



# A future for Maritime Cornwall: **The Cornwall Maritime Strategy** 2012 - 2030

## Annex: Background Information

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## **Annex: Background Information**

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### **Draft Annex:**

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**Version 2:** Public Consultation document

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# 1 The Marine and Coastal Natural Environment and Landscape

- 1.1** Cornwall lies on a long peninsula with no inland area more than 20 miles from the sea. It has a coastline of over 400 miles with 158 miles designated as Heritage Coast<sup>1</sup>. The inherent quality and beauty of Cornwall's seas, coastal landscape and environment has consistently attracted visitors. Much of its industry (for example fishing and tourism) is reliant on the continued health of this environment and its scenic qualities (see also sections on Maritime Tourism and Recreation and Fisheries & Aquaculture).<sup>2</sup> This section focuses on the natural environment and landscape (heritage assets are discussed in the Culture and Heritage section).<sup>3</sup>
- 1.2** Cornwall's coastline is composed of an extensive range of natural features, including granite cliffs, small rocky coves and headlands, sand dunes, sandy beaches and tranquil estuaries<sup>4</sup>. The north and south coasts of Cornwall have differing landscape and biodiversity characteristics.<sup>5,6</sup> The north coast is flanked by the Atlantic Ocean, and is exposed to the prevailing south-westerly to north-westerly winds associated with low-pressure weather systems which move in from the Atlantic. As a result it has a wilder nature, with rugged sheer cliffs, steep valleys and a greater number of dunes. The south coast, on the English Channel, contains more sheltered beaches and tree-lined estuaries<sup>7</sup>. Of the twelve separate areas that make up the Cornwall Area of Outstanding Natural Beauty (AONB), eleven cover sections of the Cornish coastline (landscape and seascape), including the Fal, Helford, Fowey and Camel Estuaries<sup>8</sup>. The Tamar Valley is also an AONB in its own right. The condition of the AONBs and key pressures were identified in 2008 along with baseline indicators from which to monitor progress.<sup>9</sup>
- 1.3** The coast and seas of Cornwall host a wide range of biodiversity with habitats including estuaries, rocky shores and reefs, mudflats, dunes, cliffs, sub-tidal sand banks, maerl beds, eel grass beds and kelp forest. Many species found in Cornish waters are at the edge of their southerly or northerly range. The Cornwall Biodiversity Action Plan (BAP) aims to protect these key marine environments and specific species with action plans for corals, molluscs, fish

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<sup>1</sup> A Heritage Coast is an area of UK coast designated by Natural England. Designation aims to conserve the natural beauty of the landscape, ensure the environmental health of inshore waters, improve accessibility and support sustainable socio-economic development.

<sup>2</sup> The valuation of ecosystem goods and services is an approach being promoted by the UK Government that seeks to recognise the value of environmental goods and services. <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx> (accessed 21,5,2012)

<sup>3</sup> It is noted that the distinction between the natural and historic environment is not clear, due to embedded historic elements in the environment.

<sup>4</sup> Cornwall Council (2010). Cornwall LDF Core Strategy, Draft Topic Based Issues Paper: Coast and Maritime.

<sup>5</sup> The differing landscapes are described in detail up to the cliff edge in the Cornwall Landscape Character Assessment (2007), Cornwall Council.

<sup>6</sup> Cornwall Area of Outstanding Natural Beauty Management Plan 2011-2016, <http://www.cornwall-aonb.gov.uk/management-plan/> (accessed 12, 6,2012)

<sup>7</sup> Cornwall Council (2012). Cornwall LDF Core Strategy, Topic Based Issues Paper: Coast and Maritime. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>8</sup> Cornwall Area of Outstanding Natural Beauty. <http://www.cornwall-aonb.gov.uk/> (accessed 25,8,10).

<sup>9</sup> Cornwall, Tamar Valley and Isles of Scilly AONB Landscape Monitoring Project 2008 <http://www.cornwall-aonb.gov.uk/atlas/Landscape.html> (accessed 12,6,2012)

and their coastal habitats.<sup>10</sup> There are 87 marine BAP species (crustaceans, mammals, fish, molluscs, cnidarians, algae, etc) within the coastal waters of Cornwall and the Isles of Scilly<sup>11</sup>. Cornwall also has a rich marine wildlife, which includes basking sharks, dolphins and rare corals. The whole of the Cornish Coast has recently been identified as a priority area for action in the Cornwall Biodiversity Action Plan<sup>12</sup> and an opportunity for biodiversity maintenance and enhancement at the landscape scale in the South West Nature Map<sup>13</sup>.

- 1.4** Cornwall's valued biodiversity is recognised by European statutory designations, covering a range of coastal and maritime habitats including heaths, woodlands, bogs, estuaries, mudflats, salt marshes, coastal dunes, sand beaches, sea cliffs and islets. Eleven of these designations include a marine or coastal component, including the newly designated Lizard Point and Land's End and Cape Bank Candidate Special Areas of Conservation (cSAC) and long-standing Fal and Helford and Plymouth Sound and Estuaries SACs. Furthermore, Cornwall has 61 Sites of Special Scientific Interest on the coast, some of which also include intertidal habitats and species.
- 1.5** Cornwall's six Voluntary Marine Conservation Areas (VMCAs) [Polzeath, St Agnes, Isles of Scilly, Helford, Fowey and Looe] provide an additional focus for coastal and marine habitat protection, public awareness and engagement.
- 1.6** The 'Finding Sanctuary' partnership project<sup>14</sup> recommended potential new Marine Conservation Zones (MCZ) to form part of the UK Marine Protected Area network, the first tranche of which is due for consultation by Government in 2012. For Cornwall's inshore waters, 14 recommended MCZs and 3 recommended Reference Areas have been put forward to Government for consideration.<sup>15</sup>
- 1.7** Cornwall's marine and coastal habitats provide a range of ecosystem services of significant economic and cultural value to Cornish residents and visitors, including food production, climate regulation, fertilizer, pollution control, coastal protection, energy production and improving mental and physical health and well-being.<sup>16</sup>
- 1.8** Key pressures on the environmental (water) quality of Cornwall's estuary and coastline arise from industrial (including historic mining), agricultural and sewage pollution sources and currently only 26% of estuaries and 44% of

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<sup>10</sup> Cornwall Biodiversity Initiative (2004) Cornwall Biodiversity Action Plan, Volume 3, Action Plans 2004. <http://www.cornwallwildlifetrust.org.uk/>

<sup>11</sup> Cornwall Council for CISCAG (Cornwall and Isles of Scilly Coastal Authority Group) (2009) Cornwall and Isles of Scilly SMP2, Strategic Environmental Assessment (SEA) Scoping Report.

<sup>12</sup> Cornwall Biodiversity Initiative (CBI) (2011) Cornwall Biodiversity Action Plan Volume 4: Priority Projects

[http://www.cornwallwildlifetrust.org.uk/Resources/Cornwall%20Wildlife%20Trust/PDF%20Documents/Cornwall\\_BAP\\_Vol\\_4\\_Priority\\_Projects\\_whole\\_document.pdf](http://www.cornwallwildlifetrust.org.uk/Resources/Cornwall%20Wildlife%20Trust/PDF%20Documents/Cornwall_BAP_Vol_4_Priority_Projects_whole_document.pdf) (accessed 21,5,2012)

<sup>13</sup> South West Nature Map <http://www.biodiversitysouthwest.org.uk/nmap.html> (accessed 21,5,2012)

<sup>14</sup> Finding Sanctuary was the first of four regional projects tasked with designing Marine Conservation Zones (MCZs) around England and recommending them to Government <http://www.finding-sanctuary.org/page/home.html> (accessed, 25,8, 2010).

<sup>15</sup> Marine and Coastal Access Act, 2009, [http://www.opsi.gov.uk/acts/acts2009/pdf/ukpga\\_20090023\\_en.pdf](http://www.opsi.gov.uk/acts/acts2009/pdf/ukpga_20090023_en.pdf)

<sup>16</sup> National Ecosystems Assessment, 2011 <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx> (accessed, 3,5,2012)

coastal areas are assessed as being of good ecological quality<sup>17</sup>. Key pressures on the quality of the landscape and dependant maritime biodiversity include coastal squeeze, invasive species, pollution, fisheries, habitat loss, changes in land use, climate change and recreational pressures.

