

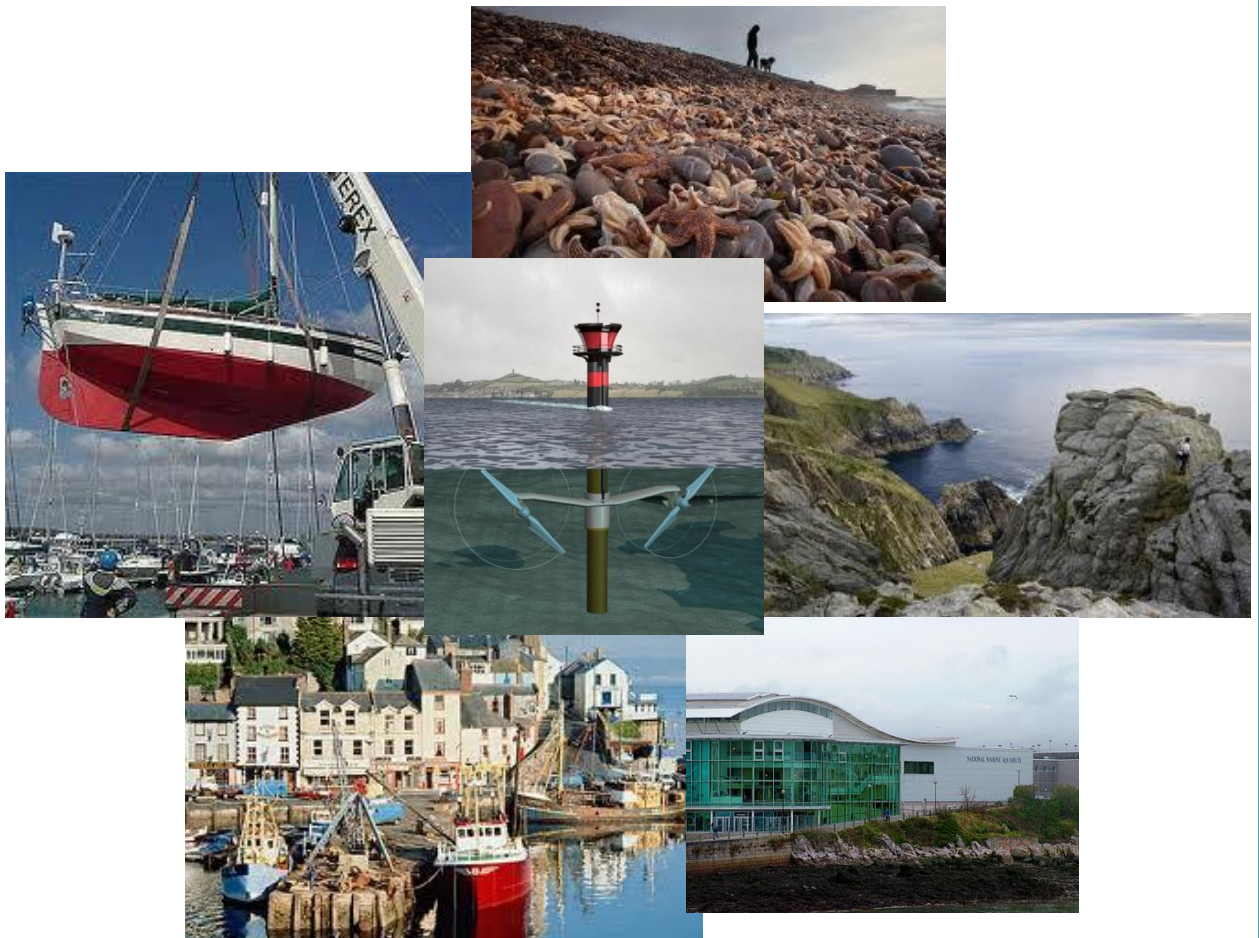
Devon Marine Industry

CAMIS Themed Analysis Report for Devon County Council

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University of Chichester

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Introduction

This report is compiled from data collected for the CAMIS Business Cluster Research and is presented to Devon County Council to aid their cluster facilitation plans. Although all data has been checked for inconsistencies and incorrect entries the results described in this report are only as current as the date the data was collected and Chichester University do not take responsibility for and inconsistencies found after this date.¹

The main body of the dataset was given to Chichester University by Devon County Council and The British Marine Federation. This data was 'cleaned' and adapted to suit the purpose of the research. Further data was collected via internet searches, association membership lists, marine directories, cluster and network membership lists and maps. The dataset for Devon contains 1732 companies that either work specifically in the marine industry, work alongside the industry, supply to the industry or support the marine industry through service provision, research, training and consultancy. There are entries in the data base that do not appear to have a direct marine involvement but are valid due to their location and customer base. This is particularly prevalent in the Tourism theme where the inclusion of leisure and entertainment industries, hotels and restaurants have been deemed necessary due to their location within a marina or directly supporting a marina.

The maps provided in this report are generated by Google Earth and Google Maps using the database as the point of enquiry. Data can be searched and filtered to represent the various themes and business activities that are carried out. Data can be presented as a street map, satellite image or heat map showing density. The majority of maps use satellite images to show the geography and demographic nature of the landscape. Where more than one company shares the same postcode address the maps combine the results for viewing purposes. When viewed interactively the companies can be separated.

