

REPORT OF BUSINESS & PERFORMANCE MANAGER

SUBJECT: INVESTIGATION INTO POTENTIAL APPLICATION FOR GEOPARK STATUS

Purpose of Report

To ask Members to confirm that no further action should be taken at present.

Introduction/Background

In 2012 the Authority approved the commissioning of an investigation into the potential economic and environmental benefits of Geopark status for some or all of the National Park. Consultants Ove Arup from Cardiff were appointed to review the benefits and problems identified by Geoparks in the UK and Europe.

Summary Findings

In order to obtain Geopark status, the area must not only include significant geological features, but must also promote geology through education, interpretation, events and also appoint a qualified geologist.

The full report is included as an appendix, and the findings can be summarised as follows:-

- The quality of the geological features in Pembrokeshire would justify geopark status
- Although anecdotally it appears that Geopark status does have a positive impact on the local economy, this has not been proven in the few studies which have been carried out
- Geopark status is likely to attract only a limited number of additional visitors to the area in the short term although there is potential for additional educational visits
- Currently the National Park 'brand' is more widely recognised than geopark
- There is a cost to establishing, promoting and maintaining the Geopark status which depends on the amount of partnership contributions and volunteer involvement.

It is likely that Geoparks will achieve UNESCO endorsement, however there is little justification in pursuing Geopark status at present, but geology should be featured more prominently in the education, interpretation and events organised by the Authority in order to prepare for a possible application in the future.

Comparisons

There are eight geoparks in the British Isles including Forest Fawr Geopark where the partnership is led by Brecon Beacons National Park Authority. Further details are included in the full report.

Options

1. Take no further action.

2. Apply for Geopark status
3. Defer application until the impact of UNESCO endorsement becomes clear

Financial considerations

The cost of maintaining geopark status is difficult to quantify at present, but is likely to be between £20,000 and £30,000 a year.

Risk considerations

No additional risks are involved.

Compliance

Geopark status would not cause any compliance conflicts.

Human Rights/Equality issues

None

Biodiversity implications/Sustainability appraisal

Geopark status is likely to be beneficial to biodiversity and sustainability

Welsh Language statement

No additional implications.

Conclusion

It is unlikely that Geopark status would bring sufficient additional benefits to the National Park to justify the additional costs, although the Authority should monitor the impact of UNESCO endorsement. The Authority should also investigate featuring the geology of the area more prominently in interpretation and education work.

Recommendation

Members CONFIRM that the Authority should adopt Option 3 which is not apply for Geopark status at present but to monitor the impact of future UNESCO endorsement of Geopark status.


Background Documents

Ove Arup Report – Assessments of the Benefits of a Geopark – January 2013.

(For further information, please contact Alan Hare)

Author: Alan Hare


Consultees:



Pembrokeshire Coast National Park Assessment of the Benefits of a Geopark

4.50

Issue | 11 January 2013



This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 226228-00

Document Verification

ARUP

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List of Consultees

1 Introduction

1.1 Aims of the Study

Arup has been appointed by the Pembrokeshire Coast National Park to carry out an assessment of the potential benefits of Geopark status within the National Park.

The Pembrokeshire Coast National Park Authority (PCNPA) is considering applying for Geopark status, but before submitting an application, wanted to undertake a review of other similar areas and a preliminary collection of information likely to be of use in preparing the formal application.

The table below sets out where in the report we have addressed the specific objectives of the study.

Objectives	Report Sections
the potential socio-economic benefits from Geopark status;	3.1
how Geopark status might impact on National Park Purposes	3.3
longer term impact and implications, both in terms of benefits and resources;	3.4
the potential partnerships required to deliver benefits from Geopark status;	4.2
the level and type of community engagement required to ensure Geopark status be appreciated by local communities;	4.2
whether Geopark status is appropriate for the whole of the National Park;	4.4
Geopark application requirements and good practice.	4.3

1.2 Study Methodology

Arup carried out the following tasks to feed into this assessment:

- i. Desk top research into Geoparks, and their benefits;
- ii. Desk top research into the Geology of Pembrokeshire;
- iii. A series of semi-structured interviews with existing Geoparks;
- iv. A series of semi-structured interviews with local stakeholders in Pembrokeshire.

2 Context

2.1 Pembrokeshire Coast National Park

The Pembrokeshire Coast National Park covers an area of 620km² in southwest Wales, with a population of approximately 22,542¹. At its widest it is about 16km wide and at its narrowest only 200m. Most of the National Park is in private ownership. It was designated in 1952 under the National Park and Access to the Countryside Act 1949.

The Pembrokeshire Coast National Park Authority was created as a free standing special purpose local authority under the 1995 Environment Act. The Authority consists of 18 Members, 12 nominated by Pembrokeshire County Council and six appointed by the Welsh Government.

The Act specifies that the purposes of a National Park Authority are:

- To conserve and enhance the natural beauty, wildlife and cultural heritage of the park area;
- To promote opportunities for the understanding and enjoyment of the special qualities of the area by the public.

The Act also states that in pursuing these purposes the Authority has a duty to seek to foster the social and economic well-being of local communities.

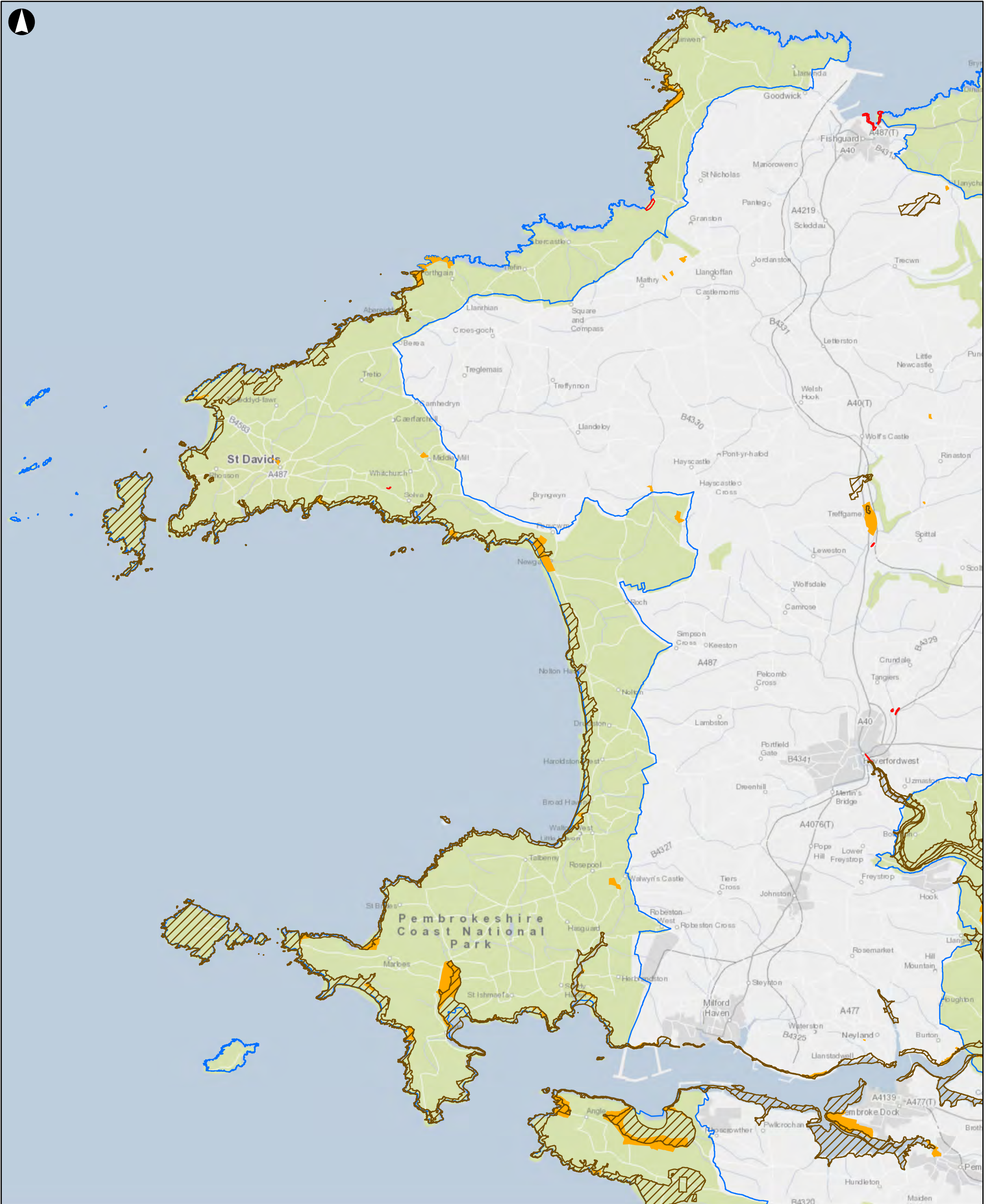
The exceptional geological features are an important part of Pembrokeshire Coast's National Park designation, as explored in more detail below.