- 1.7** Management of Cornwall's coastal defences, including natural protection such as sand dunes, is addressed through a Shoreline Management Plan (SMP). The SMP has recently been reviewed to take in to account national research on the long-term evolution of the coast<sup>18</sup> and the reviewed document, SMP2 integrates the principles of Integrated Coastal Zone Management (ICZM) which are embedded in the new Marine and Coastal Access Act 2009.

### **Key trends: Marine and coastal environment and landscape**

- There are increased pressures and cumulative impacts on the coastal and marine environment and landscape (e.g. coastal squeeze, pollution, fisheries, invasive species, and water quality). Development & population pressures associated with infrastructure, housing, port activities and increased accessibility, especially through recreation/ tourism, are particularly concentrated at the coast.
- Loss and fragmentation of biodiversity (habitats and species) including from sea level rise and warming of seas due to climate change
- The Marine Protected Area network; increased understanding and an increasing focus on the strategic management of marine activities may help reduce the rate of biodiversity losses and protect landscape quality in the maritime area.

### **Key Issues**

- Continued decline in marine and coastal biodiversity, including commercially important species with adverse economic effects (e.g. on tourism, maritime industries). Continued pressures affecting the coastal landscape.
- Data and information for the marine environment is improving but significant gaps remain and the evidence base for marine environmental management needs to be improved, e.g. there is a lack of information on the effects of marine activities on the environment and the effects of newly emerging industries/activities unknown.
- Lack of information to characterise Cornwall's seascapes from which to monitor their status
- Increasing cumulative and indirect impacts and pressures on the coastscape and maritime biodiversity (including fragmentation and losses due to development;

<sup>17</sup> Environment Agency (2009) River Basin Management Plan. South West River Basin District. Main Document.

<sup>18</sup> Cornwall and Isles of Scilly Coastal Authority Group <http://www.ciscag.org/index.html> (accessed 1, 9, 2010).

disturbance; lack of management and neglect; intensification of farming and fishing practises), heightened by the effects of climate change and the increasing demand for natural resources.

- Reduced investment in maritime environmental management and habitat restoration
- Increasing awareness of environmental issues, the importance of a quality landscape and improved marine environmental legislation and policy framework.

## Opportunities

- The protection and enhancement of the coastal and marine environment and landscape is a key priority and should inform and influence all policy and strategy development within the County.
- Increased recognition and protection of marine biodiversity through Marine Protected Areas and Marine Conservation Zones.
- Increased understanding of the economic value of ecosystem goods and services<sup>19</sup> and landscape/seascape character.
- Opportunities for a more integrated management approach through the establishment of the new Inshore Fisheries and Conservation Authority or closer working links between marine protected area management and the Area of Outstanding Natural Beauty.
- Integration of coastal management processes through the Marine and Coastal Access Act 2009.
- Environmental growth through habitat creation and species recovery at a landscape scale, linking to the Shoreline Management Plan, Core Strategy and planning process, Green Infrastructure Strategy, Environmental Stewardship etc; future-proofing the maritime natural environment and landscape against the effects of climate change. Active management of coastal habitats to improve biodiversity.
- Delivering an integrated approach to management requires partnership working and will need to combine raised awareness with consideration of potential cumulative effects.
- A productive healthy environment and landscape will support diverse recreation for residents and visitors and support maritime industry, particularly tourism and fishing.

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<sup>19</sup> The National Ecosystems Assessment, 2011 <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx> and the Natural Environment White Paper <http://www.defra.gov.uk/environment/natural/whitepaper/> (accessed, 3,5,2012).

## 2 The Marine and Coastal Culture and Historic Environment

- 2.1** Cornwall has a rich marine and coastal heritage that has contributed to the strong sense of place and maritime cultural identity shared by Cornish communities<sup>20</sup>. Cornwall's extensive and indented coastline of coves, estuaries and creeks, accessible between hard and exposed headlands has been the base for maritime activity for millennia. Historically fishing, maritime trade, ship and boat building have been important industries while Cornwall's geographic position has placed it at the forefront of the nation's communications and military strategies. These activities and industries have played a key role in Cornish culture and the traditional coastal communities that developed are now the mainstay of today's Cornish tourism industry. Increasingly tourism and recreation are drawing on marine and maritime heritage assets for their inspiration and enjoyment.
- 2.2** Cornwall's historic environment is recognised internationally and includes one of England's 17 listed World Heritage Sites (WHS)<sup>21</sup>. The Cornish mining heritage comprises the most authentic and historically significant surviving components of the Cornwall and West Devon WHS mining landscape for the period 1700 to 1914. This extraordinary legacy of pioneering metal mining contributes a striking aspect of Cornwall's historic landscape and seascape<sup>22</sup>. Although most of these mining landscapes are inland, they share a common identity and several are in coastal locations, reflecting the importance of industrial maritime trade, and include the Port of Hayle, the St Just and St Agnes Mining Districts and Charlestown Harbor<sup>23</sup>.
- 2.3** There are thousands of recorded shipwrecks located off the coast of Cornwall, 13 of which are nationally important and statutorily protected<sup>24</sup>, including two WWI submarine war graves. Over 100 Scheduled Monuments, ranging from Bronze Age barrows to WWII gun batteries, and 2500 Listed Buildings, including well preserved harbours, quays and fish cellars, lighthouses and coastguard stations, dot the coastline. More than a third of the 145 Conservation Areas are coastal towns and villages, and 40% of Cornwall's Registered Parks and Gardens shelter directly along the south coast. Thousands of other sites, monuments and buildings, of local importance and maritime significance, can also be found on the coast, within estuaries and along rivers<sup>25</sup>.
- 2.4** Marine archaeology is also important and there are over 60 known inter-tidal and inshore sites of palaeo-environmental deposits. These include the remains of ancient land surfaces and submerged forests that provide evidence for the early

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<sup>20</sup> Cornwall Council (2009). Design Statement for Cornwall, 2009.

<sup>21</sup> Department for Culture Media and Sport. <http://www.culture.gov.uk/ukwhportal/>

<sup>22</sup> South West Observatory: State of the South West, 2010 <http://www.swo.org.uk/sotsw2010/>

<sup>23</sup> Cornwall Council for CISCAG (Cornwall and Isles of Scilly Coastal Advisory Group) (2009) Cornwall and Isles of Scilly SMP2, Strategic Environmental Assessment (SEA) Scoping Report.

<sup>24</sup> English Heritage, Protected Wreck Sites (<http://www.english-heritage.org.uk/professional/advice/our-planning-role/consent/protected-wreck-sites/>) and MCA receiver of Wreck (<http://www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-receiverofwreck/mcga-protectedwrecks/mcga-protectedwrecks-military.htm>)

<sup>25</sup> Information about marine heritage assets is available from the Cornwall & Scilly Historic Environment Record, Historic Environment, Cornwall Council (<http://www.cornwall.gov.uk/default.aspx?page=8528>)

prehistoric environments of Cornwall and demonstrate how climate change has contributed to sea-level rise in the past.

**2.5** Cornwall has an exceptionally rich arts heritage built on its dramatic maritime landscapes and light. The Tate at St Ives provides a contemporary backdrop for Cornish arts and is an example of how the area's historic built environment continues to be enriched with internationally and nationally significant high profile examples of good and innovative design. Other notable examples include the National Maritime Museum Cornwall. The historic environment is a valued and finite resource that creates distinctive places that attract visitors and inward investment<sup>26</sup>. Unique to Cornwall, for example, is the Minack Theatre, carved out of rock on the cliff face near Land's End.

**2.6** Many of the key challenges for managing the marine historic environment are understood<sup>27</sup> and being dealt with but there is still more to do, particularly with reduced funding for English Heritage and the Heritage Lottery Fund. The 2011 State of the Environment Report for the South West recognises that there is limited information about our marine and coastal historic environment making it difficult to assess significance, identify pressures and avert threats.

### **Key trends: The Marine and Coastal culture and historic environment**

- Climate change is predicted to increase tidal flood risk, sea level rise and coastal erosion with potential risk to coastal, maritime and marine heritage assets.
- The marine and coastal historic environment will continue to be an important part of Cornwall's cultural identity and sense of place.
- The marine and coastal culture and historic environment will continue to contribute towards tourism and inward investment.

