Existing | Shorter term | Longer term |
|--------|--|---|---------------|--|--|
| MU 1/1 | Lavernock Point to Cliff Road, Penarth | This unit has a high cliff coast with recreational and residential areas to the north and agriculture and countryside to the south. There are important geological and nature conservation interests. | Do Nothing | Do Nothing (provisional option) | Do Nothing (provisional option) |
| MU 1/2 | Penarth: Cliff Road to The Kymin | This unit has a low-lying shore with a wave cut platform. Land use is primarily residential, with nature conservation at the southern end. | Hold the Line | Hold the Line | Hold the Line |
| MU 1/3 | Penarth Head | This unit has a Jurassic and Triassic rock cliff coast with intertidal rock exposures in front. The land use is residential with nature conservation interest at the shoreline. | Hold the Line | Hold the Line or Retreat the Line (by control of cliff erosion) | Hold the Line or Retreat the Line (by control of cliff erosion) |

**APPENDIX D:
EXTRACT FROM LANDSCAPES WORKING
FOR THE VALE OF GLAMORGAN**

3.7 Conserving the Coast

*The main proposals for this theme are that a coastal management plan for the **whole** coast is needed, a continuous coastal path along the length of the coastline is desirable, the Heritage Coast needs continued properly resourced conservation and the East Vale coast needs major enhancement and protection from further development.*

The coast is the most dramatic expression of natural processes in the Vale. Perhaps because of this the undeveloped Heritage Coast is the most highly valued landscape in the area. The developed coast east of Aberthaw Power Station [East Vale Coast] is degraded and is perceived to be of considerably lower value. However, **both** have important geological and ecological features [12 SSSI's], great archaeological interest and both benefit from superb views across the Bristol Channel/Severn Estuary. There needs to be an integrated approach to both which conserves the west and enhances the eastern coastal strips. The specific proposals for each coastal area are discussed in some detail in the area strategies sections 4.3 [Eastern Coastal Fringe] and 4.4 [Heritage Coast] and related Figures 8 and 9.

The following recommendations are made:

- ➡ [3.7.1] Produce a Coastal Management Plan for the whole coast with clear objectives and programmes. This should be derived from a cross-disciplinary, holistic approach focussing on conservation, improvements and access.
- ➡ [3.7.2] Resource Glamorgan Heritage Coast to enable it to carry out its remit adequately and consider extending some management functions to the whole coast.
- ➡ [3.7.3] Create a continuous coastal path from Penarth Head/Cardiff Bay Barrage to Ogmores by Sea. Optimise linkage from the coastal path inland particularly into settlements and up river valleys especially the Thaw.
- ➡ [3.7.4] Apply the Heritage Coast policies on conservation to the hinterland sloping towards the sea outside the boundary.
- ➡ [3.7.5] Maintain the Heritage Coast as a remote zone as far as possible with conservation considerations given more weight than recreation.
- ➡ [3.7.6] Enhance degraded Heritage Coast recreation areas including Cwm Col huw and Ogmores by Sea using appropriate management plans.
- ➡ [3.7.7] Restrict new development on the East Vale Coast to that which has an overriding need to be located on the coast. Keep this development to within the existing built up areas if at all possible.
- ➡ [3.7.8] Maintain and enhance green buffers between the settlements on the East Vale Coast between Penarth and Sully, Sully and Barry and around Rhose. These areas need positive management to strengthen the landscape infrastructure to absorb the existing development.
- ➡ [3.7.9] Enhance the prominent headlands in Barry with major landscape treatment sensitive to their wide visibility and contribution to the seascape.
- ➡ [3.7.10] Take opportunities to enhance and rationalise all existing leisure developments and caravan parks along the coast to integrate them with the landscape and allow coastal access.