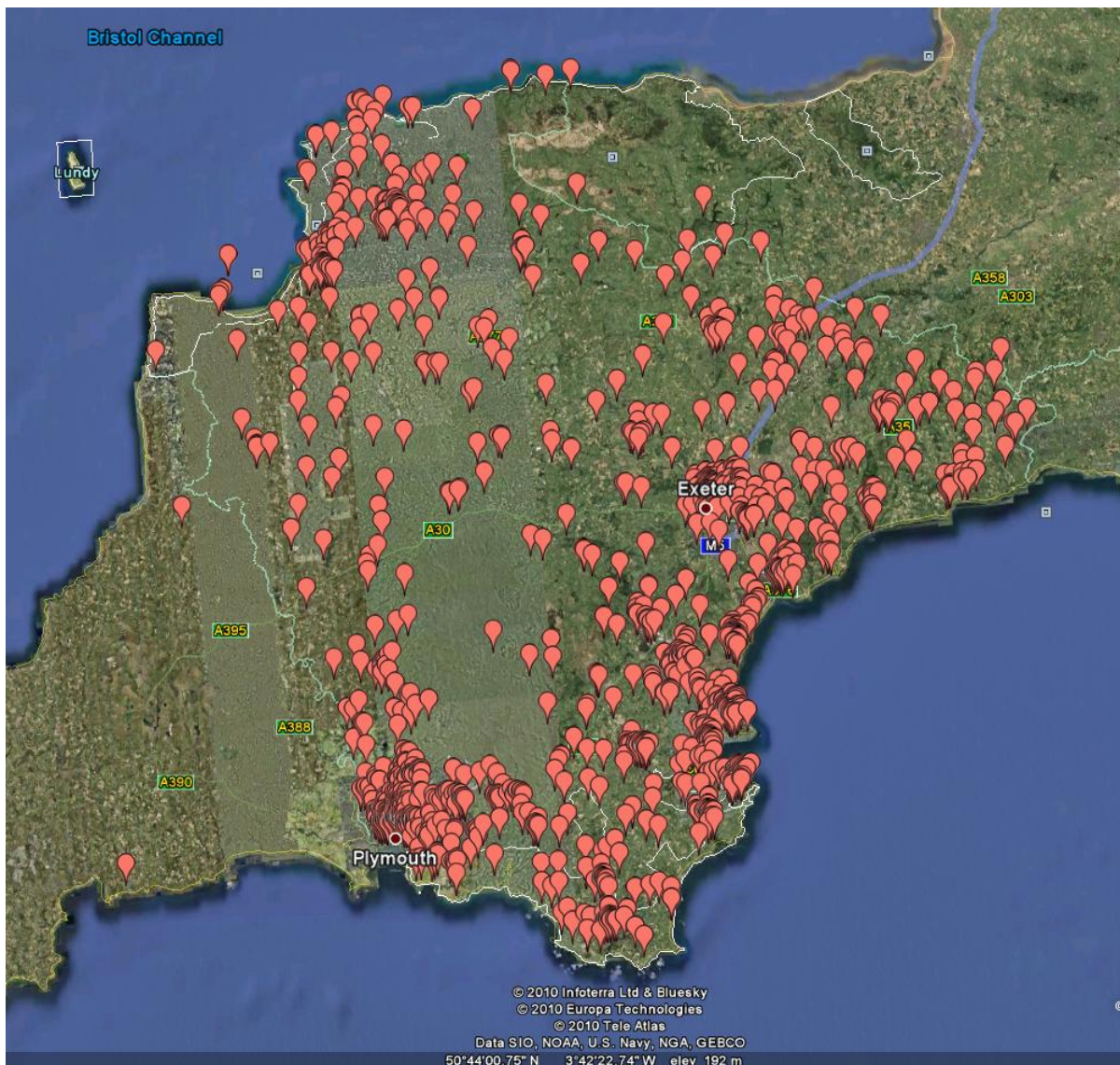
The CAMIS research is concerned with four themed areas of the marine sector: Off-Shore Renewable Energy, Marine Operations, Marine Environment, and Marina Tourism therefore the main findings in this report will relate to these four themes.

Marine Industry in Devon

The South West of England has a large marine industry and Devon and Cornwall combined account for nearly half of all the data entries. All four themes are accounted for in Devon and their location and potential for clustering will be looked at in this report. The report starts with looking at Devon as a whole before analysing both different towns/regions of interest and the four themes in the research.

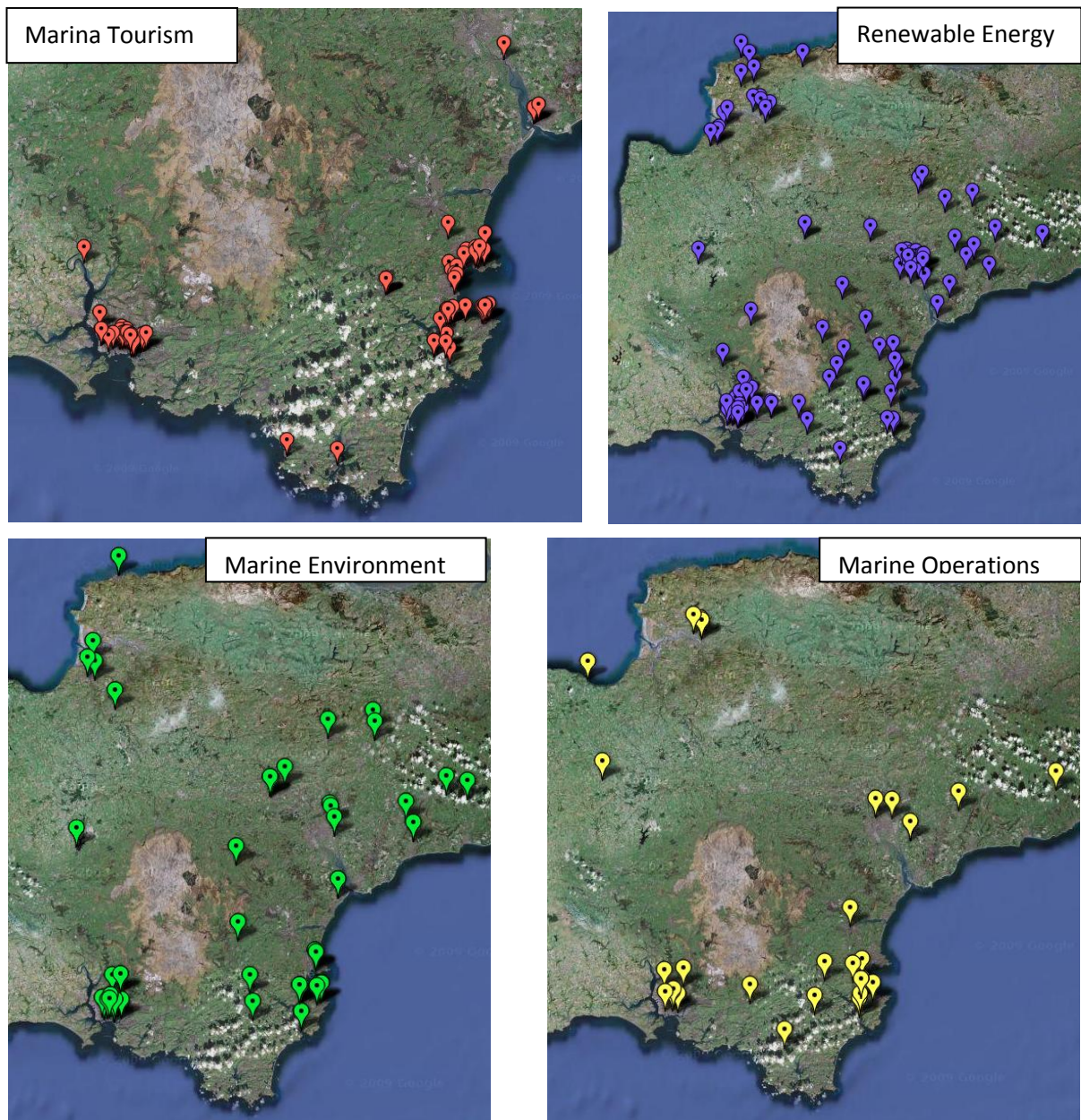
The marine industry in Devon is vibrant and although spread across the county there are pockets where the density of provision is greater. These areas are also main urban areas including Exeter, Plymouth and Torbay/Paignton. Figure 1 pinpoints the entire 1732 companies listed in the CAMIS marine database.