2.2 Geology of Pembrokeshire

There are 51 Geological Conservation Review (GCR) sites in the National Park, which are now designated as Sites of Scientific Interest (SSSIs). Alongside this, there are numerous Regionally Important Geological Sites (RIGS). The GCR sites alone cover approximately 40% of the Park's coastline, and the RIG sites a further 30%. The extent of these sites is shown in Maps 1-3 below. CCW assert that there are more geological SSSIs in Pembrokeshire than anywhere else in Wales. PCNPA has a greater variety of geological and landform scenery than any area of the same size in the British Isles.

The geodiversity of the National Park forms an important element of its Management Plan, reflecting its importance in delivering the National Park park aims.. The geology of Pembrokeshire has historic importance, as the Silurian system is named after the exploration of sedimentary rock strata in South Wales. The northern area of the Park is predominantly Ordovician, with Cambrian and pre-Cambrian to the west. The southern area of the Park is predominantly sedimentary rocks; limestone and sandstone. The upland areas contain the distinctive volcanic outcrops of Cam Llidi and St. David's Headland and the great mass of the Mynydd Preseli, including Cam Meini, which was the source of the bluestones used to build Stonehenge. The inland landscape has been shaped

¹ Information from www.pembrokeshirecoast.org.uk



Legend

- Pembrokeshire NP
- Regionally Important Geological Site

Site of Special Scientific Interest

- Geological
- Mixed

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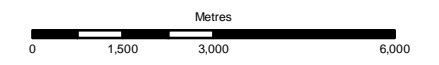
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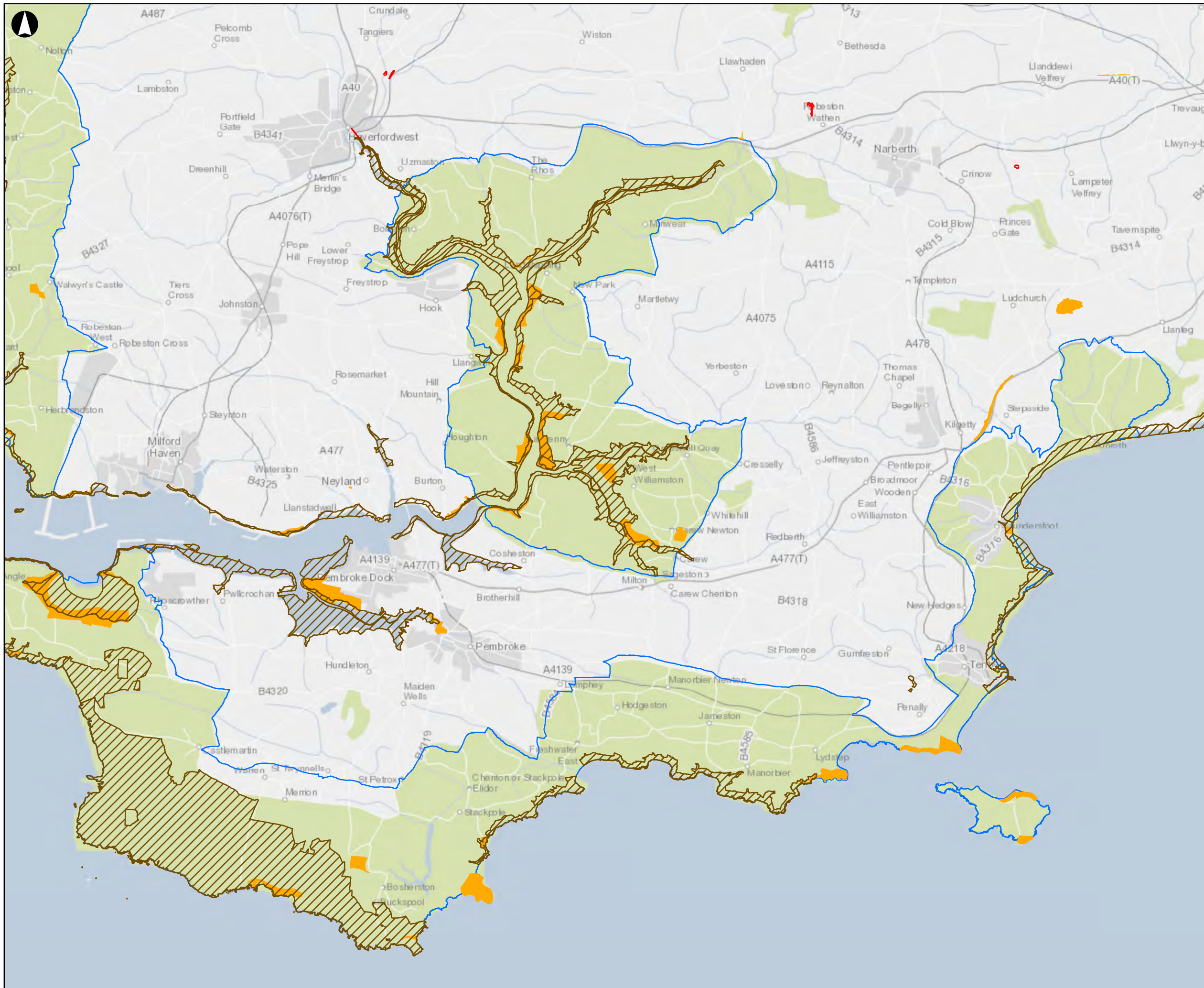
Job Title
Pembrokeshire Geopark



Geological Designated Sites (west)

Scale at A3

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Job No 226228-00	Drawing Status Preliminary
Drawing No 003	Issue P0



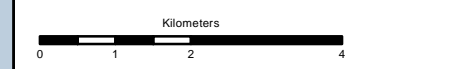
Legend

- Pembrokeshire NP
- Regionally Important Geological Site
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- Geological
- Mixed

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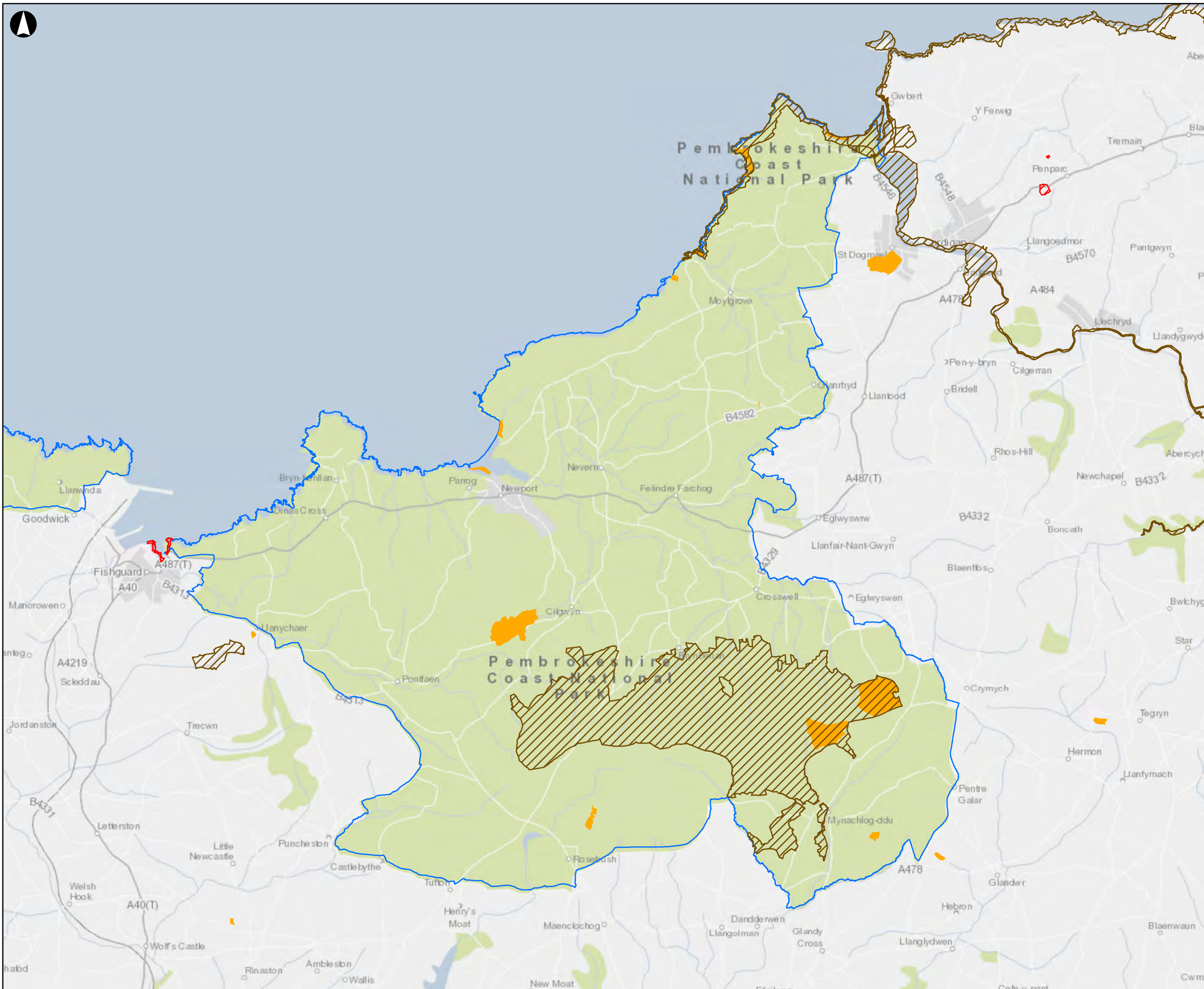
Client
Pembrokeshire National Park Authority