See Sections 2.2, 2.3, 2.4

See Volume 4 Technical Annex Section 4.0 and 5.0



The Heritage Coast

See Volume 2 Design Guidelines DG2, 3, 4

See Volume 2 Design Guidelines DG3

See recommendation 3.12.2

See Section 6.0 Landscape Character Area 2

See Volume 2 Design Guidelines DG3

See Volume 2 Design Guidelines DG3

See Volume 2 Design Guideline DG2

See Volume 2 Design Guidelines DG4

APPENDIX E

LANDMAP Coastal Areas Value analysis

Vale Coast west of the River Thaw

| Aspect Area | Aspect Area Name | Value | Comments |
|-----------------------|---|-------|-----------------------------|
| No* | | | |
| Geological Landscapes | | | |
| 863 | Llantwit To St Athan | h | |
| 747 | Ogmore St Brides | o | |
| 221 | Ogmore Nash Breaksea | o | |
| Visual And Sensory | | | |
| 663 | Ogmore And Old Castle Downs | o | |
| 890 | Heritage Coast Hinterland | o | |
| 950 | Heritage Coast Coastal Strip | o | |
| 998 | Aberthaw Power Station | l | |
| 569 | Lower Thaw Valley | l | |
| Landscape Habitats | | | |
| 659 | Old Castle Down | o | |
| 582 | Ogmore-Llantwit Arable belt | m | |
| 523 | Coastal Grasslands and Cwms | o | |
| 325 | Heritage Coast | o | Coastal and marine habitats |
| 897 | Boverton | m | |
| 839 | Aberthaw | m | |
| 938 | The Leys | l | |
| Historical Landscapes | | | |
| 1 | Vale Of Glamorgan Coast Littoral | n/a | |
| 36 | St Donats, Monknash And St Brides Major Rural | n/a | |
| 37 | St Donats Castle | n/a | |
| 58 | Dunraven Park | n/a | |
| 34 | Ogmore Down | n/a | |
| 35 | Ogmore By Sea | n/a | |
| 28 | Aberthaw Industrial | n/a | |
| Cultural Landscapes | | | |
| 2 | Heritage Coast | h | |
| 5 | St Donats | o | |
| 6 | Llantwit Major | h | |
| 4 | RAF St Athan | o | |
| 7 | Ewenny Quarry | h | |

Vale Coast East Of The River Thaw

| <i>Aspect</i> | <i>Aspect Area Name</i> | |
|-----------------------|----------------------------|---|
| <i>Area</i> | | |
| <i>No*</i> | | |
| Geological Landscapes | | |
| 514 | Thaw/Waycock | m |
| 962 | Barry To Rhoose | h |
| 238 | Penarth | m |
| 955 | Sully | m |
| 449 | Rhoose Point To Porthkerry | h |
| 642 | Sully Lavernock Penarth | o |
| 447 | Barry Island | o |

Landscape Habitats

| | | | |
|-----|-------------------------------------|---|---|
| 845 | Aberthaw saltmarsh | o | Coastal and marine habitats - continues east to the Knab Includes Cardiff Wales Airport, Rhoose and environs |
| 325 | Heritage Coast | o | |
| 839 | Aberthaw | m | |
| 840 | Rhoose- Moulton | m | |
| 270 | Porthkerry | h | |
| 203 | Barry | l | |
| 105 | Whitehouse- Whitmore- Jackson's Bay | h | |
| 634 | Penarth Coastline | h | |
| 985 | Sully Island | o | |
| 376 | Swanbridge | m | |
| 814 | Penarth | l | |

Visual And Sensory

| | | |
|-----|--------------------------------------|---|
| 317 | Barry To Aberthaw Cliffs | h |
| 641 | Rhoose Hinterland | m |
| 729 | Rhoose | l |
| 219 | Barry | l |
| 152 | Penarth | m |
| 987 | Porthkerry Country Park And Environs | h |
| 884 | Barry And Sully Coastal Gap | m |
| 787 | Lavernock Hinterland | m |
| 637 | Sully Ridge | m |

Cultural Landscapes

| | | |
|----|-----------------------------------|---|
| 39 | Vale Of Glamorgan Rural Landscape | h |
| 14 | Cosmeston, Lavernock, Swanbridge | m |
| 18 | Penarth | h |
| 12 | Barry | h |
| 38 | Rhoose And Fontygary Leisure Park | h |

Historical Landscapes

| | | |
|----|-------------------------------|-----|
| 30 | Porthkerry Rural | n/a |
| 29 | Rhoose | n/a |
| 3 | Porthkerry Country Park | n/a |
| 4 | Barry | n/a |
| 7 | Sully | n/a |
| 10 | Lavernock | n/a |
| 13 | Penarth And Dinas-Powys Urban | n/a |
| 5 | Barry Docks | n/a |

*Note: the aspect area numbers are without LANDMAP prefixes for simplicity.