Figure 1 Marine Industry Entries in the Database for Devon



Devon has more rivers than most counties including the Plym, Lyd, Dart, Avon, Exe, Taw, Tamar, and Yealm. This may well facilitate interest in the marine industry, and allows sheltered waterways away from the sea, but due to the short navigable length of the majority of rivers it will not help the marine industry to locate further inland. It does, however, allows river access to the sea in North Devon where the coastline is mainly cliffs and rocky outcrops. The southern coast of Devon appears to be where the majority of companies have located but much of this may be due to the geography of the land. Figure 2 shows the location of companies working within the four research themes.

Figure 2 Themed Companies in Devon



The Marina Tourism theme is only applicable to the south of Devon. There are 19 marinas in Devon; many of which are clustered around the river estuaries. The Marina Tourism theme is fairly large in the South Devon area and companies working within the marinas are quite diverse and cover the broad spectrum of marina leisure consumer needs. There are 121 renewable energy themed companies located in the county and considering that companies working within the on-shore solar industry are not included in the database the number of companies listed is quite high compared to other Counties² in the South of England. This theme has been hard to define due to the willingness of companies to advertise their apparent involvement in renewable energy when, in fact, the statements tend to reflect a desire to work in the sector rather than an actual participation.

At first glance, there are 111 companies working within the marine environment and they are evenly spread with a cluster around Plymouth. The marine operations theme has been difficult to identify and there are only 72 companies that have been found and these tend to locate near the coastline.

South Devon

South Devon is the main location for the marine industries in the County with two thirds of the industry located in this area. Plymouth is the major marine area but both Exeter and Torbay have large industries. The industry sector is very different in each of the three areas and this will be explored in more depth in the next sections. It is apparent that the amount and type of industry in each location is dependent on a variety of factors including geology – coastline, river estuary, gradient etc; infrastructure – transport access for boats, road and rail; other industry locations – close to university, research facility, supply chains, customer base etc; demographics – employee and skill availability; and history – Plymouth heritage. This implies that any cluster facilitation must account for the different factors highlighted and although clusters can be developed fairly easily the sustainability of clusters is embedded in the different locational, historical, social and economic characteristics of the area.