Job Title
Pembrokeshire Geopark

Geological Designated Sites (south)

Scale at A3
1:100,000

Job No 226228-00	Drawing Status Preliminary
Drawing No 002	Issue P0



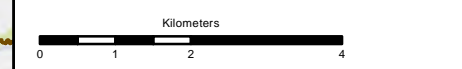
Legend

- Pembrokeshire NP
- Regionally Important Geological Site
- Site of Special Scientific Interest
- Geological
- Mixed

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Pembrokeshire National Park Authority

Job Title
Pembrokeshire Geopark



Scale at A3
1:100,000

Job No 226228-00	Drawing Status Preliminary
Drawing No 001	Issue P0

through the actions of ice movement and glacial meltwaters, which has formed deep gorges such as the Cwm Gwaun valley².

Local stakeholders suggest that the geology of Pembrokeshire is relatively subtle; many of the geological sites of interest are only visible and accessible from the sea. Assistance in interpretation of the geodiversity would be likely to aid visitors in their enjoyment of it.

2.3 Socio-Economic Context

Pembrokeshire Coast National Park covers significant areas (over one third) of Pembrokeshire County. The County is characterised by rural areas and small coastal towns and villages. As a result of the diverse natural geological features and the subsequent designation as a National Park, tourism plays a vital role in the economy of the area. In 2007 the National Park had 4.2 million visitors with an estimated visitor spend of £498m³. Recreation activities are an important part of the Park's attraction; it is popular with walkers, climbers and also offers a number of activities including caving, canoeing, diving, horse riding, sailing and surfing.

There are no large towns within the National Park with the exception of settlements of Tenby and St David's, Britain's smallest city. The estimated population for county is 122,400; with approximately 22,542 people living in the National Park.

The park is made up of small local town centres, villages and hamlets which contain a range of shops and services orientated to meet local needs and visitor trade. The modest scale of the retail sector reflects the context of the National Park as does the number of areas with high conservation value. These include the beaches, which are popular and accessible destinations for both locals and visitors taking an important role in the economy of the area and shaping its identity as Britain's only coastal National Park.

There is no major industry present within the National Park itself, largely due to the regulation of land use planning and development. The area as a whole has a number of defining characteristics; specifically an economy of small scale businesses based on sectors such as tourism and agriculture.

Pembrokeshire County Council is the lead tourism authority in the area, and thus, much of the existing tourism data is based on Pembrokeshire as a whole, which for most is the destination, rather than specifically the National Park. It is likely that tourism spend permeates across the County.

The Pembrokeshire County Council STEAM⁴ report 2011 shows the relative economic impact of tourist categories; this is broken down in **Table 1** below. This shows that those staying in non-serviced accommodation have the biggest relative economic impact in the County.

² Information summarised from Pembrokeshire Online, Sid Howells, <http://www.pembrokeshire-online.co.uk/geology.htm> and from Pembrokeshire Coast National Park Authority

³ According to STEAM data.

⁴ Scarborough Tourism Economic Activity Model

Table 1: Pembrokeshire tourist numbers and relative economic impact, 2011

Category	Tourist Numbers	Relative economic impact, %
Serviced Accommodation	514,000	15%
Non-Serviced Accommodation	1,620,000	73%
Staying with Friends and Relatives	181,000	3%
Day Visitors	1,911,000	9%
Total Tourist Numbers	4,226,000	100%

Across the County, tourism-related local employment for 2011 was estimated as set out in **Table 2** below, with accommodation providers making the biggest contribution to the overall job numbers, but food and drink providing a similar amount of expenditure.

Table 2: Tourism-related employment and expenditure, Pembrokeshire, 2011

Employment Sectors	Full Time Equivalent Employment	Expenditure, £millions
Accommodation	9,695	115.97
Food and Drink	2,187	101.27
Recreation	896	34.42
Shopping	1,065	54.46
Transport	416	43.08
Total Direct Employment	10,279	419.04
Indirect Employment	726	150.90

In 2011, the total economic impact of visitors to Pembrokeshire was calculated as £569.94 million.

According to the 2006 report, *Valuing our Environment: Economic Impact of the National Parks of Wales*⁵, the environment of the Pembrokeshire Coast National Park:

- Generates a total of £68 million in income;
- Supports 4,653 jobs; and
- Contributes £81 million to the GDP of Wales

The STEAM figures are not directly comparable with these figures, as they are for a different year, using differing methodology. However, one key finding from the 2006 report is that 93% of indirect employment occurs outside the National Park, highlighting the important connections between the Park and the County as a whole.

2.4 Geo / Eco-Tourism in Pembrokeshire

Existing activities within the National Park allow for interactive interpretation and enjoyment of the parks important geological features with the main tourist interests stemming from appreciation of wildlife, landscapes and leisure activities.

⁵ National Trust Wales et al, *Valuing our Environment: Economic Impact of the National Parks of Wales*, (2006)

Educational and recreational activities currently available within the National Park include coasteering, sea kayaking, sailing, horse riding, climbing, surfing, diving, wildlife boat trips, cycling, running and the primary activity of walking. The proportion of visitors reporting to engage in a range of activities whilst visiting Pembrokeshire is shown in **Table 3** below⁶.

Table 3: Activity numbers: All activities undertaken, 2011/12

	2011/12	2007/8
Short walk (<2 hours)	66%	65%
Long walk (2+ hours)	30%	23%
Cycling/ mountain biking	6%	5%
Energetic beach activities	17%	31%
Relaxing beach activities	34%	46%
Wildlife watching	27%	26%
Water sports	8%	12%
Visiting friends and relatives	18%	20%
Driving around and sightseeing from car	49%	48%
Eating and drinking out	64%	63%
Horse riding	2%	4%
Non-essentials shopping	30%	52%
Golf	2%	3%
Fishing	3%	8%
Boat trips	13%	18%
Visiting natural attractions	46%	61%
Visiting a family, theme or activities park	24%	22%
Visiting historic, heritage and cultural sites	38%	43%
Visiting gardens, country parks or garden centres	13%	13%
Attending a specific event or show/ festival	1%	16%
Sample size	1,861	1,526

Pembrokeshire's 300km of coast path is managed by the National Park Authority, and emphasises its identity as the UK's only coastal National Park. This, alongside the inland Rights of Way managed by the National Park, could be used as an asset in linking many geological features, if improved interpretation were provided.