These are:

Geological landscapes- VLFLGL

Landscape Habitats- VLFLGLH

Visual and Sensory- VLFLGLVS

Historical Landscapes- VLFLGLHL

Cultural Landscapes- VLFLGLCL

APPENDIX F

EXTRACT FROM SEASCAPE CHARACTER FOR WALES REPORT SEASCAPE UNIT DESCRIPTIONS

Porthcawl to Nash Point

| | |
|--------------------------|---|
| Key Characteristics | <p>Imposing lias cliffs, wavecut platforms and beaches of Glamorgan Heritage coast with incised valleys.</p> <p>Extensive dunes of Merthyr Mawr rising on underlying landform flanked by flat Ogmere valley and fronted by a wide sandy beach.</p> <p>Flat coastal plain around Porthcawl with low rocky headland and sandy enclosed beaches.</p> <p>Gently undulating rural mixed farming to the edge to the east.</p> <p>Porthcawl to the west including very large caravan park at Trecco Bay.</p> <p>Bristol Channel causes slight lateral flow and the sea is opaque with suspended solids.</p> <p>Key views from coastal path, Porthcawl Point, Dunraven Bay and Park, Nash Point and Ogmere by Sea. Long open views of Bristol Channel seen against backcloth of English coast including Exmoor.</p> |
| Seascape Types | THMR, TSLD, THIU |
| Physical Characteristics | <p><i>Geology</i></p> <p>Liassic limestone lies to the east along the Vale of Glamorgan Coast and around Porthcawl Point with conglomerate east of the town. Blown sand lies at Merthyr Mawr.</p> <p><i>Coastal landform</i></p> <p>A southwest facing slightly concave coast which is partly eroding but with some deposition. The most prominent stretch of coast is to the east from Ogmere to Nash Point with high vertical and sloping cliffs to 50m AOD with incised valleys, some small and hanging. The cliffs are distinctly horizontally layered in parts. To the west lies the low rocky landform of Porthcawl Point. Between the two rocky areas are the dunes of Merthyr Mawr Warren which rise on underlying landform.</p> <p><i>Coastal landcover</i></p> <p>The Vale of Glamorgan coast is rural with pasture and arable land running to the edge. Porthcawl is an urban area with a very large caravan site at Trecco Bay. Ogmere by Sea is a coastal settlement on steeply rising slopes. Merthyr Mawr is sand dunes.</p> <p><i>Intertidal area</i></p> <p>To the east, extensive wavecut platforms display strong rectilinear and linear patterns depending on tilt of the bed and evidence of fossils. These are interspersed with large sandy beaches, coves and pebbles. The tidal range is high on the Bristol Channel - 9m approx on average. The Ogmere River brings silt and sand to the coast. The beach in front of Merthyr Mawr is large and sandy with rocks to the west. Around Porthcawl there are a series of wave cut platforms which enclose small sandy bays. The rocks to the west are covered in tarmac in an attempt to control erosion.</p> <p><i>Characteristics of sea</i></p> <p>The sea is tidal but also displays a lateral flow from the Bristol Channel. There are also suspended solids giving an opaque brown appearance to the water although this is slightly clearer than that to the east.</p> <p><i>Hinterland landform</i></p> <p>Gently undulating plateau to the east rising from the coast to a high point of around 100mAOD incised with narrow valleys. To the north land rises gently on a coastal plain then sharply in the</p> |