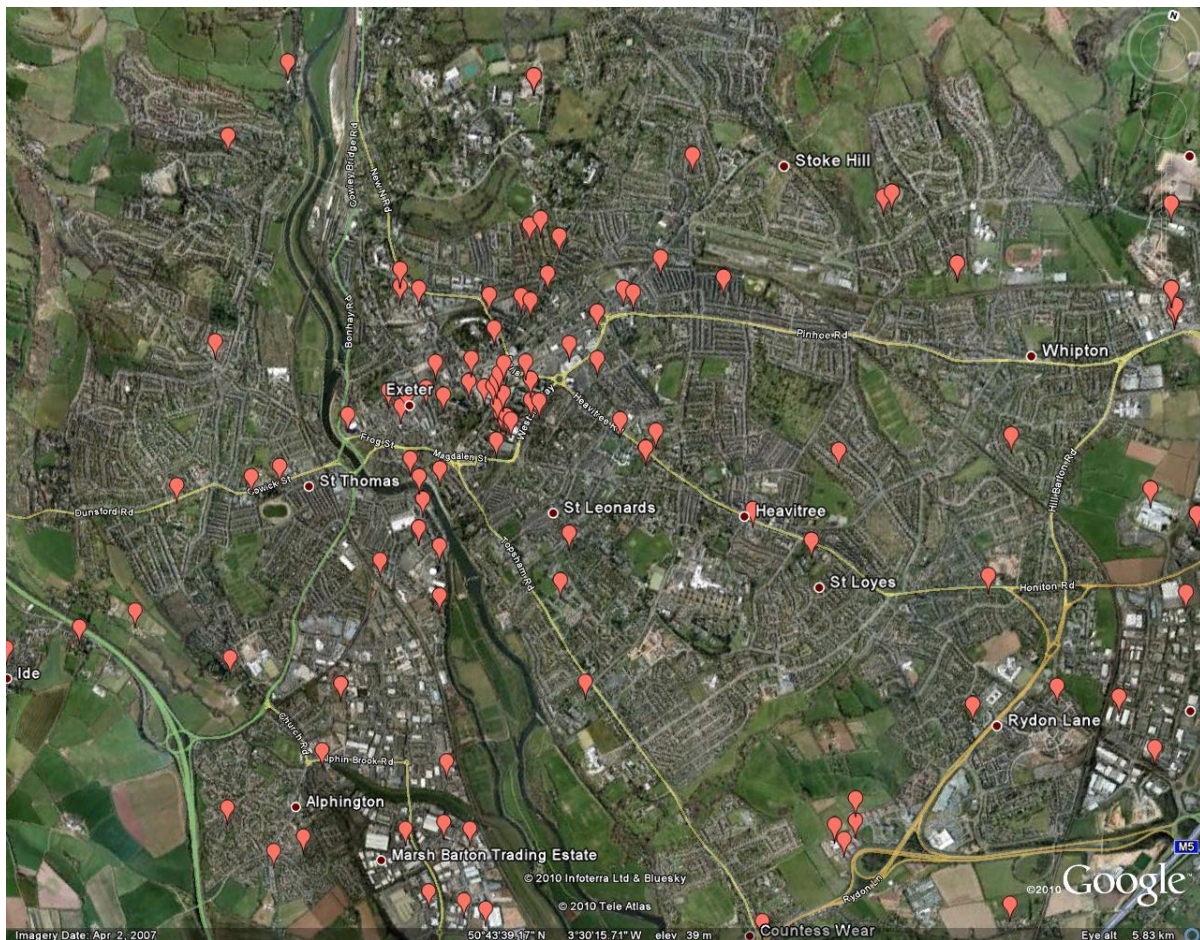
South Devon has a different geology and also climate to North Devon and this will impact on the type of industry that locates in the area. Cross-border collaboration; a fundamental aspect of the CAMIS project; will probably be focussed on the South of the County, although the North should not be discounted. The next sections look at the three main areas in the South of Devon in greater detail.

² Cornwall has a large number of companies in this sector due to the wavehub and the convergence funding initiatives.

Exeter

The first cluster to note in Devon is that of Exeter, the County Town. Figure 3 shows the spatial distribution of marine industries in Exeter and clearly shows that the main cluster of industry appears to be in the centre of the city. There are 183 marine companies that have been identified in the city of Exeter of which 24 are working in the renewable energy sector, 13 in the marine environment sector, and 7 within the marine operations sector and only 1 in the marina tourism sector.

Figure 3 Marine Sector in Exeter



Many of the companies within Exeter are located on industrial estates on the outskirts of the city or offices along the main streets. The location of the river does not seem to influence the company location and suggests that access to water is not essential. Table 1 gives an indication of the type of industry located in Exeter.

Table 1 Sector breakdown in Exeter

Business Activity	Companies with a Presence in Exeter
Architects	36
Engineers	19
Designers	7
Surveyors	23
Boat Sales	7
Logistics/Haulage	4
Manufacturing	2

It can be seen that the majority of industry is in the service sector with architectural and surveying services featuring to a great extent. It is not an uncommon phenomenon for County Towns to have the headquarters of companies and a mainly service sector based industry. The fact that Exeter is also inland rather than situated on the coast will mean companies involved in ship building or manufacturing would probably prefer to locate in the coastal regions with access to the sea. It should be mentioned that the amount of architects and surveyors who expressed a marine activity appears to far outweigh any other marine related sector. Further investigation into this is necessary to ascertain whether architectural services are a main feature or if, as is the more probable case, architects are multi industry based and advertising a marine link is actually advertising a desire and ability to work in this sector.

The renewable energy sector features highly in the Exeter region with 24 companies purportedly working in this sector. Many of the companies offer consultancy support and sustainable strategic planning but engineering and research innovation also feature highly. The main company in this field is Aquascientific who develop ocean and tidal energy extraction and have a prototype positioned off the Exmouth coast. Devon Windpower, Tidal Turbines, and WSP are also major renewable energy companies. Renewable energy is a possible cluster activity that could be developed further due to the interest in this area from the University and local businesses. Innovation seems to lead the sector here and research and development can attract smaller spin off companies and increase knowledge transfer and therefore increase the potential for economic growth.