### **Issues**

- Information about the marine historic environment is limited with particular biases in coverage and subject; the available information and evidence is largely specific and site based and therefore patchy. To redress this imbalance the Historic Environment Record (HER) for Cornwall & Scilly requires enhancement in order to better document inter-tidal and inshore archaeology, historic sites and wrecks.
- Resources are required to undertake historic environment assessments, surveys and recording exercises to better understand the significance of marine and coastal heritage assets and to encourage their appropriate management. Similarly best practice for dealing with archaeological remains recovered from the seabed during

<sup>26</sup> South West Observatory: State of the South West, 2011 <http://www.swo.org.uk/state-of-the-south-west-2011/>

<sup>27</sup> International guidance includes the *UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001)*, the *European Convention on the Protection of Archaeological Heritage (Valetta Convention) 1992* and the *European Landscape Convention (2007)* which importantly extends cultural landscapes to the marine environment. Similarly in the UK the *The National Heritage Act (2002)* and *Marine and Coastal Access Act (2009)* alongside English Heritage guidance such as *Taking to the Water (2002)* and *Climate Change and the Historic Environment (2008)* are important drivers for the better understanding and management of the marine historic environment.

aggregate dredging, fishing or diving activities need to be developed and implemented<sup>28</sup>.

- Marine and maritime heritage assets are susceptible to the impacts of climate change, for example sea-level rise and flooding, so work is required in order to identify the assets at risk, develop a pragmatic policy about their future management and take action to safeguard them.
- Maritime heritage assets are susceptible to cumulative effects of development and industry, but many assets can also be safeguarded through positive development which secures their ongoing use, maintenance and management.

## Opportunities

- Recognising the importance of the marine and maritime historic environment in marine planning and design. Recent programmes such as English Heritage's 'England's Historic Seascapes' are raising the heritage sector's profile through the development of area-based historic character assessments e.g. Historic Seascape Characterisation (HSC)<sup>29</sup>..
- Ensuring that historic environment policy is firmly embedded in marine planning policy and terrestrial planning for coastal areas.
- Encouraging further marine archaeology research and sharing of information and data with partners.
- Opportunities for the historic environment to make a contribution to the revitalisation of coastal economies and communities through heritage-led regeneration schemes, the support and encouragement of traditional skills and materials e.g. boat building, low impact and sustainable fishing methods.
- Improve the cultural offer to the Cornish population and visitors through greater coordination and promotion of Cornwall's maritime festivals and events.

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<sup>28</sup> Joint Nautical Archaeology Policy Committee (JNAPC) provides various guidance and codes for practice concerning the treatment of artefacts, finds recovered from the seabed (<http://www.jnapc.org.uk/index.htm>). See also BMAPA and EH protocols for reporting finds of archaeological interest in partnership with industry: (<http://www.wessexarch.co.uk/projects/marine/bmapa/index.html>)

<sup>29</sup> English Heritage's 'England's Historic Seascapes' programme (<http://www.english-heritage.org.uk/professional/research/landscapes-and-areas/characterisation/historic-seascape-character/>)

## 3 Maritime Economy and Regeneration

- 3.1** The population of Cornwall is dispersed. Many significant towns and villages are concentrated around the coast and estuarine areas providing a direct relationship between this maritime setting and the nature and type of economic activity. Cornwall's economic base is dominated by the public administration, education, health and retail/wholesale sectors which together account for nearly 38% of economic output in the area<sup>30</sup>. The area also has a distinctive micro business economy with almost three quarters of businesses employing four or less people, a figure that is reflected in marine businesses where 64% employ less than 10 people.
- 3.2** In this context Cornwall's maritime industries play a key role in the economic stability and potential future growth of the area. Industries with a direct and significant relationship with the sea include: ports, harbours and fishing (commercial and recreational) (see also the Maritime Transport and Fishing and Aquaculture sections); tourism and recreation; and the growing renewables/environmental technology sectors (see also the Renewable Energy section). Boat-building and ship repair are of growing importance to Cornwall's Economy. Focused in Falmouth, this industry features some of the UK's leading shipbuilding and repair companies, including A&P Falmouth and superyacht builders, Pendennis.
- 3.3** Recent analysis<sup>31</sup> has indicated that the marine sector in Cornwall directly or indirectly employs around 14,000 people, accounting for approx 1 in 7 marine jobs in the UK<sup>32</sup>. Of this figure almost 3,000 are located around Falmouth where 42% of Cornish marine businesses are located. In addition to Falmouth, other ports around the coast provide a focus for industry (e.g. Fowey Harbour) and the diverse fishing industry, which has traditionally been a mainstay of the Cornish maritime economy. Newlyn, in particular, serves as a major fishing port and ranks in the UK's top ten ports for the quantity (8.6 thousand tonnes) and value (£18 M) of fish landed<sup>33</sup>. Recreational fishing is also growing in its economic importance (see also section on Fisheries and Aquaculture).
- 3.4** Maritime tourism continues to be a key economic input to Cornwall's maritime industry base. One source suggests that over 8,000 moorings and berths around the coastline are occupied<sup>34</sup> and up to 45,000 visiting yacht nights are spent per year<sup>35</sup>. A wide range of activities that use the sea including sports such as surfing, sailing, diving, kayaking, coasteering, wind & kite surfing and water skiing also contribute to the overall revenue derived from maritime tourism in

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<sup>30</sup> Cornwall Council (2012). Cornwall LDF Core Strategy Draft Topic Based Issues Paper: Economy. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>31</sup> Ivall, S (2007) 'Cornwall's maritime industry creates 3,000 job'. Boating Cornwall. Newsquest Media Group

<sup>32</sup> British Ports Association, South West Regional Ports Association (2009). South West Ports 'Gateways for Growth. South West Regional Ports Association.

<sup>33</sup> Marine Management Organisation & National Statistics (2011) The UK Fishing Industry in 2010-Landings

<sup>34</sup> Arup (2001) Assessment of the Potential Contribution of Marinas and Watersports to Increasing Prosperity in Cornwall. Cornwall Enterprise.

<sup>35</sup> Ivall, S (2007) 'Cornwall's maritime industry creates 3,000 job'. Boating Cornwall. Newsquest Media Group

the area. Of these, surfing and sailing contribute half of the turnover to the Cornwall marine leisure industry.<sup>36</sup>

- 3.5** Regeneration focused on the marine sector in Cornwall has been enhanced by the recent confirmation that Government will invest over £5M into the Hayle marine energy business park (see also Renewable Energy) as part of a move to invest in marine energy projects in the South West following its designation as the UK's first Low Carbon Economic Area<sup>37</sup>. Additionally there are ongoing opportunities for coastal regeneration through established facilities such as the National Maritime Museum Cornwall, alongside new waterfront developments e.g. the Par Docks development and the Hayle Harbour regeneration scheme. This trend for new waterside developments combining industry and leisure outputs offers significant future opportunities.
- 3.6** The maritime area also influences and is influenced by wider industry in Cornwall, for example Cornwall's ports are essential to resource industries through facilitating the export of china clay, aggregates and timber<sup>38</sup>. Coastal agriculture and food production are also important to the local economy; in this industry there is a growing emphasis on artisanal and niche products, including Cornish branded products, especially in the dairy sector.
- 3.7** Overall it is estimated that Cornwall's marine industry sector generates around £500M to the GDP of Cornwall<sup>39</sup>, and that the development potential of the sector will be critical to the region's future and long term prosperity<sup>40</sup>. Organisations including the South West Regional Ports Association and Cornwall Marine Network work are working to support existing business and promote further economic growth.

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<sup>36</sup> Observatory of the Cornwall Marine Leisure Industry Draft in preparation 2010. Nautisme Espace Atlantique Project, Cornwall Development Company.

<sup>37</sup> Cornwall Council 'Marine renewables business park in Hayle' 2010  
<http://www.cornwall.gov.uk/default.aspx?page=24179> (accessed 09,10,2012).

<sup>38</sup> It is also noted that there is an opportunity to build upon existing mineral export facilities at the Port of Fowey to provide for the expansion of secondary aggregate exports.

<sup>39</sup> Figure supplied by Cornwall Marine Network: includes manufacturing, tourism and engineering.

<sup>40</sup> Cornwall Marine Network. <http://www.cornwallmarine.net/> (accessed 27,8,10).

## Key trends: Maritime Economy and Regeneration

- Growth in regional and national level investments to support new/emerging maritime technologies, including renewables.
- Developing marine industry sector with recognised specialist skills and expertise.
- Growing popularity of niche business, e.g. sustainable tourism, artisanal food products.
- Continuing popularity of Cornwall as a destination for maritime leisure activities.

## Issues

- Infrastructure deficiencies particularly transport routes.
- Conflicts between economic development and environmental impact/community concerns.
- Conflicts between different economic uses, e.g. recreational vs industrial uses of ports.
- Business would prefer less regulation and more certainty from government.
- Marine planning needs to have consideration of land use plans: especially important in relation to growth in the renewables industry, the use and development of ports and associated infrastructure.