| | | |
|------------------------------|--|---|
| | | scarp slope to 100mAOD at Newton Down. The flat Ogmore valley lies between higher land. |
| | <i>Hinterland landcover</i> | Arable and pastoral agriculture with scattered farms and some nucleated settlements on the plateau. Bridgend lies inland generally without views of the coast. |
| | <i>Lighting</i> | Porthcawl including Trecco Bay is the largest concentration of light on the coast with Ogmore by Sea contributing. Inland Bridgend is the largest source. Lighting intensity diminishes to the east. Nash Point has a lighthouse. |
| Use | <i>Land/coast uses</i> | The coast is used for agriculture, residential, intensive leisure (Trecco Bay), informal recreation such as the coastal path and beaches. |
| | <i>Sea uses</i> | The sea is used for swimming and surfing particularly at Porthcawl but also at Ogmore, fishing and some sailing from either Penarth Haven or Swansea/Mumbles. Commercial navigation uses the Bristol Channel to and from the ports of Swansea, Avonmouth, Cardiff and Newport. |
| Visual and sensory qualities | <i>How the seascape unit is experienced</i> | Coastal path; beaches such as at Porthcawl and Ogmore; coastal and inland plateau settlements. |
| | <i>Degree of intervisibility of land and sea</i> | To the east there is significant visibility out to sea as the land gently rises away from the coast on the plateau although views of the sea close to the coast are limited by the high cliffs. To the west visibility continues on the rising hill and scarp slopes behind the narrow coastal plain and dunes. |
| | <i>Key views to sea and along the coast</i> | Coastal path has numerous open views and is a very sensitive receptor. Other key viewpoints include Porthcawl Point, Dunraven Bay and Park, Nash Point and Ogmore by Sea. All views include the English coast as a backdrop including Exmoor. |
| | <i>Key views to land</i> | Views are limited to yachts and the Swansea Cork ferry to the west. |
| | <i>Tranquillity/remoteness/wildness</i> | The coast becomes more tranquil and less settled to the east and access is generally by footpath with limited vehicular access. To the west there is limited tranquillity at Merthyr Mawr but this evaporates around Porthcawl and Trecco Bay. |
| | <i>Sense of scale</i> | Medium to large due to cliff heights to east, size of dunes and openness of coast. |
| | <i>Openness/enclosure</i> | Open |
| | <i>Diversity</i> | Diverse with three different coastal types. |
| | <i>Exposure</i> | Exposed as south west facing. |
| Key cultural associations | | Porthcawl holiday resort. |
| Forces for change | <i>Land/coast</i> | Development pressure around settlements, intense recreation pressure around Trecco Bay, less intense pressure on coastal path, coastal erosion affecting coastal path and historic features. Climate change may threaten low lying land with flooding. |
| | <i>Sea</i> | Sand and gravel extraction from Nash Bank may modify erosion patterns on coast. |
| Designations and sensitive | <i>National Park</i> | - |

features

| | |
|--|--|
| <i>AONB</i> | - |
| <i>Heritage Coast</i> | Glamorgan Heritage Coast east of Ogmore by Sea |
| <i>Long-distance coastal footpath/National Trail</i> | Vale of Glamorgan coastal path |
| <i>Outstanding and special historic landscapes</i> | Twyni Merthyr Mawr |
| <i>Historic gardens and parks</i> | Dunraven Park |
| <i>Key scheduled ancient monuments</i> | Dunraven Hillfort SS 8872 |
| <i>Country Parks</i> | - |
| <i>Open access land</i> | Tir Mynediad in the environs of and north of Ogmore by Sea |