Summary

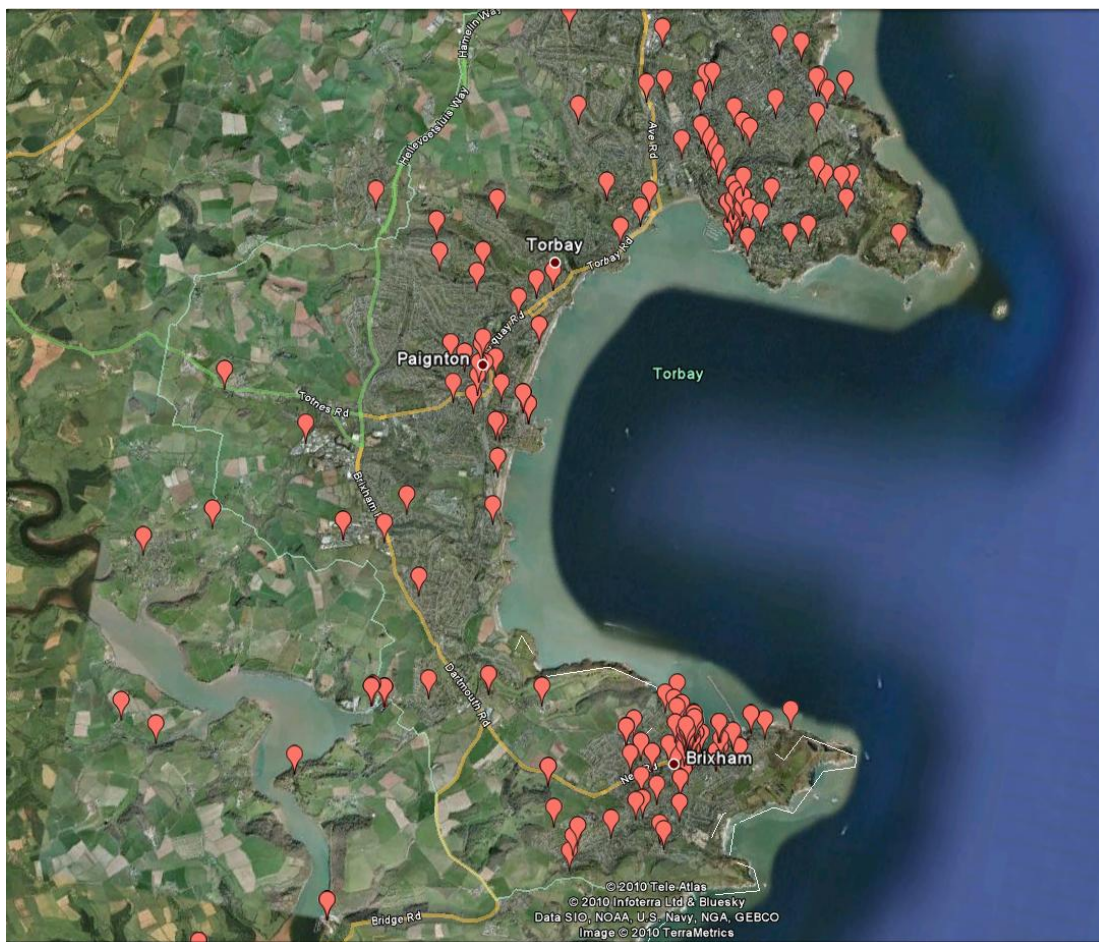
The Exeter marine industry is mainly service related but does include a significant renewable sector. There may be scope for utilising the Chambers of Commerce to explore possible avenues to enhance the service sector and increase economic growth. The renewable sector could be encouraged to

develop into an active cluster but this is an area where expansion would depend on the planning and economic development policies of the Council. Renewable energy is not an easy cluster to facilitate due to the large costs involved in setting up and the immaturity of the sector. Increasing funding to support this area will need careful consideration of policy implications and international expertise to ensure sustainability.

Torbay Region

The second 'cluster' of marine industries is around the Torbay region. Torbay is known as the English Riviera and popular with tourists. Figure 4 show the spatial density of marine industry in this area and highlight the three clusters around the three main towns Brixham, Paignton and Torquay. Torbay may be best known for its tourist industry and beautiful beaches but there is a vibrant marine community that works in all sectors. Brixham, one of the three towns that make up the Torbay region, is one of the most successful fishing ports in the UK and has a large fishing research sector to support this. The Marinas at Torquay and Brixham are substantial in size, with regards to berth availability, and attract marine industries to the area for servicing the leisure boat industry.

Figure 4 Torbay Marine Industry



The Four CAMIS themes feature highly in this area as seen in figure 5. The marina Tourism sector includes companies that work either within or mainly with marinas; the renewables sector includes those companies that emphasised their ability and willingness (if not actual participation) in working in the off-shore renewable sector; Operations includes all companies that feature some sort of research, manufacturing or service provision with fuel efficiency or pollution control; and the environment theme includes companies that work to improve the understanding of the sea environment in some way.

Figure 5 CAMIS Four Themes



There are 10 companies in Brixham that are working to some extent in the environment industry. This is mainly in the fisheries sector and provides a clear cluster for further investigation. CAMIS is not researching the fishing industry but has identified the cluster through the environmental theme. It may be possible to look at this area in greater depth outside of the CAMIS project if deemed a possible cluster. The three main stakeholders in this area are: Astra Zeneca, DEFRA (fisheries office),

and the Devon Sea Fisheries Committee. Targeting this area and encouraging growth could impact on the regional economy. As the Fish Wholesale sector is well established here, there could be opportunities to facilitate further development by looking at the supply chains that are currently operating with a view to tightening and strengthening the economic impact on the immediate area. Figure 6 shows the location of the environmental themed companies in the Brixham area.

Figure 6 Environmental Themed Companies in Brixham Area



Table 2 lists these companies and gives a brief explanation of their business activity.

Table 2 Companies Working within the Environmental Theme

Postcode	Company	Marina	Environmental Activity
TQ5 9BW	Power Boat Sales	Brixham Marina	Committed to improving impact on the environment
TQ5 8BA	Environmental consultants and marine toxicology	...	An environmental laboratory
TQ5 8NN	Fish Wholesale merchants	...	Channel Fisheries
TQ5 8AW	Fisheries Office (DEFRA)	...	Fisheries management, protection of species,
TQ5 8AJ	Harbour	...	Harbour Management
TQ5 8DZ	Fisheries Committee	...	Sea Fisheries Committees have been responsible for the regional management of sea fisheries
TQ5 7HP	Seafood supplier	...	Sustainability has become a fundamental issue for fishing and they only use sustainable fishing methods
TQ5 0BE	Osmosis cure manufacturers	...	All waste is collected dry at the cutting head and the environmental impact is minimised
TQ5 9BW	Marina in Brixham	Brixham Marina	Working to relieve impact on the environment
TQ5 0EH	Marina on the River Dart	Dartside Quay	Working to relieve impact on the environment