## Opportunities

- To better engage business in strategy development and maritime planning and management.
- Opportunities to build on existing economic strengths in industries such as fishing and harbours, ports and tourism.
- The renewables industry and low-carbon Cornwall agenda provide opportunities to become a centre of excellence for marine technologies and renewable energy.
- Opportunities to develop niche industries: eco-tourism, adventure tourism and agricultural produce.
- Continued demand for waterside living and leisure provides opportunities for regeneration.
- Scope to increase engagement of public and private landlords and organisations that own and/or manage land in evolving maritime and coastal economic opportunities.
- To use the marine and coastal environment to act as a driver for the economy and help shape policies and strategies to deliver this.
- To evolve and deliver training and skills that supports and diversifies the maritime economy and future job opportunities.

## 4 Climate Change

- 4.1** Cornwall's maritime setting ensures that the sea has a significant influence on the weather patterns and overall climate of the County. Cornwall benefits from the Gulf Stream, ensuring that in winter temperatures rarely fall below zero degrees Celsius. Regular processions of weather fronts from the west provide rain all year round, although in the summer they are typically weaker allowing for an average of 7 hours sunshine per day during the summer (May-July) months.
- 4.2** The Defra Climate Change Risk Assessment highlights sector-specific impacts at the national scale which can be translated to issues of relevance to Cornwall's coastal area<sup>41</sup>. Climate change will play a major role in shaping the future of Cornwall. Predictions for rising mean temperatures and sea levels indicate that the largely coastal population and the landscape, fisheries and biodiversity interest of Cornwall, is likely to be increasingly affected by the local impacts of global scale climate change.
- 4.3** In line with predictions for Southern England, climate change in Cornwall is expected to result in wetter, stormier winters and hotter, drier summers. However, there is increasing uncertainty about the projected changes to precipitation, particularly for the summer months<sup>42</sup>. Extreme weather events such as droughts, heavy rainfall and heat waves are likely to become more common. Cornwall has short and fast responding river catchments and it has been predicted that the increase in the intensity of rainfall could lead to an increase in major flood events, similar to the Boscastle flood in 2004<sup>43</sup> and more recently flooding in north and east Cornwall in late 2010. Such events can cause significant damage to homes, businesses and infrastructure.
- 4.4** In the South West region, annual average, daily mean, temperatures have increased by 1.37°C between 1961 and 2006. Annual average temperatures in Cornwall and the South West are predicted to increase by 0.5 - 1.0 °C by the year 2020, 1.0 - 1.5 °C by the year 2050 and 1.5 - 2.0 °C by the year 2080. This could lead to more visitors taking advantage of the warmer weather. However it may also lead to further incidences of heatstroke and sunstroke for beach-goers, increased heat related deaths among the elderly and a strain on water resources.
- 4.5** Estimates suggest that net sea level rise in the South West could be between 20 and 80 cm by the 2080s<sup>44</sup>. The sea level in Newlyn, a location with one of the five longest sea level records in the UK, has risen by approximately 20 cm since 1920<sup>45</sup>. It has been suggested that a sea level rise of 20 cm by 2030 would compromise freshwater and coastal habitats, sea defences and increase the

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<sup>41</sup> Climate Change Risk Assessment (2012)  
<http://www.defra.gov.uk/environment/climate/government/risk-assessment/>  
(accessed 09,10,2012)

<sup>42</sup> Met Office on behalf of DEFRA (2012) Climate Change Risk Assessment 2012 Evidence Report  
<http://www.defra.gov.uk/environment/climate/government/risk-assessment/#evidence> (accessed 09,10,2012)

<sup>43</sup> Cornwall Council (2012). Cornwall Local Development Framework (LDF), Core Strategy; Topic Based Issues Paper, Climate Change. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>44</sup> UK Climate Impacts Programme (UKCIP) <http://www.ukcip.org.uk/> (accessed 31, 8, 2010).

<sup>45</sup> South West Observatory. <http://www.swenvo.org.uk/> (accessed 26,8,10)

frequency of coastal flood events<sup>46</sup>, and due to the coastal topography, managed retreat is not always an option. Rising sea levels can lead to unpredictable coastal dynamics. The south west's saltmarshes and sand dunes are particularly at risk from increased coastal erosion and subsequent damage to coastal amenities which will be vulnerable to surge and sea level rises<sup>47</sup>. Pollution may increase due to changes in rainfall patterns placing an increasing burden on the sewage system, coupled with potential remobilisation of historic pollutants currently locked in sediments in the coastal fringe as these habitats become eroded<sup>48</sup>.

- 4.6** Climate change has already been identified as having an impact on the waters surrounding the UK, with some fish distributions moving northwards over the past 30 years by distances of up to 250 miles, as sea surface temperatures rise<sup>49</sup>. It has also been noted that climate change has contributed to a decrease in approximately 9% in the total number of sea birds breeding in the UK between 2000 and 2008. In the waters surrounding Cornwall there is evidence of an increase in warm water species and overall changes to species composition, including the survival of introduced species as a result of increased temperatures and increased risk of harmful algal blooms. Ocean acidification may also lead to impacts on calcifying organisms, including corals and shellfish, with implications for the fishing industry<sup>50</sup>.
- 4.7** Predicted climate changes also pose potential issues for Cornwall's transport network which provides vital links for the largely rural population, situated in peripheral locations with a heavy dependence on private transport. Sea level rise and extreme tidal events may threaten 9-13 miles of Cornwall's local road network as well as strategic rail links, and road links (M5 south of Bristol) which are also threatened by tidal and fluvial flooding in the longer term.<sup>51</sup> These vulnerabilities have implications for accessibility to services and potentially wider economic impacts through disruptions to trade and tourism.
- 4.8** Whilst Cornwall will suffer from the negative effects of climate change, it is also a contributor to the cause of climate change; greenhouse gases of which in 2009 4,528,121 tonnes were here<sup>52</sup>. CO<sub>2</sub> emissions are in line with the South West average and are slightly below the average for the UK. In 2009 the total CO<sub>2</sub> emissions produced in Cornwall was 3,714,000 tonnes of which 27% arose from transport, 34% arose from commercial and industrial sources, 36% arose from

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<sup>46</sup> Cornwall Council for CISCAG (Cornwall and Isles of Scilly Coastal Authority Group) (2009) Cornwall and Isles of Scilly SMP2, Strategic Environmental Assessment (SEA) Scoping Report.

<sup>47</sup> DEFRA (2012) Biodiversity and Ecosystem Services, UK Climate Change Risk Assessment <http://randd.defra.gov.uk/Document.aspx?Document=CCRASummaryBiodiversityandEcosystemServices.pdf> (accessed 21/6/2012)

<sup>48</sup> Marine Climate Change Impacts Partnership (2010): Marine Climate Change Impacts: Annual Report Card 2010-2011.

<sup>50</sup> Marine Climate Change Impacts Partnership (2010): Marine Climate Change Impacts: Annual Report Card 2010-2011.

<sup>51</sup> Cornwall Council (2010). Cornwall Local Development Framework, Core Strategy; Topic Based Issues Paper. Transport and Accessibility. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21/6/2012)

<sup>52</sup> Low Carbon Cornwall (2009)

domestic sources and 3% arose from land use. This equates to 7 tonnes per capita in Cornwall<sup>53</sup>.

- 4.9** Marine and coastal biodiversity play an important role in helping to regulate the local climate and sequester carbon, although the exact scale of this regulating function is currently poorly understood<sup>54</sup>. In line with other coastal areas, Cornwall can play its part in increasing the resilience and adaptation of coastal communities, wildlife and assets in light of the predicted risks of climate change, for example, by re-creating coastal habitats. Many organisations are working to deliver this mitigation as part of the National Adaptation Programme due to be published in 2013<sup>55</sup> and the local Shoreline Management Planning process<sup>56</sup>.

### Key trends: Climate Change

- Climate change in Cornwall is expected to result in wetter, stormier winters and drier, hotter summers, with extreme weather events such as storms becoming more common. There is increasing uncertainty about the projected changes to precipitation, particularly for the summer months
- Estimates suggest that net sea level rise in the South West could be between 20 and 80 cm by the 2080s, with increased incidences of coastal flooding and coastal squeeze<sup>57</sup>.