| | | |
|--------------------------|---|---|
| Key Characteristics | <p>Imposing lias cliffs, wavecut platforms and beaches of Glamorgan Heritage coast with incised valleys.</p> <p>Gently undulating rural mixed farming to the edge.</p> <p>Major settlement to the east including Barry and major infrastructure at Aberthaw power station and airports.</p> <p>Bristol Channel/Severn Estuary causes slight lateral flow and the sea is opaque with suspended solids.</p> <p>Key views from coastal path, Barry Island, the Knap at Barry, Swanbridge, Nash Point, Porthkerry, Col Huw Point. All views include the English coast as a backdrop including Exmoor.</p> | |
| Seascape Types | THIR, TSLU | |
| Physical Characteristics | <i>Geology</i> | Jurassic liassic limestone form the majority of the coastline with Triassic conglomerate occurring around Barry and Sully. Alluvium lies in the limited valley floors. |
| | <i>Coastal landform</i> | A south facing slightly convex eroding coast. The majority of the coastline is a coastal plateau with high vertical cliffs to 50m AOD with incised valleys, some small and hanging. The cliffs are distinctly horizontally layered in parts and sometimes have overhangs. The lower coastline around Barry and Sully gently slopes back from the coast with a few minor cliffs in parts. The major valleys to reach the coast here are the River Thaw and the docks at Barry. Sully Island is joined to the coast by a wavecut platform and Barry Island is joined by a causeway. |
| | <i>Coastal landcover</i> | The majority of the coast is rural with pasture and arable land running to the edge. Barry forms the only urban area with its docks, industry and some leisure uses on Barry Island and the Knap. Sully forms a suburban edge. Aberthaw power station lies on the coast. Caravan parks are evident. |
| | <i>Intertidal area</i> | Extensive wavecut platforms display strong rectilinear and linear patterns depending on tilt of the bed and evidence of fossils. These are interspersed with large sandy beaches, coves and pebbles. The tidal range is high on the Bristol Channel/Severn Estuary- 9m approx on average. |
| | <i>Characteristics of sea</i> | The sea is tidal but also displays a lateral flow from the Severn Estuary. There are also suspended solids giving an opaque brown appearance to the water. The small rocky islands of Flatholm and Steepholm lie off the coast almost equally spaced between England and Wales in the Bristol Channel/Severn Estuary. |
| | <i>Hinterland landform</i> | Gently undulating plateau rising from the coast to a high point of around 130mAOD incised with narrow valleys and broader basins to the east. |
| | <i>Hinterland landcover</i> | Arable and pastoral agriculture with scattered farms and some nucleated settlements usually in valleys. Barry is the largest settlement and is on the coast. Cardiff Wales airport and RAF St Athan lie on plateau tops. |
| | <i>Lighting</i> | Barry, Aberthaw power station and the airports are the largest concentrations of light and the hinterland has high lighting levels to the east. There are lighthouses at Nash Point and on Flatholm. |

| | | |
|-------------------------------------|--|---|
| Use | <i>Land/coast uses</i> | The coast is used for agriculture, residential, leisure [amusements at Barry caravan parks], informal recreation- coastal path and beaches and the power station. |
| | <i>Sea uses</i> | The sea is used to a limited extent for swimming at Barry, fishing, and commercial navigation along the Bristol Channel/Severn Estuary to/from Avonmouth predominantly. There is sailing from Penarth Marina. |
| Visual and sensory qualities | <i>How the seascape unit is experienced</i> | Coastal path; beaches such as at Barry Island, The Knap, Col-Huw Point and Nash Point; settlements- parts of Barry but with docks in the foreground, Sully, St Donats College. |
| | <i>Degree of intervisibility of land and sea</i> | From land there is significant visibility out to sea as the land gently rises away from the coast on plateau although views of the sea close to the coast are limited by the high cliffs. |
| | <i>Key views to sea and along the coast</i> | Coastal path has numerous open views and is a very sensitive receptor. Other viewpoints include Barry Island, the Knap at Barry, Swanbridge, Nash Point, Porthkerry, Col Huw Point. All views include the English coast as a backdrop including Exmoor. |
| | <i>Key views to land</i> | Views limited to occasional yachts. |
| | <i>Tranquillity/remoteness/wildness</i> | The coast becomes more tranquil and less settled to the west of Aberthaw and access is limited to footpath. To east, there is settlement and vehicular access in parts. |
| | <i>Sense of scale</i> | Medium to large due to cliff height and openness of coast. |
| | <i>Openness/enclosure</i> | Open |
| | <i>Diversity</i> | Simple rural elements but diverse when combined with development. |
| | <i>Exposure</i> | Exposed |
| Key cultural associations | | Porthcawl (Trecco Bay)- holiday resort and Barry- ex holiday resort but still tourism. |
| Forces for change | <i>Land/coast</i> | Development pressure around all settlements especially with sea view, recreation pressure on coastal path, coastal erosion- affect coastal path, historic features such as forts and other uses. |
| | <i>Sea</i> | Climate change may threaten low lying land with flooding. Barrage from Lavernock Point would significantly affect character. |
| Designations and sensitive features | <i>National Park</i> | - |
| | <i>AONB</i> | - |
| | <i>Heritage Coast</i> | West of Aberthaw. |
| | <i>Long-distance coastal footpath/National Trail</i> | Vale of Glamorgan coastal path. |
| | <i>Outstanding and special historic landscapes</i> | - |
| | <i>Historic gardens and parks</i> | The Knap and St Donats |
| | <i>Key scheduled ancient monuments</i> | Summerhouse Hillfort SS 9966 The Bulwarks Hillfort ST 0866 |
| | <i>Country Parks</i> | Porthkerry |