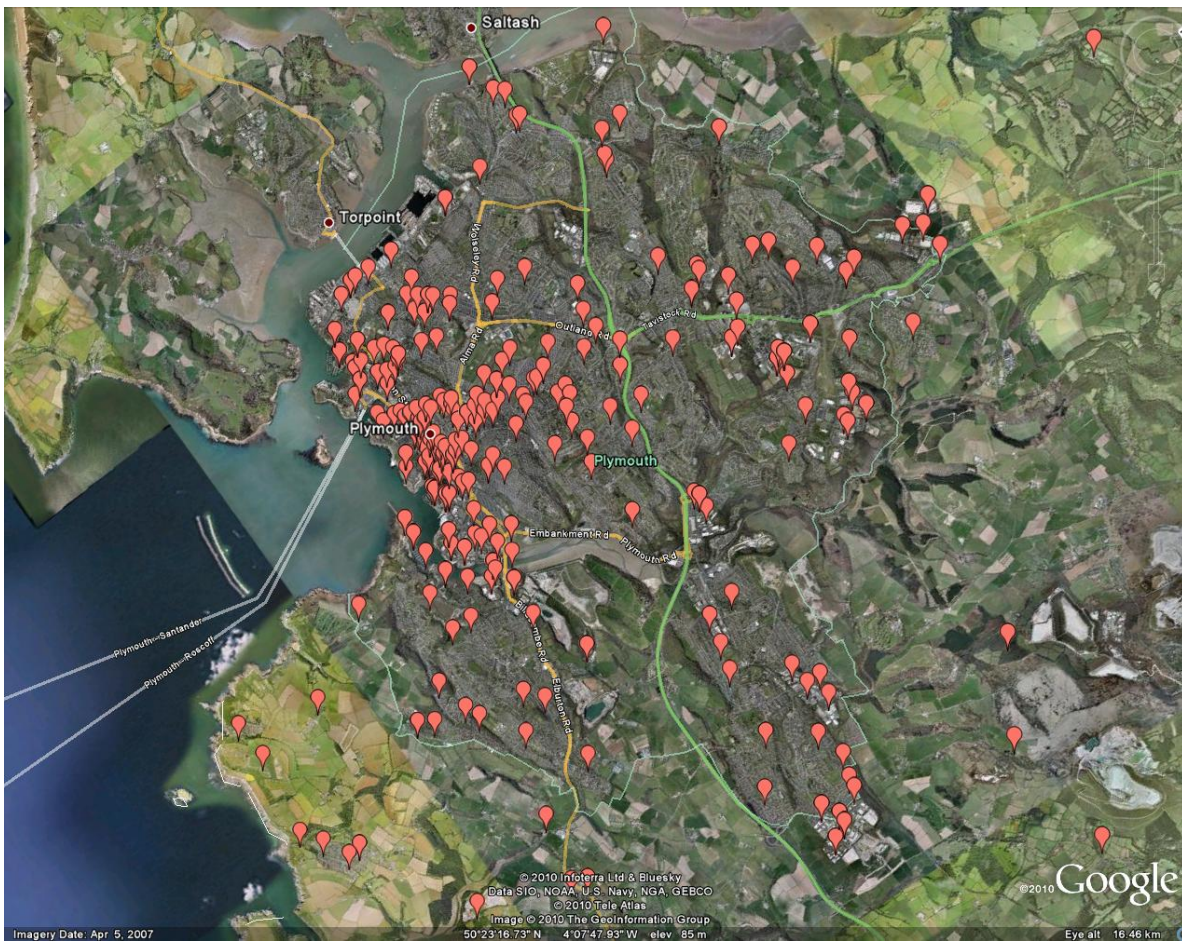
Summary

Although the Torbay region is, historically, a tourist destination and caters for the leisure industry, there are opportunities to develop cluster activity in the environmental theme, particularly the fishing research area. Marinas are well established and appear to be effective clusters but further investigation would highlight any areas that could be enhanced.

Plymouth

Plymouth has the largest marine sector in Devon. This is hardly surprising considering its maritime history and the location of many research and development companies looking at marine innovation. Plymouth University and Primare are also leaders in the field of environmental and marine research. Plymouth contains 432 marine companies that have been identified in the database. 29 of these companies work within the renewable energy theme, 32 in the environment theme, 15 in marine operations and 48 within the marina tourism theme. It is important to remember that where the tourism theme is concerned there may be hotels and restaurants that feature as 'marine industries'. The argument for including these companies stems from the actual structure and organisation of the marina industry. It can be argued that without the marinas presence the entertainment and accommodation would not have located in the area therefore, although not marine in their activities, they are providing a service for the marine industry. Figure 6 shows the extent of the marine industry in the Plymouth area.

Figure 7 Marine Industry in Plymouth



The following table gives the number companies within specific sectors that are located in Plymouth.

Table 3 Breakdown of Plymouth Marine Industry

Industry Sector	Number of Companies in Plymouth
Architects	30
Surveyors	22
Engineer	33
Electrical Engineering	14
Boat/Yacht Sales	10
Chandler	7
Fish Suppliers	18
Sail Makers	5
Boat repair	10

Of the companies located in Plymouth the Tourism theme features the highest. The majority of the Marina Tourism theme is situated around the Harbour area of the town (figure 7).

Figure 8 Plymouth Marine Leisure Industry



There are seven marinas that serve the Plymouth area, each one of a different size and providing a variety of different services. The Mayflower Marina is a member of the TransEurope Marina Group that collaborates with European Marinas to provide discount moorings through loyalty and membership schemes. Dry stack and Marina services are provided by the Yacht Haven Group at two locations and Sutton Harbour Marina has three marina areas within the Barbican section of the city. Regeneration of the harbour area in Plymouth and the increase in up-scale apartment living accommodation coupled with the new shopping mall has resulted in Plymouth being an attractive destination for living and working. Transport links to Plymouth by rail are not particularly good and a journey to London averages 3 ½ hrs compared to only 2 ½ hrs from Exeter; although the distance between the cities is only 43 miles.

Plymouth has close business relationships with Cornwall with many employees travelling into Plymouth each day from Cornwall. Plymouth is also a unitary council and this may impact on the administration and funding availability for the area when looking at County wide cluster facilitation.