### Issues

- Extreme weather events are likely to lead to increased incidences of flooding.
- Sea level rise will compromise flood defences and habitats, and heritage assets, and Cornwall's steep topography results in few opportunities for managed retreat of the coastline.
- Whilst below the UK average, Cornwall's population produces a significant volume of CO<sub>2</sub> emissions, contributing to climate change.
- Changes in marine productivity will have a significant effect on biodiversity and dependent industries, especially fisheries for example through shifts in commercially important species distributions, particularly those already at the edge of their range.
- Whilst climate science is improving there remains uncertainty and poor understanding with regard to the marine area e.g. contributions of marine activities to CO<sub>2</sub> emissions are unquantified; the role of the marine environment in regulating the climate is poorly understood; impacts on the maritime sector are uncertain.
- There is a need for a stronger focus on climate change adaptation for future plans.

<sup>53</sup> Department of Energy and Climate Change (2009) Carbon Dioxide emissions at the local authority level, 'Local & Regional CO<sub>2</sub> emissions'

<sup>54</sup> The National Ecosystems Assessment, (2011) <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx> (accessed 21/5/2012)

<sup>55</sup> DEFRA National Adaptation Programme <http://www.defra.gov.uk/environment/climate/government/> (accessed 21/6/2012)

<sup>56</sup> Cornwall Council for CISCAG (Cornwall and Isles of Scilly Coastal Authority Group) (2011) Cornwall and Isles of Scilly Shoreline Management Plan Review <http://ciscag.org/SMPfrontpage.html> (accessed 21/6/2012)

<sup>57</sup> Coastal Squeeze occurs when areas of land (e.g. mudflats and saltmarshes) are trapped between rising sea-levels and sea defences. This can lead to habitat loss.

## Opportunities

- To shape settlements to adapt to climate change through the planning process.
- A warmer climate may extend the tourist season and could encourage more visitors from the UK and other parts of Europe.
- Opportunities to reduce greenhouse gas emissions through encouraging low-carbon transport of goods and people (e.g. freight and water-based transport) and controls in licensing and planning.
- Cornwall is in a good position, with its extensive wind and wave resource, to develop effective low carbon alternatives of energy production.
- To mitigate against the adverse effects of climate change and sea level rise by helping the natural environment be more resilient, recreating coastal and wetland habitats and improving flood protection.

## 5 Renewable Energy and Resource Industries

- 5.1** As the home of the UK's first commercial wind farm, Cornwall has established a leading position in the installation, transmission and use of renewable energy. Opportunities for marine based renewables, in particular, wave, tidal and off-shore wind power, are significant given the prevailing south westerly winds that sweep across the Atlantic ocean to the coast providing reliable swell conditions and large tidal ranges.
- 5.2** Cornwall is now the site of the world's most advanced testing for wave energy following the installation in 2010 of the Wave Hub, a 'publicly funded offshore infrastructure facility'<sup>58</sup> situated approximately 10 miles off the Cornish coast offering developers a consented, grid connected area of the sea, that in the future will be capable of delivering up to 50MW of power. The onshore sub-station for this facility at Hayle will also form part of a new £12.8M marine energy business park promoting opportunities for wave and tidal power developments in the region. Current estimates suggest that up to 1,000 jobs and £332M revenue may be generated in the South West through the Wave Hub technologies.<sup>59</sup> Testing facilities are also being developed for wave energy technology in Falmouth Bay (FaBTest) supported by suitable port facilities, thus strengthening Cornwall's relationship with the development of offshore renewables.
- 5.3** Cornwall's existing on-shore wind farm industry expertise is also well placed to serve two off-shore wind farm sites; the 'Atlantic Array', proposed for the Bristol Channel and a site at Lyme Bay off the coast of Devon. Invest in Cornwall notes that opportunities exist for deep water foundation technologies, tooling, materials, operations and maintenance services. The South West Regional Development Agency (2010) expected investment in regional marine energy projects around the coast of Cornwall to reach £100m by 2012<sup>60 61</sup>. Cornwall can be a world leader in renewable technologies as set out in the South West Marine Energy Park Prospectus which recognises the opportunities posed by the physical assets and resources in the south west as well as the high concentration of research facilities and industrial excellence.<sup>62</sup>
- 5.4** Quarrying and mining for minerals and metals have played a key role in shaping Cornwall's historic and natural environment, from the hydraulic mining processes used for China clay extraction in the St Austell area to the tin, copper and minerals workings that have included developments at coastal locations (e.g. St Just and St Agnes which form part of the Cornish Mining World Heritage site). The port of Fowey in particular plays a key role in the transportation of these resources, handling in the region of 750 000 tonnes of china clay per annum<sup>63</sup>.

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<sup>58</sup> Wave Hub Project History <http://www.wavehub.co.uk/about/project-history/> (accessed 09/10/12)

<sup>59</sup> New Civil Engineer (2010, July 27) Editorial. 'Wave energy test equipment sets sail for Cornwall'

<sup>60</sup> <http://www.investincornwall.com/> (accessed 25,8,10)

<sup>61</sup> South West Regional Observatory (2010). State of the Environment; South West, 2010.

<sup>62</sup> South West Marine Energy park Prospectus (2012). <http://www.regensw.co.uk/projects/offshore-renewables/marine-energy-/marine-energy-parks> (accessed 21,6,12)

<sup>63</sup> Fowey Harbour Commissioners (2011) Strategic Plan <http://www.foweyharbour.co.uk/assets/file/pdfs/publications/OB%20Stats%202011.pdf> (accessed 21,5,2012).

- 5.5** Granite and other igneous rocks (for aggregates and building stones), china clay, slate and sandstone, continues to be extracted from quarries, some at coastal sites<sup>64</sup>. There is potential to significantly increase the volumes of secondary aggregates (derived from china clay waste) currently exported from Fowey and Plymouth Ports and for the greater use of ports for exporting bulky minerals. Mining and related activities are, therefore, likely to play an ongoing role in influencing the Cornish coastal landscape and seascape for the foreseeable future.

### **Key trends: Renewable Energy and Resource Industries**

- Cornwall will continue to be a focus for marine energy projects and research and development due to its wave, tidal and wind conditions and the strength of the existing industry.
- Continued inward EU and UK investment in Cornwall for marine energy linked to strategic UK renewable targets.
- Active mining, minerals extraction and quarrying industries will continue to shape Cornwall's landscape and seascapes.

## **Issues**

- Appropriate sites for renewables and associated on-land facilities need to be secured through a clear process.
- Developers and investors need long-term certainty with regard to planning and development conditions.
- Uncertainty over the compatibility of marine renewables with Marine Protected Areas.
- Due to its peripheral location and sparser population, Cornwall's is reliant on carbon-based fuels; its coastal economy is therefore vulnerable to changes in costs and availability of this resource.
- The development and generation of offshore renewable energy has the potential for adverse effects on coastal and marine landscape and seascape character and ecology. Wave/tidal energy development needs to take into account both the marine planning process and land use planning issues, designations and opportunities.
- Major advances in renewable technologies and supply will likely be towards the latter half of the lifespan for the proposed south west Marine Plans.

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<sup>64</sup> Cornwall Council Minerals and Waste Policy available at: <http://www.cornwall.gov.uk/default.aspx?page=15721> (accessed 25/8/10). The Cornwall Minerals Local Plan will be superseded by the strategic policy of Planning Future and a later, more detailed Cornwall Minerals Plan.

## Opportunities

- Cornwall has the opportunity to build on its existing expertise and renown to be considered a world leader in marine renewable energies.
- Cornwall has the opportunity to reduce its contribution to greenhouse gas emissions.
- Ongoing work with co-location could help identify the compatibility between Marine Protected Areas and renewable energy developments, and wider land use issues.
- Cornwall can develop existing port facilities at Falmouth to service, test and manufacture renewable energy technologies and provide deployment and intellectual support at Hayle.