The footpaths provide community links of significant local value, influencing a local sense of place that fosters a sense of pride and encourages local involvement in retaining the areas high quality environment. This consequently facilitates the protection and enhancement of the destination's own appeal for businesses

⁶ Beaufort Research for Pembrokeshire County Council, *Pembrokeshire Visitor Survey 2011-2012: Final Report June 2011 – July 2012*

through recognition that sustaining habitats, heritage sites and aesthetic appeal along with local culture keeps visitor numbers high.

The NPA operates numerous services that promote understanding and take an inspirational role in learning about the natural environment. This is achieved through activity programs, events, school programs and information present in visitor centres and through the upkeep of many historic, wildlife and recreation sites complete with identification and information boards at viewpoints and gateways. There are a number of locations with interpretive boards on the local geology; for example at Strumble Head and Fishguard Tourist Information Centre.

Many tourist operators within the park already promote interpretation of the geology of the Park. Examples include:

- Pembrokeshire and Darwin Science Association events and educational tours;
- Boat trips around Ramsey Island;
- Pembrokeshire outdoor charter group;
- TYF's residential and day programmes.

The lead agent for tourism is Pembrokeshire County Council who work with the Pembrokeshire Coast National Park Authority and Pembrokeshire Tourism. They form a partnership called Destination Pembrokeshire responsible for integrating and managing tourism as well as sustainable recreation.

The visit Pembrokeshire website is run by Pembrokeshire County Council's tourism team and it attracted over 500,000 visitors in 2011.

Local food and drink is promoted in Pembrokeshire through the use of the Pembrokeshire Produce Mark Scheme; this could be expanded or re-branded to better link with Geotourism and Geopark status.

2.5 What is a Geopark?

The United Kingdom National Commission for UNESCO defines Geoparks as '*nationally protected areas with outstanding geological heritage. There is a considerable effort to conserve this heritage and encourage its enjoyment and understanding by the public, with the aim of supporting sustainable development.*'

According to UNESCO, there are three principle components which underpin Geoparks - conservation, education and sustainable development. In practice, Geoparks in the UK typically involve some academic research into the geology of the area, some engagement with local schools and a tourism offer which centres on walks and other outdoor activities in the area. Whilst geology is a key part of what makes a Geopark, the status encourages promotion of the earth more generally; trying to reconnect society with the earth through making connections between geology, landscape, heritage and biodiversity.

The Geotourism charter defines Geotourism as: tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage and the wellbeing of its residents. Geotourism has been further defined as “a form of natural area tourism that specifically focuses on geology and landscape. It promotes tourism to geo-sites and the conservation of geo-diversity and an understanding of earth sciences through appreciation and learning. This is

achieved through independent visits to geological features, use of geo-trails and viewpoints, guided tours, geo-activities and patronage of geo-site visitor centres.” (Newsome and Dowling, 2010)

There are currently 89 Geopark members worldwide in 27 countries. In Europe there is the European Geoparks Network (EGN) which consists of 50 Geoparks from 19 countries. The British Isles currently has eight Geoparks which are:

- Copper Coast Geopark – located on the South East coast of Ireland;
- English Riviera Geopark – in South Devon around Torbay;
- Fforest Fawr Geopark – western half of the Brecon Beacons National Park;
- GeoMôn GeoPark – located on Anglesey;
- Geopark Shetland – covers the Shetland Isles in northern Scotland;
- Marble Arch Caves Global Geopark – in Fermanagh and Cavan counties of Northern Ireland;
- North Pennines AONB European Geopark – between the Eden Valley and former West Durham Coalfield in northern England; and
- North West Highlands Geopark – located to the far north of mainland Scotland.

A key benefit of Geopark status is the very fact that they are a global network. This allows members to use the global brand for marketing services and also provides a rich network for knowledge sharing both in terms of geological learning and promoting sustainable development.

European Geopark Network (EGN)

Geopark status in Europe requires adherence to the EGN Charter along with the Global Geoparks Network Charter. A core value of the EGN Charter is that there must be no loss or destruction of the geological heritage of a Geopark. Alongside this are commitments to the supporting education and scientific research relating to the geological heritage of the area, along with promotion of natural and cultural heritage in order to bring economic benefits to the area.

Existing Geoparks reasoning for seeking Geopark status

The existing UK Geoparks had a number of different reasons for seeking to attain Geopark status. These include:-

GeoMôn Geopark – felt it would be a good way to communicate research relating to geological sites of interest on Anglesey to the public;

North Pennines AONB Geopark –hoped that Geopark status may help raise the profile of the AONB and that it was a good fit with their mining heritage;

English Riviera Geopark – local partners and the community felt that the geology and heritage of the area wasn't being played up enough in the local tourism offering and that seeking Geopark status could reverse this; and

Fforest Fawr Geopark – communities in the west of the National Park wanted more benefits from the Park and it was felt seeking Geopark status could help.

Reasoning for leaving Geopark Network

In contrast, the Abberley and Malvern Hills Geopark joined the EGN in 2003 and subsequently left in 2009. They felt that the EGN was a largely bureaucratic organisation and that they'd rather focus their resources on the delivery of geological activities rather than attending EGN meetings and on compliance work. It should be noted that Abberley and Malvern Hills does still market itself as a Geopark as they do not feel it is a protected term.

Geopark Network relationship with UNESCO

At present, the relationship between UNESCO and the Global Geopark Network is on an *ad hoc* basis. However, it is expected that this relationship will be formalised going forwards. A UNESCO Executive Board meeting in November 2012 supported in principle the Global Geoparks Network becoming a UNESCO initiative. Should this move be passed at the UNESCO Annual General Meeting in Spring 2013 then Geoparks may be able to use the terms 'UNESCO Geopark' or 'UNESCO Global Geopark' shortly thereafter. It should be noted that it is not anticipated that this will result in any core funding for Geoparks.

Affiliation with UNESCO would be likely to allow Geoparks to use the UNESCO branding, and therefore their international profile, which would provide a major boost for the marketing of Geoparks. Whilst the profile of Geopark status has improved over time, particularly as the numbers of members has risen, the Geopark designation is not nearly as internationally recognisable as UNESCO. It is thus expected that becoming a UNESCO Geopark or a 'UNESCO Global Geopark' would be highly desirable, and may attract more visitors than merely a Geopark.

3 Potential Benefits and Impacts

3.1 Socio-Economic Benefits

A central pillar of Geopark status is promoting sustainable tourism in the area - Geotourism. However, as stated previously, a Geopark does not merely seek to use local geology to leverage additional tourism; rather it relates the tourism offering to the earth more generally, taking a holistic approach to drawing together geology, landscape, culture, heritage and biodiversity. This is intended to rejuvenate existing local tourism and to provide new opportunities for local communities to engage in tourism.

There is a general consensus across the existing Geoparks in the UK that Geopark status has resulted in an increase in visitor numbers. However, these impacts are difficult to isolate as Geoparks in the UK do not have a single entry point or charge an entry fee, unlike most tourist attractions. Moreover, it is difficult to disentangle tourism directly related to a Geopark from other tourism in the area. For this reason, as well as there being a tendency for Geoparks to be keen to focus their attentions on delivery rather than monitoring, there is a lack of quantitative evidence of the socio-economic impacts of Geoparks.

A study by McKeever *et al.* (2010) did find evidence of a positive impact that the creation of the Lesvos Petrified Forest European Geopark had on the Greek island of Lesvos with the Geopark becoming the main visitor attraction on the island with 90,000 visitors annually, 35 local workers employed directly and hundreds of other jobs being indirectly created.

Similarly, a 2010 paper analysing the economic effects of Geotourism in the TERRA.vita Geopark in northern Germany found that in 2007 a total of 234,000 visits were made to the Geopark and, based on average spend assumptions, resulted in gross revenue of €12.3m and employment effects estimated at 300 FTEs. The paper concluded that, whilst the research presented could not prove a causal relationship between Geopark activities and tourism spend, the evidence suggests that the Geopark contributes to the economic development of the region.

There are a number of specific examples of localised economic benefits arising from initiatives to promote geology. For example, since the introduction of the Geopark Way, which extends 109 miles from Bridgnorth to Gloucester, the accommodation close to the route has experienced a boost in visitor numbers. Similarly, in the English Riviera Geopark the opening of the Geoplay Park in Paignton, a geology themed playground, has had a regenerative impact on the surrounding area with more visitors, both residents and tourists, coming to the area. Over 3,000 local people attended the opening event for the Geoplay Park and an additional sustainability grant has already been secured to ensure the benefits of the playground are maximised in the surrounding area.