The renewable energy theme is significant in the Plymouth area (table 4). The industry consists of research and consultancy fields and innovation carries a central theme through the sector. Many of the companies listed in the renewable energy theme also operate within the environmental theme due to the nature of the industry. Developing this cluster further would need to involve the university and PRIMaRE due to the significant role that they play in these sectors. Funding and knowledge transfer would need to be considered and a market analysis carried out to ensure the expertise can match the local need.

Table 4 Renewable Energy Companies in Plymouth

Company	Activity	Renewable Theme	REGEN Member
Babcock Marine	Engineering: Defence, energy, telecommunications, transport and education	Babcock operates in the high voltage power transmission and distribution markets. Marine energy	REGEN SW:
Marlin Submarines	Submarines and submarine parts	battery powered submarines	...
Black & Veatch	Engineering construction and consultancy: wind, tidal power	experience extends across biomass, water, wind, solar, geothermal and other emerging technologies..	...
Hyder Consulting	Consultancy, Wind	Consultancy, Wind	REGEN SW:
Atlantis Marine Power Ltd	Marine Generators, Engine Controls, Battery Chargers	Distributor-Manufacturer specialist marine electronic systems used for off shore energy commercial workboats	REGEN SW:
Ecoelectric Green Power	design and development resource for the micro generation of electricity from renewable sources.	Ecoelectric provides a design and development resource for the micro generation of electricity from renewable sources.	REGEN SW:
Hoare Lea Consulting Engineers	Consulting engineers specialising in mechanical, electrical and environmental engineering.	environmental engineering for construction	REGEN SW:
Hellermann Tyton	suppliers of products for fastening, fixing, identifying and protecting cables	Develop cable ties, heat shrink tubing and marker systems that fulfil the requirements of DNV type-approval.	REGEN SW:
Pipex Ltd (Pipex House Devon Enterprise Facility)	Site installation and project management of GRP, GRE, Composite and Thermoplastic materials into the Power Market	leading energy pipe and tubing supplier	REGEN
Poyry Energy Ltd	leading hydropower engineering service providers.	projects that deal with bioenergy - biomass, biofuels and biogas - along with waste-to-energy, wind power, solar power and geothermal energy.	...
Auto Dynamic Maritime Training (Plymouth)	Dynamic Positioning Maritime Training	Marine Consultancy - specialists in Dynamic Positioning Operations (Marine related), Offshore Energy courses	REGEN SW: ...
School of Engineering	Education /Research	Offshore energy research	...
Nomenca Limited	Mechanical, Electrical, Instrumentation, Control and Automation (MEICA)	Power Distribution, Waste to Energy and Maintenance / Refurbishment works.	REGEN
Seawind (Barclay Curle) Ltd	Seawind develops, builds and operates its own wind power projects across the globe	Pre-feasibility studies for logistics, construction and installation of wind turbines.	REGEN SW:
Scott Wilson Ltd	project managed phases of the development of the wave hub project	Offshore wind, wave and tidal energy	REGEN SW:
Engineering Assistance	Providing technical, design and engineering support to the renewables sector	technical, design and engineering support to the renewables	REGEN SW:

South West RDA	Regional Development Agency	Renewable Energy Strategies, etc	...
E-Tech Group Ltd. (South West Division)	electrical and mechanical engineering and the supply of cables and electrical equipment	Renewable Energy System Installations	REGEN SW:
Sir Alister Hardy Foundation	data from the North Atlantic and the North Sea on the ecology of plankton	Research on effect of renewable energy on environment	REGEN
James Fisher Rumic Ltd	Rumic supply specialist personnel for offshore oil, gas and telecom worldwide	Rumic supply specialist personnel for offshore oil, gas and telecom projects worldwide: Windfarm installation support	REGEN SW:
Ashfords LLP	Solicitors	Solicitors with specialists in energy, renewable generation, project finance and environment	REGEN SW:
GMD Eurotool Ltd	tooling and finishing for marine companies	Suppliers to major renewable energy companies	REGEN
Plymouth Marine Sciences	Research teaching and Development	sustainable solutions in advanced training, technology and environmental impact assessments for the renewable sector,	REGEN
Peninsula Research Institute	The Peninsula Research Institute for Marine Renewable Energy (PRIMaRE),	Expertise and research capacity to address the wider considerations of all aspects of Marine Renewable Energy.	...
Ocean Electric Power	Ocean Electric Power aims to be the leading commercial producer of marine energy	Tidal stream technology & Wave Energy Technology	REGEN SW:
Castra Consulting Limited	Security and Resilience Engineering and Supply Chain management	Water and Energy Consultants	...
Westcountry Energy Action -	reduce the impact of climate change and fuel poverty,	Delivery of sustainable energy policy and practice. (Incorporates DARE)	REGEN SW:
Paul Fassam Geomatics	Chartered Land Surveyors	Wind farm surveys	...

Research and Development feature highly and communication with PRIMaRE has identified that this is a developing cluster that is already encouraging companies to expand, diversify and locate in the Plymouth area.

Maritime Plymouth is a major network in the region and facilitation of cluster activities is now underway through the CAMIS project. Interviews with local business and the Maritime Plymouth management are currently taking place. The analysis of the work being carried out will be reported separately at a later date.