Open access land -

| | | | | | | | | | | | | | | | |
|-------------------------------|---|----------------|--|-------------------------|--|--------------------------|--|------------------------|---|-------------------------------|---|----------------------------|---|-----------------------------|---|
| Key Characteristics | <p>Lias cliffs to the west with some wavecut platforms and shingle beaches ending abruptly at Penarth Head.</p> <p>Relatively linear reclaimed coastline to the east with grass bund sea defences with extensive sand and mud exposed at low tide.</p> <p>Incised plateau landscape to the west and extensive flat levels hinterland to the east with pastoral and arable fields to coastal edge.</p> <p>The low lying cities of Cardiff and Newport are generally set back from the coast with port, power station and commercial areas adjacent. Penarth lies in an elevated position overlooking the estuary.</p> <p>The Severn Estuary has a strong lateral flow, a very high tidal range and is opaque with suspended solids.</p> <p>Key views from Penarth including parks, Cardiff Bay barrage and the coastal path. Long open views from the south and east facing coast along the estuary and to the English coast.</p> | | | | | | | | | | | | | | |
| Seascape Types | TSLR TSLU THMU THIR | | | | | | | | | | | | | | |
| Physical Characteristics | <table border="0"> <tr> <td data-bbox="400 927 480 952"><i>Geology</i></td><td data-bbox="639 927 1431 1021">Triassic rocks with Liassic limestone to the west in the Vale of Glamorgan overlain with alluvium. River terrace deposits lie back from the coast with Old Red Sandstone further inland.</td></tr> <tr> <td data-bbox="400 1037 568 1061"><i>Coastal landform</i></td><td data-bbox="639 1037 1431 1317">To the east, a south/south west facing deposition/reclaimed coast consisting of low lying Wentlooge and Caldicot Levels with a coastal protection bund around 5m high. To the west the landform changes direction, facing east, and rises to form vertical cliffs of up to 30 m high with wave cut platforms at their base. Penarth Head is particularly prominent adjacent to the former Taff and Ely estuaries which are now separated from the sea by a barrage forming Cardiff Bay. The River Usk estuary to the east forms a relatively narrow mouth cut into the levels.</td></tr> <tr> <td data-bbox="400 1332 576 1357"><i>Coastal landcover</i></td><td data-bbox="639 1332 1431 1518">The coast is a mix of urban and rural character. Infrastructure, industry and docks associated with the major low lying settlements of Cardiff and Newport abut the coast. Penarth addresses the coast with its promenade and pier with associated housing. Otherwise the area is a mix of pastoral and arable land uses interspersed with a golf course and caravan site.</td></tr> <tr> <td data-bbox="400 1534 544 1559"><i>Intertidal area</i></td><td data-bbox="639 1534 1431 1628">Mud and sand lie adjacent to the low-lying areas to the east and a combination of wave cut platform and sand lie to the west around Penarth. The cliffs yield many fossils at Penarth Head.</td></tr> <tr> <td data-bbox="400 1644 608 1668"><i>Characteristics of sea</i></td><td data-bbox="639 1644 1431 1765">The Severn Estuary has a large tidal range and exhibits a strong lateral flow. There are also suspended solids giving an opaque brown appearance to the water. The rocky island of Flatholm lies off the coast.</td></tr> <tr> <td data-bbox="400 1780 600 1805"><i>Hinterland landform</i></td><td data-bbox="639 1780 1431 1904">The Levels including parts of Cardiff and Newport are flat, lying at around 5-8m AOD for extensive areas. The Vale of Glamorgan landform consists of scarp slope and hills dissected by valleys inland. The highpoints reach over 50m AOD in Penarth.