Enterprises established because of Geopark activities

The EGN is conscious of the importance of being able to quantify economic impacts of Geopark status. They are currently in the process of conducting a study on the economic impacts of Geoparks, though a report has yet to be published (as at November 2012). As part of the EGN study, data has been collected from existing Geoparks on a number of topics; this data has been obtained to support this study for Pembrokeshire Coast. However, it should be noted that the data has been self-reported, and not necessarily peer-reviewed.

The most useful data in terms of measuring economic impacts are the responses to the questions relating to enterprises established because of Geopark activities. Whilst the responses may be subjective, they should give an indication of the additionality of a Geopark. Geoparks were asked about the number of hotels, restaurants, shops and branded products established because of Geopark activities. Key points from the responses include:-

- The UK Geoparks who responded (English Riviera, Fforest Fawr and North Pennines AONB) did not report any evidence of enterprises being established because of Geopark activities.
- A majority of Geoparks on mainland Europe also did not report any evidence of enterprises being established because of Geopark activities though some did respond that they felt they'd had a positive impact on enterprise. For example, Lesvos Petrified Forest in Greece responded that the increase in visitors from since attaining Geopark status has resulted in three hotels being established, five restaurants, 10 shops and two branded products.

Geoparks were also asked to estimate the turnover generated by enterprises initiated by Geopark activities. Again, a majority (including the UK Geoparks) responded that was no turnover generated. Arouca Geopark in Portugal reported a €75,000 increase in turnover and Psiloritis Geopark, Greece reporting an increase of €205,000.

Further to this, there are examples of Geopark initiatives providing employment for the members of the community. The Marble Arch Caves Geopark ran the Geopark Ambassadors Project which involved the training of members of the local community to act as independent tour guides within the Geopark. The Ambassadors Project involves training on all aspects of the Geopark including geology, biodiversity, history and archaeology. There are currently 15 trained tour guides who now lead walks and tours within the Geopark area.

The North Pennines AONB Geopark runs a Heritage Skills Training project which provides apprenticeships with professional drystone wallers for young people. On completion, the apprentice obtains a level 2 qualification in dry stone walling and they also receive specific training on business skills. The project was motivated by a local shortage of wallers and to date has trained 14 new wallers with further young people entering the project.

Geopark status, and the promotion of Geotourism more broadly, also offers further economic opportunities beyond tourism. According to a 2011 paper by Farsani *et al.* on socio-economic development from Geotourism and Geoparks:-

‘Currently, most of the craft businesses that are located in Geopark territories are linked to the geoparks and produce products based on the geological elements such as Geocktail (Vulkaneitel Mineral Water Cocktails) in the Vulkaneifel Geopark, Germany; dinosaur bread in the Hateg Country Dinosaurs Geopark,

Romania; ammonite chocolate and ammonite bread in Réserve Géologique de Haute-Provence, France; and trilobite cake in the Naturtejo Geopark, Portugal (Farsani et al., 2010).’

There is little evidence of similar initiatives occurring in the UK Geoparks at present; nonetheless these opportunities may be exploited more going forwards. The Jurassic Coast, though not a Geopark, does have the ‘Jurassic Coast Quality Business Scheme’ which offers accreditation to local tourism businesses. A similar scheme could be initiated in a Geopark which allows firms which buy into the Geopark ideals to utilise the brand.

Innovative Projects

- The Heritage Interpretation through New Technologies (HINT) project is a collaboration between Geopark Shetland, North Pennines AONB Geopark, Chablais Geopark (France) and the aspiring Geopark Hondsrug (Netherlands). As part of this, Shetland Geopark has launched a mobile app with audio-visual information about the geosites on Shetland Islands. The North Pennines has developed Bluetooth/Wi-Fi from its visitor centre to make visitor information available even when the visitor centre is shut.
- Sobrarbe Geopark (Spain) has developed a ‘taste of Sobrabe’ event which offers a gastronomic tour of the Geopark. The event is held twice a year in Spring and Autumn with participating restaurants developing special menus which incorporate produce from within the Geopark. In a similar vein, the Apuan Alps Geopark (Italy) runs a cookery class which seeks to use products with ‘zero food miles’ from the Geopark.

Whilst economic benefits are difficult to isolate, it should be noted that there is no evidence of negative impacts of Geoparks in the UK. Geoparks seek to promote the natural heritage of an area and to promote sustainable development, but this is not at the expense of other activities. Thus, Geopark status would not be anticipated to crowd out any existing products or services. The only exception to this would be any existing activities which are having a detrimental impact on the geology of the area. However, there is no evidence of any such economic activity with Pembrokeshire Coast National Park.

In order to realise the economic benefits outlined above, a certain amount of investment is required. Entry to the European Geopark Network doesn’t simply bring about positive impacts; they must be proactively sought, particularly as membership does not necessitate an additional funding stream. Common examples of investments relate to improvements to the tourism offering in terms of visitor centres, trails and other facilities. Equally important is the marketing and publicity of the Geopark. This is necessary to raise the profile of the Geopark both locally, and to tourists more broadly.

Examples of UK Geopark Activities

North Pennines AONB Geopark

The North Pennines AONB offer a range of activities which include:

Guided walks (around 35 per year);
Education resources;
Interpretation – both face-to-face and static displays;
Geology cycle trail;
Annual two week Geology Festival;
Films and animations; and
Guided trails – books, audio guides.

It should be noted that not all these activities are new since becoming a Geopark though five trails have been established by the Geopark.

Fforest Fawr Geopark Activities

The Fforest Fawr Geopark has a total of 20 geotrails which are detailed in books and leaflets. These trails have a community focus i.e. start in a particular village with a route that takes in the geological heritage of the local area.

Fforest Fawr also runs the annual European Geopark Network week for an extended period of a fortnight. The walks, talks and other events which made up the festival were attended by over 1,000 participants in 2012.

Abberley and Malvern Hills Geopark Activities*

The key event of the Abberley and Malvern Hills Geopark is 'Geofest.' This year Geofest ran for 3 months from June-August, included over 100 days of events and activities and was attended by over 10,000 people. The Geopark focuses its public events into this time period and during the rest of the year they spend more time on geological and landscape conservation, improving interpretation and surveying.

The Abberley and Malvern Hills Geopark includes the Geopark Way which runs 109 miles from Bridgenorth to Gloucester. This long distance has proved popular with walkers.

* - It should be noted that the Abberley and Malvern Hills Geopark is not a member of the European Geopark Network but does promote itself as a Geopark.

Existing UK Geoparks were keen to emphasise the semi-intangible benefits which arise in Geoparks. These social and cultural benefits do not lend themselves to quantification in terms of jobs or economic activity, but can have a positive impact in terms of the local community. The English Riviera felt that their work with communities has helped local residents better appreciate the area and improved their sense of place. Other examples of community based schemes include:

- GeoMôn Geopark recently ran a course for members of the community on the basic geology of Anglesey. The course included talks, practical sessions and field trips;
- English Riviera Geopark is running a project called GeoQuest. This performance arts project encourages local artists promote the cultural heritage of the local area through music. This project attained the Cultural Olympiad Inspire mark and the programme has been shared with the Urzen Geopark in Japan; and
- Fforest Fawr Geopark is a partner in the Calch Project with the Brecon Beacons National Park Authority, Dyfed Archaeological Trust, the national Museum of Wales and the Black Mountain Centre in Brynaman. The Project is seeking to research and promote the history of the lime industry on the Black Mountain. The Project involves the local community and has included engagement with schoolchildren.

European Geoparks Week

The European Geoparks Week is the key event on the EGN calendar in which all members of the EGN run a series of events. Events in 2012 included a number of guided walks, presentations and exhibitions. Other notable events included the Burren and Cliffs of Moher Geopark (Ireland) hosting an evening concert at Caherconnell Stone Fort and the English Riviera hosted 'Murder in the Caves', an interactive murder mystery evening in Kents Cavern.

3.2 Funding

A key advantage of Geopark status is the opportunities it opens in terms of securing external funding. Whilst it certainly can't be argued that all external funding secured by Geoparks is solely due to Geopark status, there are various examples of Geoparks winning funding through collaborative projects which would have been unlikely to occur without the EGN.