## 6 Maritime Tourism and Recreation

- 6.1** Cornwall's maritime setting and history provides a consistent draw for visitors who travel to the area to experience its unique coastal setting and cultural attractions. Residents and visitors alike are also attracted to the quality marine recreational and sporting opportunities on offer and there is a rich heritage associated with popular activities such as local rowing clubs and the Surf Life Saving Association. Marine leisure is worth an estimated £295 million to the Cornish economy, with sailing and surfing accounting for half of the turnover in the sector.<sup>65</sup>
- 6.2** Tourism plays a significant role in the Cornish economy accounting for 22% of the area's total employment; double that of the neighbouring county, Devon<sup>66</sup>. Cornwall's tourism industry is heavily reliant on its natural and cultural maritime environment which is characterised by its long and varied coastline of coves and dramatic cliffs, accessible sandy beaches and dunes, and traditional fishing villages and harbours.
- 6.3** The coastline and coastal settlements of Cornwall, whilst peripheral to the rest of the UK mainland, are accessible both from the sea, through a network of ports and smaller, scenic harbours and from the landside for example, via beaches and the South West Coast Path. The Coast Path draws people from across the UK and internationally and plays a significant role in the local tourism economy<sup>67</sup>. Cornwall AONB and Heritage Coast also attract visitors and residents and other important recreational spaces include beaches, greens and footpaths and rights of way. The Countryside and Public Rights of Way Act (2000) and the Marine and Coastal Access Act (2009) provide a legislative basis for further improvements to coastal access.
- 6.4** Cornwall's coastal assets support an extensive range of marine based visitor activities that include sailing, surfing, sightseeing, swimming, and a range of adventure sports for example, windsurfing, canoeing, coastering and water skiing. A significant revenue stream is also derived from pleasure boating including yachting and cruising, that in 2008 accounted for approximately £5M of visitor spend across Cornwall and the Isles of Scilly<sup>68</sup>.
- 6.5** Cornwall's maritime cultural heritage forms the basis of several key visitor attractions, including the National Maritime Museum Cornwall based in Falmouth<sup>69</sup>, which serves as a focus for conservation, education, research and the promotion of Cornwall as a maritime tourism and wider business/industry destination.
- 6.6** All forms of tourism in Cornwall have, to date, been characterised by a distinct seasonality, with most revenue being derived during the summer months. However, evidence suggests that the season is extending around the summer months (March/April/Sept/Oct) and this may be enhanced by the predicted

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<sup>65</sup> Observatory of the Cornwall Marine Leisure Industry Draft in preparation 2010. Nautisme Espace Atlantique Project, Cornwall Development Company.

<sup>66</sup> South West Tourism (2010) The Value of Tourism 2008: Cornwall.

<sup>67</sup> The South West Coastal Path is estimated to be worth more than £222m to the regional economy. [www.southwestcoastpath.com](http://www.southwestcoastpath.com)

<sup>68</sup> South West Tourism (2010) The Value of Tourism 2008: Cornwall.

<sup>69</sup> National Maritime Museum Cornwall. <http://www.nmmc.co.uk/index.php>

effects of climate change extending the duration of the summer season<sup>70</sup>. For maritime tourism, the effects of climate change may not be universally positive. The predictions for greater weather variability and in particular an increased incidence of 'storminess' may adversely impact activities and experiences reliant on more stable sea conditions, and those susceptible to coastal changes that may occur from accelerated erosion. The National Trust's Shifting Shore initiative looks at the implications of climate change on properties it manages, including evidence based at properties in Cornwall.<sup>71</sup>

- 6.7** Evidence suggests recreational interest in coastal areas and maritime leisure activities will continue to grow<sup>72</sup> and in common with other European coastal destinations, Cornwall will need to develop approaches that promote innovative, low carbon and sustainable tourism and respect for the natural environment. Current initiatives, such as those promoted by the Cornwall Sustainable Tourism Project (CoaST) offer a range of measures and opportunities relevant to maritime businesses in the region<sup>73</sup>. Clean Cornwall week and Blue Flag accreditation for beaches are examples of other initiatives that have local support.

#### **Key trends: Maritime Tourism and Recreation**

- As tourism in Cornwall increases, maritime tourism continues to be a significant source of revenue and employment for Cornwall.
- Surfing is growing in popularity and as an industry with significant benefits to the Cornish economy. Other leisure activities, including adventure sports continue to grow in popularity.
- The eco-tourism industry is growing and sustainability initiatives are increasing across the industry.
- With increased tourism, further urbanisation of the coast and beaches is occurring (for example increased commercialisation, signage and lifeguard presence).
- Climate change will result in both positive and negative effects for tourism.
- Cornwall's tourism season is extending into the shoulder months (March, April, September and October).

<sup>70</sup> Cornwall Council (2012). Cornwall Local Development Framework Core Strategy, Topic Based Issues Paper: Tourism. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>71</sup> National Trust (2010) Shifting Shores. <http://www.nationaltrust.org.uk/what-we-do/what-we-protect/coast-and-countryside/knowledge-bank/view-page/item377764/> (accessed 09,10,12)

<sup>72</sup> Science and Policy Integration for Coastal System Assessment. <http://www.spicosa.eu/index.htm>

<sup>73</sup> Cornwall Sustainable Tourism Project (CoaST). <http://www.cstn.org.uk/>

## Issues

- The tourism and recreation/leisure industries in Cornwall are fragmented; better management and coordination is required especially in relation to the recreation and leisure sector.
- Conflicts occur between tourism and recreation uses and other industries (for example ports operations and aquaculture development) as well as with maritime biodiversity.
- Tourism places pressure on the marine environment-there needs to be a greater respect and appreciation for the marine and coastal environment and resource (from visitors and residents).
- Congested roads, especially during peak tourism season are a particular issue, and public transport services to Cornwall are frequently cited as slow and irregular.

## Opportunities

- Further support the development of sustainable tourism.
- Attract visitors throughout the year and extend lifeguard cover for increased demand outside of peak season.
- Opportunities to support and further develop the surfing and wider adventure tourism industry, including through coordinated management and promotion and accreditation.
- Continued opportunities to support traditionally strong areas of tourism, including sailing and seaside family holidays.
- Promote and improve health and well being for local residents through water-based activities and management of beaches as public open spaces.
- Improvements to the status of Cornwall's natural and historic marine environment will enhance tourism and leisure activities whilst also improving awareness and understanding.

## 7 Maritime Transport

- 7.1** Cornwall's maritime setting has ensured that its ports and harbours have historically played a key role in the transportation of goods, services and passengers around the region's coastline and to destinations in UK waters and beyond. Maritime transportation continues to be a vital source of revenue and development opportunity for Cornwall across both the industry and leisure sectors.
- 7.2** Cornwall's coast has numerous ports and harbours catering for a range of vessel size and types that collectively make significant contributions to the Cornish economy<sup>74</sup>. The major ports of Fowey, Falmouth, and Truro in particular are considered to be of strategic economic importance for their cargo, recreational and transportation businesses<sup>75</sup>. IMERYS' port operation at Fowey provides facilities for the export of approx 0.75 million tonnes of china clay per annum from the mid-Cornwall area operations, a tonnage which has significantly declined in recent years. In addition to china clay, the port exports secondary aggregates and imports Cornwall's rock salt needs. It actively seeks to promote and encourage further diversification in bulk commodity handling to respond to market demand, such as woodchip/biomass and refuse derived fuel<sup>76</sup>. Truro also deals with the transport of bulk commodities (e.g., stone, sand, scrap metal, bulk cement and project cargoes) although its annual tonnage is substantially smaller.
- 7.3** Falmouth Port provides bulk cargo transportation services; however, this key Cornish port encompasses a significantly wider range of core activities including ship repair, refitting and a full range of wharfage and technical services for commercial and leisure vessels<sup>77</sup>. In addition, the Port supplies services for defence transport assets, for example, the refitting of the Royal Fleet Auxiliary ship Argus (with an estimated value of £23M), and helipad services for SeaKing helicopters operating from RNAS Culdrose. As a natural deep water harbour, Falmouth is also popular for cruise ship operators who include Falmouth in their itineraries for voyages around the UK and to the Mediterranean, Canary Islands and the Caribbean.
- 7.4** Cornwall's dispersed population is served by a road network that suffers significantly from congestion, in particular during the main tourism season. Public transport services vary considerably across Cornwall with the larger towns benefiting from frequent bus and rail services to some more rural areas experiencing limited public transport access. Alongside specific industry and wider recreational interests, water based travel services provide key connections and vital services for the day-to-day lives of the Cornish population, although many of the smaller services don't run or are limited outside of the tourism season. Cornwall has eight estuarial ferry crossings that operate on a regular

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<sup>74</sup> British Ports Association (2010): A Blue Print for Ports Policy 2010.

<http://www.britishports.org.uk/aims-and-policies/a-blueprint-for-ports-policy> (accessed 09/10/12)

<sup>75</sup> Cornwall Council (2006) Cornwall's Second Local Transport Plan (LTP2) 2006-2011. LTP2 Supporting Strategic Document: Freight Strategy <http://www.cornwall.gov.uk/default.aspx?page=4599> (accessed 31, 8, 2010).