</td></tr> <tr> <td data-bbox="400 1919 608 1944"><i>Hinterland landcover</i></td><td data-bbox="639 1919 1431 2009">The hinterland is dominated by the cities of Cardiff and Newport with the mainly pastoral levels between and the former resort settlement of Penarth bounded by further pastoral land used to</td></tr> </table> | <i>Geology</i> | Triassic rocks with Liassic limestone to the west in the Vale of Glamorgan overlain with alluvium. River terrace deposits lie back from the coast with Old Red Sandstone further inland. | <i>Coastal landform</i> | To the east, a south/south west facing deposition/reclaimed coast consisting of low lying Wentlooge and Caldicot Levels with a coastal protection bund around 5m high. To the west the landform changes direction, facing east, and rises to form vertical cliffs of up to 30 m high with wave cut platforms at their base. Penarth Head is particularly prominent adjacent to the former Taff and Ely estuaries which are now separated from the sea by a barrage forming Cardiff Bay. The River Usk estuary to the east forms a relatively narrow mouth cut into the levels. | <i>Coastal landcover</i> | The coast is a mix of urban and rural character. Infrastructure, industry and docks associated with the major low lying settlements of Cardiff and Newport abut the coast. Penarth addresses the coast with its promenade and pier with associated housing. Otherwise the area is a mix of pastoral and arable land uses interspersed with a golf course and caravan site. | <i>Intertidal area</i> | Mud and sand lie adjacent to the low-lying areas to the east and a combination of wave cut platform and sand lie to the west around Penarth. The cliffs yield many fossils at Penarth Head. | <i>Characteristics of sea</i> | The Severn Estuary has a large tidal range and exhibits a strong lateral flow. There are also suspended solids giving an opaque brown appearance to the water. The rocky island of Flatholm lies off the coast. | <i>Hinterland landform</i> | The Levels including parts of Cardiff and Newport are flat, lying at around 5-8m AOD for extensive areas. The Vale of Glamorgan landform consists of scarp slope and hills dissected by valleys inland. The highpoints reach over 50m AOD in Penarth. | <i>Hinterland landcover</i> | The hinterland is dominated by the cities of Cardiff and Newport with the mainly pastoral levels between and the former resort settlement of Penarth bounded by further pastoral land used to |
| <i>Geology</i> | Triassic rocks with Liassic limestone to the west in the Vale of Glamorgan overlain with alluvium. River terrace deposits lie back from the coast with Old Red Sandstone further inland. | | | | | | | | | | | | | | |
| <i>Coastal landform</i> | To the east, a south/south west facing deposition/reclaimed coast consisting of low lying Wentlooge and Caldicot Levels with a coastal protection bund around 5m high. To the west the landform changes direction, facing east, and rises to form vertical cliffs of up to 30 m high with wave cut platforms at their base. Penarth Head is particularly prominent adjacent to the former Taff and Ely estuaries which are now separated from the sea by a barrage forming Cardiff Bay. The River Usk estuary to the east forms a relatively narrow mouth cut into the levels. | | | | | | | | | | | | | | |
| <i>Coastal landcover</i> | The coast is a mix of urban and rural character. Infrastructure, industry and docks associated with the major low lying settlements of Cardiff and Newport abut the coast. Penarth addresses the coast with its promenade and pier with associated housing. Otherwise the area is a mix of pastoral and arable land uses interspersed with a golf course and caravan site. | | | | | | | | | | | | | | |
| <i>Intertidal area</i> | Mud and sand lie adjacent to the low-lying areas to the east and a combination of wave cut platform and sand lie to the west around Penarth. The cliffs yield many fossils at Penarth Head. | | | | | | | | | | | | | | |
| <i>Characteristics of sea</i> | The Severn Estuary has a large tidal range and exhibits a strong lateral flow. There are also suspended solids giving an opaque brown appearance to the water. The rocky island of Flatholm lies off the coast. | | | | | | | | | | | | | | |
| <i>Hinterland landform</i> | The Levels including parts of Cardiff and Newport are flat, lying at around 5-8m AOD for extensive areas. The Vale of Glamorgan landform consists of scarp slope and hills dissected by valleys inland. The highpoints reach over 50m AOD in Penarth. | | | | | | | | | | | | | | |
| <i>Hinterland landcover</i> | The hinterland is dominated by the cities of Cardiff and Newport with the mainly pastoral levels between and the former resort settlement of Penarth bounded by further pastoral land used to | | | | | | | | | | | | | | |