External sources of funding include both the LEADER and INTERREG initiatives. The LEADER initiative is financed by the European Agricultural Fund for Rural Development for projects relating to the diversification of rural economies. One example of a LEADER funded project is the Heritage Interpretation using New Technology (HINT) initiative, a collaborative project between Geopark Shetland, North Pennines AONB Geopark, Chablais Geopark (France) and the aspiring Geopark de Hondsrug (The Netherlands). This project centres on using technology to deliver geological interpretation. It should be noted that the current LEADER Programme provides a maximum of between 40-50% of legible project costs, hence applicants need to raise match funding from another source.

The INTERREG initiative is funded by the European Regional Development Fund (ERDF) and is intended to promote cooperation between member states of the European Union. The Borders Uplands project at the Marble Arch Geopark has received funding from the INTERREG IVA Programme with additional funding coming from the Department of Enterprise, Trade and Investment (DETI) in Northern Ireland and the Department of Transport, Tourism and Sport in

Republic of Ireland. The project was launched in October 2012 and is intended to expand the geotourism offering of the area including a new tourism facility at Cavan Burren and an enhancement to facilities at the Marble Arch Caves. INTERREG funding seeks to improve cross-border, trans-national and interregional social and economic co-operation. The Borders Uplands example is a joint venture between Fermanagh District Council in Northern Ireland and Cavan, Leitrim and Sligo County Councils in the Republic of Ireland.

Another fund that Geoparks have obtained funds from is the European Union's environmental fund LIFE+. The LIFE programme provides funding for environmental and nature conservation projects. By means of an example, the Burren and Cliffs of Moher Geopark has recently secured €1.1m matched project funding through LIFE+ fund. This project seeks to protect the heritage and landscape of Burren whilst supporting local employment and economic activity.

It is important to note that the current arrangements for EU funding are for the period 2007-2013. The new funding framework for the 2014-2020 programming period has yet to be agreed. The EU's growth strategy, Europe 2020, gives an indication of funding priorities. The three key strands of this strategy are Smart Growth, Sustainable Growth and Inclusive Growth. The work of Geoparks fit within the Sustainable Growth objective which seeks economic prosperity while protecting the environment. Thus, whilst by no means guaranteed, it would be expected that there will still be EU funding opportunities for Geoparks in the 2014-2020 programming period.

There is also the potential for Pembrokeshire to raise funding from other sources. For example:-

- Fforest Fawr has secured funding via the Aggregates Levy Sustainability Fund for Wales for work relating to the Geopark Visitor Centre;
- The English Riviera Geopark raised £447,000 of funding from the Big Lottery Community Spaces Grant Fund for a Geopark; and
- North Pennines AONB Geopark received funding from the Heritage Lottery Fund for their Heritage Skills Training initiative.

Funding

The table below sets out the external funding secured for UK Geoparks since each Geopark's inception. The detailed breakdown this funding, in terms of both provenance and use, was not available for all Geoparks, but is included where known.

Geopark	Year achieved Geopark status	Total External Funding (Breakdown provided where known)
English Riviera Geopark	2007	£5,444,000 Made up of – Berry Head On The Edge £1.8m Educational Development in Primary Schools £49k Cockington Court Sea Change £2.7m Royal Terrace Gardens restoration interpretation £200k Paignton Play Park £500k Seashore Centre Exhibition £45k National Centre for the Stone Age £20k Geoquest £15k Geopark Digital Information Project £30k Victoria Parade Art Commission £30k Torbay Connected £50k Arts Council – Performance Art project £5k
Fforest Fawr Geopark	2005	Over £300,000
GeoMôn Geopark	2009	Around £250,000
Geopark Shetlands	2009	Around £150,000
Marble Arch Caves Geopark	2001	£3,228,000 Made up of - INTERREG IIIB £870k INTERREG IIIC £16k INTERREG IVA £632k INTERREG IVA £1.4m Northern Ireland Rural Development Programme £150k Cavan – Monaghan LEADER £160k
North Pennines AONB Geopark	2003	Core' external funding:- 09/11 - £879,955 10/11 - £1,359,000 11/12 - £1,108,000
North West Highlands Geopark	2004	Over £800,000

3.3 National Park – Geopark Relationship

There are a number of synergies between a National Park and a Geopark. For example, part of the EGN Charter states that ‘The sites in European Geopark must be linked in a network and benefit from protection and management measures. The European Geopark must be managed by a clearly defined structure able to enforce protection, enhancement and sustainable development policies within its territory.’ For National Parks, it is likely that these criteria are already being met. Moreover, the Charter also states that a Geopark should ‘support education on the environment, training and development of scientific research in the various disciplines of Earth Sciences, enhancement of the natural environment and sustainable development schemes.’ Clearly, these activities would also have a positive impact on the National Park, and may broadly be met by the National Park’s existing purposes:

- to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park;
- to promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public.

It should be noted that a Geopark is based around the principle components of conservation, education and sustainable development rather than a statutory obligation to conserve the local environment. Therefore, Geopark status cannot be seen to have much impact in terms of directly conserving protected or sensitive landscape. Similarly, Geopark status doesn’t increase or restrict access to the wider countryside. However, increasing the awareness of the natural environment may result in positive environmental outcomes.

For example, Ha Long Bay in Vietnam, which certified as a UNESCO World Heritage site in 1994, is considering seeking Geopark status. The reasoning for this is that they feel that at present that the level of tourism in the area is damaging to environment. They hope that the emphasis on Geotourism from Geopark status and the revalidation process, which requires Geoparks to take proactive steps to promote sustainable development, may reverse this trend.

One concern raised by local stakeholders was that Geopark status may lead to further regulation, and have a potential negative impact on economic development. However, as stated above, Geopark status affords no statutory conservation duties, and thus there should be no additional regulation burden. However, it will be important to manage this possible perception amongst the business community.

Academia

A number of Geoparks have link ups with academic institutions, examples include:

- Marble Arch Caves Geopark has a link up with the Earth Science Education Unit at the University of Keele and they are also working with a Masters student in Heritage Science with respect to the development of new technologies within the Geopark;
- Psiloritis Natural Park collaborates with Loughborough University and

hosted a group on students in April 2012; and

- Fforest Fawr Geopark has hosted field trips for both the University of the Third Age and the Open University.

Academia, and the potential to attract greater numbers of field trips to Pembrokeshire, was seen as significant opportunities by local stakeholders, utilising existing facilities such as the National Trust's Stackpole Outdoor Learning Centre.

Geopark status may also bring benefits for the geodiversity and biodiversity of the area. The North Pennines AONB Geopark has undertaken a Geodiversity Audit and formulated a Geodiversity Action Plan. They felt the Geodiversity Audit was necessary in order to 'establish a sound framework and knowledge-base for ongoing programmes of geologically related interpretation, conservation and other activities'. Building on this the Action Plan is extended to enable the Geopark to 'make the most of the area's geodiversity for education, interpretation and geotourism.' This represents an example of the opportunity that Geopark status provides in terms of acting as a catalyst to proactively manage both the geodiversity and biodiversity of the area. GeoMôn also has a Geodiversity Action Plan in place, and one is being produced for Fforest Fawr Geopark⁷.

Further to this, Geopark status has served to improve understanding and enjoyment of the natural heritage of an area. A common feature of Geoparks is signage and display boards which highlight and provide information on the geology of the area. Pembrokeshire could build on existing displays, for example at Strumble Head and at Fishguard Harbour Information Centre. Another common element is a variety of trails, including cycle trails, guided trails and walking trails, which take in geological points of interest. Again, Pembrokeshire could build on its existing strengths as an activity destination, and use its assets, such as the Coast Path to promote its geological interest.

3.4 Longer term impact and implications

The European Geopark Network was only established in 2000, and thus is a relatively young initiative. By means of comparison UNESCO World Heritage sites were first introduced in 1972. Therefore, enough time has not yet lapsed to truly evaluate the lasting impacts of Geopark status. However, a common theme from consultations with existing UK Geoparks was that that it was only recently, five to ten years after gaining Geopark status, that they have felt they've really become established as a Geopark, particularly in terms of public profile. This gradual process can partly be attributed to funding constraints and partly to broader issues with the profile of Geopark status. It would be expected that a new Geopark could now establish themselves quicker than this, particularly if they have a focused approach to marketing and publicity from the outset.