<sup>76</sup> [www.foweydocks.co.uk](http://www.foweydocks.co.uk)

<sup>77</sup> [www.ap-group.co.uk](http://www.ap-group.co.uk) (accessed 31, 8, 2010)

basis<sup>78</sup>, for example, the Torpoint chain ferries provide regular crossings of the River Tamar for cars, carrying 2.4 million vehicles per year, and the Padstow to Rock ferry carries pedestrian traffic across the harbour. Water taxis also provide an important transport service in more populated areas, for example in and around Falmouth. The ferry links to the Isles of Scilly from the port of Penzance (the Scillonian) play a key role in the provision of goods and services alongside the transport of seasonal tourism trade.

- 7.5** While recreational boating and commercial shipping are the most significant transport activity occurring at Cornish ports, there are opportunities to promote short sea travel<sup>79</sup> for wider transport needs given its lower carbon footprint<sup>80</sup> when compared with road based transport on which the Cornish economy currently remains heavily dependant<sup>81</sup>.

### Key trends: Maritime Transport

- Cornish ports play a key role in the transportation of imported/exported goods.
- Recreational travel and transport is a growing source of revenue and development potential for Cornish ports and harbours.
- Water based transport may play an increasing role in providing vital connections for Cornish communities and businesses, especially as oil prices rise.

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<sup>78</sup> Cornwall Council (2012) Cornwall Local Development Framework Core Strategy: Topic Based Issues Paper: Transport and Accessibility. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>79</sup> E.g. Ports of Truro, Penryn and Newquay business plan 2011/12

<sup>80</sup> British Ports Association, South West Regional Ports Association (2009). South West Ports; 'Gateways for Growth'.

<sup>81</sup> Cornwall Council (2012) Cornwall Local Development Framework Core Strategy: Topic Based Issues Paper: Transport and Accessibility. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

## Issues

- Poor connectivity and public transport in rural, isolated areas; water bodies serve as a barrier to some communities.
- Limited ferry services outside main tourism season.
- Capacity issues for road/rail links to ports (e.g. narrow roads).
- Ports can adversely impact the marine and coastal environment, particularly dredging.
- Cornish ports are diverse and often compete - there is no one spokesperson or representative body.
- The economic and transport potential of ports are unrealised and their diverse role not well understood by policy makers.
- Conflicts between leisure and industrial use of ports.
- Poor public access at some waterfront sites.
- Transport networks are vulnerable to flooding, coastal erosion and sea level rise.
- Forthcoming south west Marine Plans will need to consider the potential for (increased) passenger and freight transport by sea, especially passenger connections around the coast, particularly as this may help to reduce greenhouse gases.

## Opportunities

- Sustainability advantages of using more water-based transport, including for freight and opportunities to better connect coastal communities.
- Opportunities to provide better inter-modal connections, e.g. from ferry to bus services.
- Making better use of waterfront infrastructure for public transport services.
- Port development offers opportunities for economic growth; for example for waste, minerals & biomass export/import, transport of renewables components.
- Opportunities to further develop leisure role of ports, e.g. for cruise ships
- Alongside the LTP3 'Connecting Cornwall: 2030', the Maritime Strategy could further encourage healthy alternatives to the car, including walking, rowing and cycling.

## 8 Fisheries and Aquaculture

- 8.1** The Cornish fisheries are an essential element of the local economy with commercial and recreational fishing playing a key role in the social fabric and cultural identity of Cornwall's coastal villages, ports and harbour towns. Fishing, and more recently, managed aquaculture practices contribute to livelihoods in Cornwall on a national and small, micro business scale. Recreational angling is of increasing economic importance to Cornwall generating significant revenue, especially for the tourism industry.
- 8.2** Newlyn is Cornwall's premier fishing port and is one of the largest fishing ports in the UK. The port ranks 8<sup>th</sup> in the UK for the quantity (8.6 thousand tonnes) and value (£18M) of fish landed<sup>82</sup> (see also Marine Economy and Regeneration). Over 100 vessels operate from the port ranging in size from 19ft to 120ft.<sup>83</sup> This diversity of vessels is characteristic of the Cornish fleet overall which consists of many small scale independent operators who target a range of species by various methods.
- 8.3** Cornish fish stocks are also diverse with a range of 40-50 commercial species targeted of which approximately 25% are currently subject to quotas, although a number of these species, e.g. turbot, brill, lemon sole and squid are considered 'non pressure' stock<sup>84</sup>. The species contributing the most value to Newlyn (as landed by UK vessels) in 2010 include monks or anglers, megrim, pollack, edible crab, cuttlefish and scallops. The overall value of landings in Newlyn for 2010 was close to £18M. Other harbours also support landings from fishing fleets on a smaller scale including Looe, Mevagissey, Newquay, Fowey, Padstow, Hayle, Penryn, Portreath, St Ives, St Mawes and Truro.
- 8.4** The diversity and adaptability of the Cornish fishing fleet is identified by the Cornish Fish Producers Association (CFPO) as a characteristic that supports a sustainable, long term approach to fishing and fisheries management<sup>85</sup>. For example, the Cornish sardine which is fished by 26 vessels using a combination of ring and drift nets has been certified (Oct 2009, July 2010) as sustainable by the Marine Stewardship Council (MSC).
- 8.5** Sustainable fishing practices are also being cultivated in Cornwall on a smaller scale using traditional low impacts methods. There is a long established, regulated native oyster fishery in the Fal Estuary where fishermen are restricted in their ability to dredging by sail or handpower i.e. no engines are permitted. Handline fishing, which targets single species, is undertaken by individual fishermen in around 150 boats in the Cornwall and Devon waters<sup>86</sup>. This mackerel fishery is MSC certified, commanding a premium price when bought by suppliers operating an MSC chain of custody to demonstrate their sustainable seafood sourcing<sup>87</sup>.

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<sup>82</sup> Marine Management Organisation & National Statistics (2011) The UK Fishing Industry in 2010- Landings

<sup>83</sup> South West Regional Ports Association.

<sup>84</sup> Vaughan C. (2009) 'Does the Cornish Fishing Industry have a future?' Cornish World Magazine.

<sup>85</sup> Cornish Fish Producers Organisation (CFPO) represents 80% of the Cornish fleet over 10m.

<http://www.cfpo.org.uk/>

<sup>86</sup> South West Handline Fishermen Association. <http://www.linecaught.org.uk/>

<sup>87</sup> Marine Stewardship Council (2009) Net Benefits. The first ten years of MSC certified sustainable fisheries. [www.msc.org](http://www.msc.org)

- 8.6** Cornwall's sheltered bays and estuaries provide ideal environments for farming a range of species, with shellfish dominating the Cornish aquaculture industry. The oldest and most established farm is the Duchy of Cornwall Oyster Farm situated on the Helford River in South West Cornwall. In line with the sustainable practices emerging in the Cornish sea fisheries industry, the Duchy Farm is one of the few oyster farms in the UK with official organic accreditation from the Soil Association<sup>88</sup>. St Austell Bay and the Fal, Helford and Fowey estuaries are the main sites of a Cornish rope grown mussel industry. On the North Cornish coast the National Lobster Hatchery in Padstow is also promoting a sustainable approach to harvesting, releasing young lobsters raised in the hatchery around the coastline to restock and support the lobster population<sup>89</sup>.
- 8.7** The development of sustainable fisheries is a key trend for the diverse Cornish fishing industry and this long term approach to fishing will be increasingly important given the worldwide decline in fish stocks and the predicted effects of climate change that will impact the area's fisheries, e.g. higher tides, warming oceans and the associated migration of species and changes to the composition of the overall food chain. These changes represent key challenges for the industry and are coupled with new policy developments aimed at extending the protection afforded to marine areas through Marine Conservation Zones (MCZs)<sup>90</sup>. Three new candidate Special Areas of Conservation have been submitted to the European Union: Lizard Point, Prawle Point to Plymouth Sound and Eddystone, Cape Bank and Lands End Candidate SACs. These new policy developments will require the fishing industry to work in closer partnership with conservation organisations (see also Marine Environment and Landscape) to manage any potential conflicts.

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<sup>88</sup> The Duchy of Cornwall Oyster Farm <http://www.thewrightbrothers.co.uk/duchyfarm/>

<sup>89</sup> The National Lobster Hatchery <http://www.nationallobsterhatchery.co.uk/>

<sup>90</sup> Finding Sanctuary is the first of four regional projects tasked with designing Marine Conservation Zones (MCZs) around England and recommending them to Government in June 2011. <http://www.finding-sanctuary.org/page/home.html> (accessed, 25, 8, 2010).