| | | |
|-------------------------------------|--|--|
| | | the south. |
| | <i>Lighting</i> | The cities and their industrial coastal elements are major light sources along with Penarth. This is one of the most concentrated developed areas along the Welsh coast. Flatholm has a lighthouse. |
| Use | <i>Land/coast uses</i> | The coast is used for docks in Cardiff and Newport, a power station south of Newport, commercial industrial use, residential and leisure use primarily focused on Penarth and its beach and pier and to some extent on the Cardiff Bay barrage and informal recreation on the coastal path. |
| | <i>Sea uses</i> | The sea is used for bathing to an extent at Penarth, occasional seasonal pleasure trips from the pier, fishing and sailing and pleasure boating/sailing from the marinas in Penarth Haven and Cardiff Bay. Commercial traffic uses the estuary to and from ports such as Avonmouth, Cardiff and Newport. |
| Visual and sensory qualities | <i>How the seascape unit is experienced</i> | Penarth Head, promenade and pier; some Penarth residential areas; Cardiff Bay barrage; coastal path both on the cliffs south of Penarth and along the levels to the east. |
| | <i>Degree of intervisibility of land and sea</i> | Visibility the sea is limited to a relatively narrow strip above the cliffs between Lavernock Point and Penarth and on the sea defence embankment east of Cardiff. There is also some visibility from the hills north of Cardiff. |
| | <i>Key views to sea and along the coast</i> | Penarth Head, promenade and pier, Cardiff Bay barrage, coastal path both on the cliffs south of Penarth and along the levels to the east. |
| | <i>Key views to land</i> | Views from yachts and pleasure craft. |
| | <i>Tranquillity/remoteness/wildness</i> | The most tranquil area is on the Wentlooge levels coast. The landscape and coastal edge is highly modified so it is only the character of the sea that contributes to the wildness of the area. Otherwise the area lacks tranquillity. |
| | <i>Sense of scale</i> | Medium to large due to cliff height to west and general openness and simplicity of coast. |
| | <i>Openness/enclosure</i> | Open |
| | <i>Diversity</i> | Diverse due to contrast between urban and rural, and higher and low areas. |
| | <i>Exposure</i> | Exposed |
| Key cultural associations | | Cardiff - city and capital of Wales, former coal port, now Cardiff Bay home of the Welsh Assembly. |
| Forces for change | <i>Land/coast</i> | Development pressure around all settlements. Climate change may put pressure on sea defences and threaten low lying land with flooding. |
| | <i>Sea</i> | Barrage from Lavernock Point would significantly affect character. |
| Designations and sensitive features | <i>National Park</i> | - |
| | <i>AONB</i> | - |
| | <i>Heritage Coast</i> | - |
| | <i>Long-distance coastal footpath/National</i> | - |

Trail

*Outstanding and
special historic
landscapes*

Gwent Levels

*Historic gardens and
parks*

Alexandra Park and Windsor Gardens in Penarth;

*Key scheduled
ancient monuments*

Country Parks

-

Open access land

-