⁷ <http://www.ccg.gov.uk/landscape--wildlife/geological-gems/geoconservation/local-geodiversity-action-plan.aspx>

Awareness

A number of Geoparks have undertaken research to establish the level of recognition of the Geopark in their local region. Questions regarding the English Riviera Geopark were asked to Torbay residents in 2009 and again in 2012. In 2009, 35% of respondents said they were aware of the Geopark designation. This had risen to 61% in 2012. Further to this, the number of respondents who felt that the Geopark has had an impact on the overall pride in the Bay rose from 21% in 2009 to 51% in 2012. These survey findings show both a clear improvement in awareness of the Geopark over time, and that the profile is still not such that it is universally known, even within the local area.

Torbay residents were also invited to comment on English Riviera Geopark. Relevant comments included:

“A sense of pride, Torbay is the only Urban Geopark in the world.”

“An asset for encouraging tourism.”

“An interesting place for tourists and others to visit with a higher status area than other local areas. A more interesting and prestigious place to live.”

“Bringing together of all those aspects of the Bay related to its geology / environment.”

“Respectful of the natural beauty in the area & the environment of historical / scientific importance.”

As stated above, Geoparks have only been in existence since the turn of the millennium. As such, both the Geopark network and the Geopark status itself are evolving. The number of Geoparks in the EGN has reached 50 and, as numbers have increased, there has been a change of emphasis within the network. The UK Geoparks Forum⁸ was established around a year and a half ago with intention of pulling Geoparks together more at a national level. The Forum is also intended to act as a conduit for new and potential applicants for Geopark status to ensure that that new applications taken forwards are of the requisite standard.

⁸ The UK Geopark Forum consists of representatives from each of the Global Geoparks in the UK, representatives from Global Geopark Network, the Irish Geopark Forum, UK UNESCO National National Commission, the Countryside Council for Wales, Natural England, Scottish Natural Heritage and the British Geological Survey.

4 Delivery Considerations

4.1 Resources

In order to maintain Geopark status with the EGN a member must have a full-time Geopark director and attend bi-annual EGN meetings which take place on a rotation basis around EGN members. Geoparks do not receive funding from the network and must be able to meet these commitments themselves. Evidence of resources required to directly support a Geopark include:

- Torbay County Council provides an annual budget of £25,000 to the English Riviera Geopark in order to cover the wage of the Geopark coordinator, administrative costs and the costs of two representatives attending the EGN meetings.
- The GeoMôn Geopark in Anglesey is run by volunteers with around £4,000 of income a year from donations and book sales.
- Fforest Fawr Geopark has core funding of around £64,000 per annum.

Clearly the level of funding for Geopark activities is not set; it very much varies on a case-by-case basis as well as varying from year to year depending on activities being undertaken. In order to be revalidated as a member of the EGN⁹ a Geopark must be able to evidence that they are undertaking a range of activities which promote the geological heritage of the area. These may vary from maintenance of existing trails to opening a new visitor centre.

The number of people employed by a Geopark also varies significantly. The English Riviera has just one permanent employee whereas Fforest Fawr has three. In contrast a number of Geoparks on mainland Europe have an altogether higher employment rate with Adamello Brenta (Italy), Cliento (Italy) and Luberon (France) Geoparks each employing 40-45 permanent employees. However, these do not make for good comparators as they are more an indication of Geoparks in certain countries being more equivalent to National Parks.

As previously stated, for Pembrokeshire, the activities of the Geopark would be interwoven with the National Park activities and there will be synergies in this regard. Many interviewees have suggested that it would be preferable that the Geopark director is a geologist such that they are able to contribute to the interpretation of the geology. However, perhaps more important, is that the Geopark director is a leader who is able to drive the development of the Geopark. Additional expenditure relating to the Geopark activities may either be directly funded or be raised via external funding.

4.2 Geopark Governance Arrangements

Existing Geoparks vary greatly in terms of their management; Fforest Fawr is managed by the Brecon Beacons National Park Authority, GeoMôn Geopark is managed entirely by volunteers and the North West Highlands Geopark has

⁹ The European Geopark Network requires that members are revalidated every four years. However, if a problem is identified in the Geopark, they may be required to seek revalidation every two years.

registered as a social enterprise with a number of organisations represented on the steering group¹⁰. More important than the precise details of the managing parties of a Geopark is the buy-in of both key stakeholders and the local community. It is encouraging that the local stakeholders consulted as part of this study were all broadly supportive of the concept of a Pembrokeshire Geopark. It will be important to continue to engage with these, and other, stakeholders if Pembrokeshire Coast National Park Authority chooses to progress its application.

It will also be important seek to engage with local geologists whose understanding of the local geology can provide a crucial starting point for promoting the geological heritage of the area and their networks may be able to aid link ups with universities.

There are certainly distinct advantages to a Geopark being run by a National Park Authority. The principle benefits of this arrangement are the synergies between National Park Authorities' and Geoparks' aims (discussed in section 3.2) and in terms of the funding and management arrangements. Geopark status would be expected to result in a change in emphasis of the activities of the National Park towards more actively promoting the geological heritage of the area and sustainable development. It would be expected that a number of initiatives would be directly funded by the National Park with external funding being sought where the appropriate funding channels exist.

Geoparks also vary in their management structure. For example, the English Riviera Geopark has a three tiered structure which consists of:

- A Management Group which includes representatives from the Council, local environmental groups, Kents Cavern (commercially run) and Councillors. The group meets quarterly;
- A Steering Group which consists of broader stakeholders including Plymouth University, boat operators and local libraries. The group meets bi-annually; and
- Scientific Panel which consists of national level academic experts on subjects relevant to the Geopark. The panel review research proposals, highlight research potential and assist with interpretation.

Conversations with local stakeholders suggest that many would potentially be interested in being part of the governance arrangements of a Geopark in Pembrokeshire. It would be appropriate to have a range of partners; providing connections with the local tourism industry (e.g. through the Destination Pembrokeshire partnership) and to scientific, environmental and geological experts.

4.3 Application information

In order to attain Geopark status an applicant must collate an application dossier along with completion of an evaluation document. It is clear, both from the evaluation document and from the consultations with UK Geoparks, that in order to obtain Geopark status that an applicant must already be effectively operating as

¹⁰ Including Durness, Kinlochbervie, Scourie, Assynt and Coigach Community Councils, British Geological Survey, The Highland Council, Scottish Natural Heritage, Sutherland Partnership and VisitScotland.

a Geopark. Geopark status is not granted based on aspirations, but rather is recognition of an area fulfilling the Geopark criteria. Applications are evaluated based on the following criteria:-

- Territory (5% weighting);
- Geological conservation (20% weighting);
- Natural and Cultural Heritage (10% weighting);
- Management Structure (25% weighting);
- Interpretation and Environmental Education (15% weighting);
- Geotourism (15% weighting);
- Sustainable Regional Economic Development (10% weighting); and
- Geology and Landscape – the geology is externally assessed by the International Union of Geological Sciences who are asked to verify the international significance of the geology in the applicant’s territory (weighting not applicable).¹¹

It should be noted that there can only two active Geopark applications from a country at any one time. At the time of writing (December 2012), there are no active applications from the United Kingdom.

Application Information – Farsani et al. (2011)

The 2011 paper entitled ‘Geotourism and Geoparks as Novel Strategies for Socio-economic Development in Rural Areas’ by Farsani *et al.* provides the following take on the criteria for a Geopark:

According to the EGN and UNESCO’s recommendations, the criteria for a geopark include (UNESCO, 2006a):

- a. *Size and setting: A geopark candidate seeking network membership must have enough surface area in order to serve local economic and cultural development (mainly through tourism), including sites of ecological, archaeological, historical or cultural value.*
- b. *Management and local involvement: Success in geopark management can only be achieved through strong local involvement. The initiative to create a Geopark must come from local communities/authorities with a strong commitment to develop and implement a management plan that meets the economic needs of the local population while protecting the landscape in which they live.*
- c. *Economic development: One of the main strategic objectives of a geopark is to stimulate economic activity and sustainable development. A geopark seeking UNESCO’s assistance serves to foster socio-economic development that is culturally and environmentally sustainable. This has a direct impact on the area involved by improving human living conditions and the rural environment.*
- d. *Education: A geopark must provide and organize support, tools and activities to communicate geo-scientific knowledge and environmental concepts to the public;*

¹¹ Information from EGN – GGN Evaluation Document 2012, [accessed online, January 2013 http://www.europeangeoparks.org/?page_id=1494]

all educational activities should reflect the ethical considerations around holistic environmental protection.