Summary

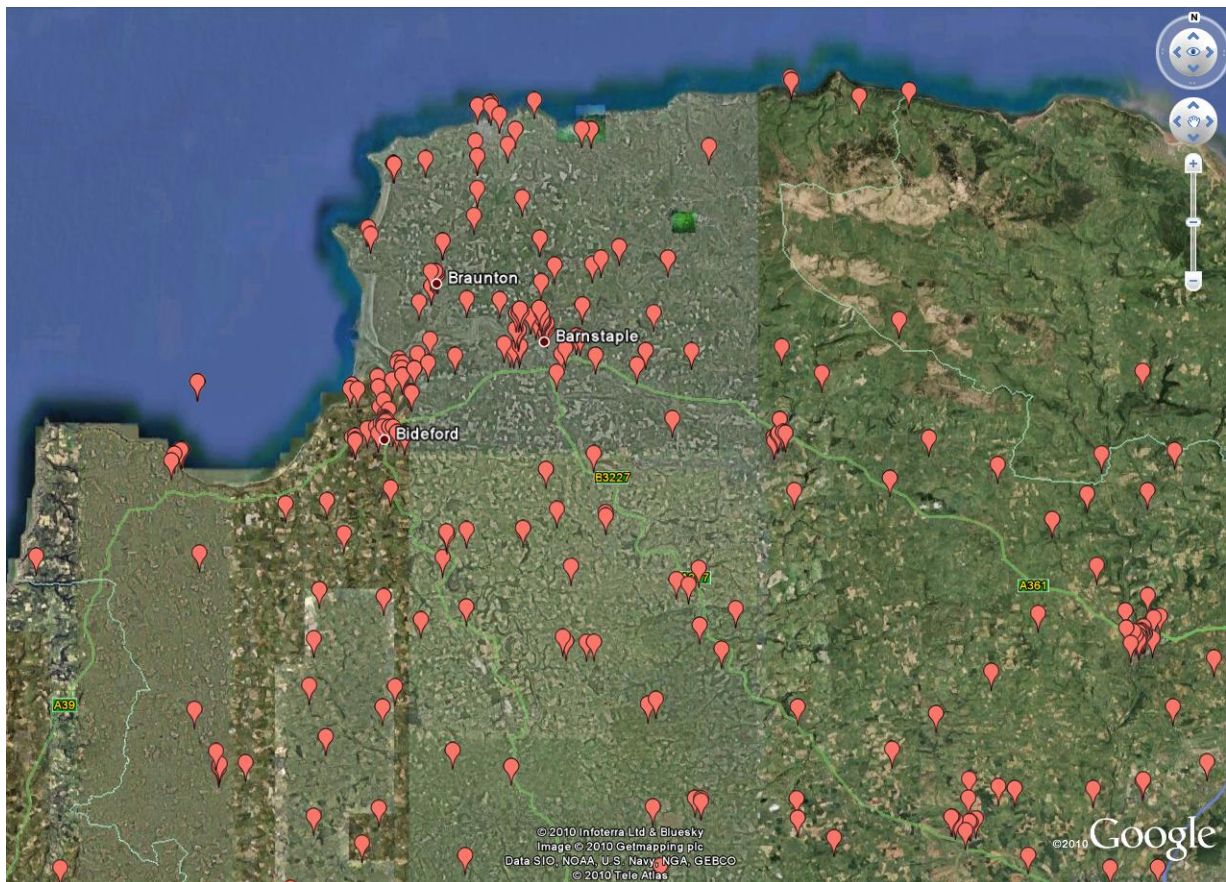
Plymouth is a vibrant and versatile marine area that has seen a lot of energy and investment devoted to increasing the marine opportunities that the areas geology, history and skills base allows. Further work is continuing through the CAMIS research and the potential for increasing the economic growth and building cross-border relationships is good. The University is a major

contributor to attracting interest to the area and the relationships between research and business are continually being built on.

North Devon

The north of Devon has a beautiful but inhospitable coastline which will impact on the type of companies that can locate here. Figure 9 shows the location and cluster density of companies in the north of Devon.

Figure 9 North Devon Maritime Industry



Barnstaple and Bideford are the two towns with the largest conglomeration of marine industry but it is interesting that there are also many companies that have located further inland. On closer inspection, many of the companies are service industries such as architects and surveyors although there is also a fairly large fishing industry including fish farming. Due to the spatial distribution of companies and no clear cluster activities the main towns will be discussed as areas rather than specific towns

The area of Barnstaple has 55 marine related companies that have been identified through the database. Six of these are engineering companies, 13 architects, and 5 renewable energy companies.

Many of the companies in this area do not rely on the marine industry for their income but tend to work in a wider sector within their specialism. Figure 10 identifies the location of companies in the Barnstaple area.

Figure 10 Marine Industries Surrounding Barnstaple



There are no apparent cluster links to companies in the area and location appears to be similar to Exeter where the service sector locate in the main town and larger, more in space intensive companies situate in the out of town industrial estate.

The area of Bideford has 60 marine related companies and includes two survey companies that work within the environmental theme. Due to the location of Bideford on the estuary of the river there is more boat and watersport related industries including yacht design and boat building. Fishing features highly and the Trawlerman Association have a base in Bideford. The fishing industry in Bideford is not limited to inland freshwater fishing but includes wholesale and processing for the food industry. Renewable energy in this area tends to be small consulting or service related and applies to energy performance and sustainability rather than off-shore energy. Figure 11 shows the location of companies in the centre of the town.

Figure 11 Marine Industry in central Bideford



North Devon does not include companies working in the Marina Tourism theme due to the lack of marinas in the region.

Summary

Although North Devon has a substantial marine industry it is spread across the region and, apart from Bideford, there is little cluster activity that could be identified. For facilitation of cluster activities to take place there will need to be further research into the areas such as supply chains and business behaviour so the actual needs of the region can be identified and any facilitation targeted to maximise the effect. This can be achieved through interviews and questionnaire surveys with the local economic development departments and the businesses in the area.

Conclusion

Devon has a large and diverse marine industry that has the potential to grow and strengthen in both size and expertise. Each area that has been discussed as part of this report differs in specialism due to the demographic, geographic and social aspects applicable to each individual area. The CAMIS research can potentially aid cluster facilitation and cross-border relationships with France through further in-depth studies of the clusters that have been identified. It is suggested that the work already started with the Maritime Plymouth Cluster continues under the CAMIS project and funds from this project are used to facilitate any cluster activity that will be identified through the ongoing research. If Devon County Council wishes to pursue further cluster activity elsewhere in the county the University of Chichester can work closely with the Council to both identify and facilitate this work. If the cluster research and facilitation is within the four themed areas the work can be continued through the CAMIS project, but where the specialism or identified need does not sit with the research objectives additional resources will need to be found.