### Key trends: Fisheries and Aquaculture

- Established fishing industry, historically diverse and characterised by micro businesses.
- Growth of sustainable and artisanal fishing practices provides environmental, economic and cultural opportunities for the Cornish fishing industry.
- Worldwide decline in fish stocks and diversity, partly due to damaging fishing practices.
- Increasing climate change and conservation/ management pressures on fishing and aquaculture industries, will require adaptation measures over time.

**8.8** Recreational angling is an important part of the fishing industry in Cornwall, generating significant indirect benefits to the economy from tourism revenue. A DEFRA funded report found that close to 250,000 residents in the South West participate in sea angling, and when added with visiting anglers, total recreational sea angling expenditure in the South West is estimated at £165 million<sup>91</sup>, supporting 3000 jobs across the region.

### Issues

- Maintenance and improvement of fish and shellfish stocks.
- Policy decisions at European level have significant implications for the local fishing industry (e.g. EU Maritime Strategy, Common Fisheries Policy).
- Managing the needs of local industry whilst conserving and enhancing fish stocks and biodiversity.
- Balancing the needs of recreational angling with commercial fisheries and recognising the contribution of recreational angling to the economy.
- Climate change poses new threats to the fishing industry.

### Opportunities

- Working together with conservation sector towards the long term sustainability of stocks.
- Continued emphasis and growth of branded Cornish produce, e.g. Cornish mussels, Cornish Sardine and traditional fishing methods.
- To build on the growth in sustainable fishing and, where appropriate, initiatives such as Marine Stewardship Council certified produce.
- Opportunities for offshore aquaculture of biomass (seaweed/algae).
- Opportunities through the Cornwall Fisheries Local Action Group (FLAG) delivering the European Fisheries Fund.

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<sup>91</sup> Email comm. Cornish Federation of Sea Anglers. Quoting report: Nautilus Consultants (2005). The Motivation, Demographics and Views of South West Recreational Sea Anglers and their Socio-economic Impact on the Region.

## 9 Communities and Education

- 9.1** Cornwall's communities have a rich history and a strong sense of identity that is intrinsically linked to the sea. Away from the main inland towns and cities, the settlement pattern is dispersed around the coast with over 100 towns and villages linked to ports and harbours which provide the focal point for these communities<sup>92</sup>. The Cornish coastline is famous for its historical associations with smuggling activities<sup>93</sup> and free trade which fostered a culture of independence and activism that can still be seen in communities today. Radical approaches to local issues, e.g. the organisation 'Surfers Against Sewage' have provided a powerful voice for contemporary issues affecting local maritime communities<sup>94</sup>. The recognition in 2002 of Cornish as a minority language has also served to reinforce the valued distinctiveness of coastal communities.
- 9.2** The demographics of Cornish coastal towns and villages have changed significantly over time, with growing trends of both inward and outward migration, generating a range of issues. In common with many south west communities, these direct changes have meant that there is an ageing population (including from migrant retirees) and Cornwall's age profile is older than the national average.
- 9.3** Another key change and important issue for Cornwall is the reduced affordability of housing for local communities as a result of second and holiday home purchases in attractive seaside villages and harbour towns. When considered alongside Cornwall's lower (than the national average) wages, housing affordability is a particular issue. Wealthy façades can also mask pockets of deprivation that are particularly prevalent around the St Ives community on the county's north coast<sup>95</sup>.
- 9.4** Cornwall in general is perceived to be a safe location and this contributes to its attraction to residents and visitors alike. However crime can have an adverse effect on maritime leisure, business and tourism and there are existing partnerships in place to protect public safety and property in the marine environment<sup>96</sup>.
- 9.5** Issues of isolation, due to poor road networks and limited public transport connections are as relevant for the coastal communities as for inland settlements<sup>97</sup>. In particular, access to services and facilities provided at inland towns and cities means there is high level of car dependency in coastal communities.

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<sup>92</sup> Cornwall Council (2012) Cornwall Local Development Framework Core Strategy: Topic Based Issues Paper: Coast and Maritime. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>93</sup> Smuggler's Britain: Smuggling in the British Isle, A History. <http://www.smuggling.co.uk/>

<sup>94</sup> Cornwall Council (2010) Green Paper for Culture.

<sup>95</sup> Cornwall Council (2012) Cornwall Local Development Framework Core Strategy: Topic Based Issues Paper: Social Inclusion. <http://www.cornwall.gov.uk/Default.aspx?page=27125> (accessed 21,6,2012)

<sup>96</sup> Devon and Cornwall Police. Response to Cornwall Maritime Strategy Informal Consultation.

<sup>97</sup> Cornwall Council (2010) Cornwall LDF Core Strategy: Draft Topic Based Issues Paper: Transport and Accessibility.

- 9.6** In the context of these issues Cornish coastal towns and villages are resilient and communities are increasingly exploiting the opportunities brought by maritime tourism<sup>98</sup> and new technologies that promote sustainable energy from the sea, as well as revitalising traditional industries such as fishing, agriculture and the arts (see also Tourism, Renewable Energy, and Fisheries and Aquaculture).
- 9.7** A key trend for Cornwall's maritime communities lies in the development of a knowledge and skills base that supports the industries and services that will bring future growth and development to the region. Cornwall already has strong foundations in training and education for maritime industries for example, in relation to navigation, skippering, and ship building - with organisations such as the Cornwall Marine Network providing a resource and development focus<sup>99</sup>.
- 9.8** Future training demands will include the ongoing development of the tourism industry. Additionally, initiatives focused on making Cornwall a centre of marine based renewables (e.g. the Marine business energy park at Hayle) (see also Renewables) will require new courses to be coordinated and promoted through the Combined Universities in Cornwall<sup>100</sup>.

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<sup>98</sup> For example, the Eco-Bos proposals for an eco-community, marina and hotel facilities at Par <http://www.eco-bos.com/our-vision/masterplan-sites/par/>

<sup>99</sup> Cornwall Marine Network. An EU funded initiative supporting the marine sector in Cornwall. <http://www.cornwallmarine.net/>

<sup>100</sup> Combined Universities in Cornwall. <http://www.cuc.ac.uk/>

## Key Trends: Communities and Education

- Renaissance of Cornish maritime culture and sustainable approaches to traditional industries.
- Ongoing growth and development of marine tourism providing new opportunities for economic development.
- Emergence of new marine technology initiatives with requirements for new skills and capabilities.
- Declining housing affordability and growth in second home ownership in recent years.
- Increasing localism

## Issues

- Housing affordability is a major issue for Cornwall, exacerbated by low salaries.
- The impacts of second home ownership, creating 'ghost towns' in some areas, and especially out of season.
- Managing different uses of the marine and coastal environment and adverse impacts from some uses.
- How to fund strategic infrastructure development with loss of Regional Development Agency funding and convergence funding expiration in 2013.
- Balancing the need for jobs and economy with natural and historic environmental needs.
- Many coastal communities are at risk of coastal erosion.<sup>101</sup>
- Limited vessel launching access to the water for use by local communities.

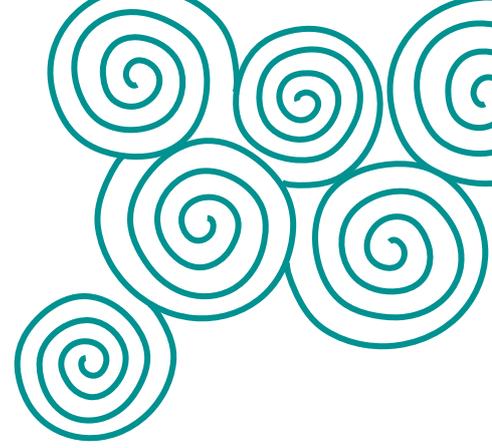
## Opportunities

- Opportunity to engage Cornwall's Community Network Areas in marine issues and management and to widen involvement and understanding through the Marine Planning process of engagement.
- Maritime Strategy creates opportunities for various maritime stakeholders to work in partnership.
- For more coordinated management of marine and coastal land uses to avoid conflicts and damage to the environment.
- Opportunities to enhance accessibility for communities through sustainable, resilient transport options.
- Opportunities to improve the quality of employment and careers through the creation of skills and training programmes.

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<sup>101</sup> For example Coverack, Mawgan Porth and Portmellon.

- Localism, the devolution of services to communities and an increase in local involvement in the development planning process, such as through [Town Frameworks](#), could provide opportunities to improve the role of communities in shaping the future of their area.





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