- e. Protection and conservation: A geopark contributes to the conservation of significant geological features.*
- f. Global Network: The Global Network of National Geoparks provides a platform of co-operation and exchange between experts and practitioners in geological heritage matters*

4.4 Geopark Scale

The seven existing Geoparks in the UK vary greatly in terms of their physical size from just over 100 km² to just under 2000km². Therefore, it is clear that the EGN does not have strict criteria in terms of appropriate scale for the designation of a Geopark. However, it should be noted that the initial Geopark application by Fforest Fawr was rejected on the basis of the area proposed being too small.

The EGN Charter states that:

‘A European Geopark must comprise a certain number of geological sites of particular importance in terms of their scientific quality, rarity, aesthetic appeal or educational value. The majority of sites present on the territory of a European Geopark must be part of the geological heritage, but their interest may also be archaeological, ecological, historical or cultural.’

Thus, for Pembrokeshire, the Geopark could plausibly consist of the whole National Park (as with the North Pennines which covers the same area as the AONB), some of National Park (as with Fforest Fawr which is the western half portion of the Brecon Beacons National Park) or even an area extending beyond the National Park. The latter would be an option of particular interest if it was felt that extending the designation would be beneficial to the Geotourism in Pembroke, Milford Haven, Haverfordwest and Fishguard. The key when making such a decision is ensuring there is a clear rationale for the proposed Geopark area and that the management body has the authority to manage it.

There were a range of views from stakeholders on the appropriate scale for a Geopark in Pembrokeshire; from those who felt that a smaller area focused on internationally important sites, most likely in the north of National Park area, in order to create a more manageable attraction; to those who felt that it should cover the whole of the National Park area. This latter view was perhaps more widely held. The National Trust, for example, reported that there is often confusion between the National Trust and the National Park. A Geopark that has the same boundaries as the National Park could help to reduce this confusion, or, at the very least, would help to avoid additional confusion through a new area and designation.

4.5 Tourism Impacts

The key economic impacts of Geopark status are likely to be on the tourism sector. As stated above, there is some concern that Geopark status may place additional restrictions on operations of existing tourism businesses. However,

given the nature of Geopark status, this should not be the case. Rather it provides an opportunity to rebrand the tourism offering around the central theme of the Geopark.

Having spoken to a representative of the Jurassic Coast World Heritage Site, they feel that their strong brand is crucial to the popularity of the area. While Pembrokeshire is clearly a well-established and popular tourist destination, Geopark status should strengthen the brand of the area. The positive impacts would be expected to be larger should Geoparks gain UNESCO branding, in particular making the area more recognisable to an international audience. Becoming a Geopark may also present new opportunities for the tourism industry, for example through from an increase in academic visits to the area.

A key draw of Pembrokeshire is the landscape and outdoors activities are an important source of income for the local economy. The English Riviera markets its outdoors activities as 'GeoActive' which includes walking, cycling, diving, sea kayaking, kitesurfing, sailing, jet skiing and water skiing. Pembrokeshire could take a similar approach to rebranding some of its outdoors offering.

The Jurassic Coast runs a 'Jurassic Coast Quality Business Scheme' which provides accreditation for tourism related businesses in the area who show a commitment to the World Heritage Site and raising standards. Over 100 businesses are members of the scheme and accreditation allows local businesses to tap into the local brand.

5 Conclusions and Recommendations

5.1 The Potential Benefits of Geopark Status

A key objective of this study was to gain an understanding of the potential socio-economic benefits of Geopark status. As a result of the lack of existing quantitative evidence in the topic area, combined with the fact that Geoparks are by no means homogenous (in terms of context, scale and management), this has largely been achieved by capturing socio-economic impacts anecdotally from the existing Geoparks in the UK and further afield.

Whilst there is some quantitative evidence of the positive economic impacts of Geoparks in other European countries (such as increased tourist numbers and new businesses in the Lesvos Petrified Forest in Greece), these are often not analogous to a Geopark in the UK, particularly when there is no account taken for the additionality of the impact above and beyond existing designations, such as National Park status.

A Geopark designation will bring a new brand to Pembrokeshire Coast, and in order to achieve maximum benefit from this brand, significant effort will be required, in terms areas such as marketing, events, stakeholder and community engagement.

Arguably the most compelling impact that we have identified for Pembrokeshire Coast is using Geopark status to bring together and galvanise a community and the community's sustainable tourism offering, primarily through placing greater emphasis on the geological heritage of the area. This might be through putting on specific events to celebrate Geopark status, as many existing Geoparks have done.

Moreover, the revalidation process of Geopark status means that members have to be consistently proactive rather than delivering a one-off initiative.

It should be noted that many of the benefits of Geopark status could be realised outside the EGN and formal recognition. The three principle tenets of Geopark status – conservation, education and sustainable development – are already promoted as part of Pembrokeshire Coast's National Park status. However, the EGN offers benefits in terms of networking and increased funding opportunities, particularly EU funding through collaborative projects. This funding is by no means guaranteed, though a number of Geoparks, including the English Riviera Geopark and Marble Arches Caves Geopark, have benefitted from such funding.

Another key consideration with regards Geopark status is the prospect of its relationship with UNESCO being formalised. It appears likely that the Global Geoparks Network will become a recognised UNESCO initiative, possibly as soon as 2013. This would be expected to allow for existing Geoparks to be branded as either a 'UNESCO Geopark' or a 'UNESCO Global Geopark'. Whilst this relationship is not expected to include any funding, the affiliation with UNESCO will boost the level of recognition of Geoparks, both domestically and internationally, and improve the strength of the brand.

5.2 Factors for Success

In the context of this study, success can be seen as being delivered in two phases; firstly in successfully achieving Geopark status; and secondly in developing a Geopark that achieves positive socio-economic outcomes.

As a result of this study, we have identified a number of key steps that can be taken to work towards a successful a successful application for Geopark status.

First and foremost, it is important that a Geopark applicant is confident that they possess geology which is of international significance. As a result of the study, we believe that Pembrokeshire Coast National Park does contain geology of international significance, and thus is an appropriate candidate for Geopark status. This will be assessed externally by the International Union of Geological Sciences, and is a pass / fail assessment.

Should Pembrokeshire Coast National Park Authority decide to apply for Geopark status, it may be prudent to make the application relatively soon, in case there is an increase in interest from others following the Global Geoparks Network becoming a UNESCO initiative. This would prevent any delay from only two places in the UK being able to apply at once. It would also remove the risk of changing requirements.

As discussed in chapter 4, it is important that to demonstrate that the applicant is effectively operating as a Geopark at the time of application. Each of the sections assessed as part of the application is set out below. Where appropriate, we have suggested opportunities for PCNPA to build on existing initiatives or replicate best practice activities that have been identified elsewhere as part of this study.

Section	Weighting	Commentary
Territory	5%	As discussed in chapter 4.4, it is suggested that an appropriate scale would be to cover the whole of the National Park area. This will allow the application to demonstrate maximum geodiversity, and demonstrates an area of a manageable scale.
Geological conservation	20%	With a National Park Authority as the applicant, it is considered that this criterion ought to be relatively straightforward. The number of geological SSSIs and the protection afforded to these sites should mean that Pembrokeshire Coast can score well here.
Natural and Cultural Heritage	10%	Again, with the proposed Geopark area being inside a National Park, the existing designation helps to prove the importance of the natural and cultural heritage of the area. Additional work may be required to demonstrate the links between geological heritage, natural and cultural heritage sites within the proposed Geopark.
Management Structure	25%	As previously mentioned, existing Geoparks have a diverse range of management and governance structures. However, it is a requirement of Geopark status that all Geoparks have a full-time director. In terms of a potential Geopark in Pembrokeshire, it is recommended that the full-time director be employed by PCNPA. It is important that this director exploits existing partnerships to help with delivery, such as Destination Pembrokeshire, and builds networks with other Geoparks. The three tiered management structure of the English Riviera

		<p>has scope to be a best practice arrangement. This structure, with a management group, steering group and scientific panel, allows a wide range of stakeholders to be directly involved in the Geopark and also gives an appropriate level of weight to the scientific significance of the agenda. This approach also provides a formal means of engagement with local stakeholders, helping to integrate the aims of the Geopark with other local initiatives.</p> <p>Regardless of the detailed management structure adopted, it will be important for PCNPA to engage with local stakeholders, and with the geological and scientific community.</p> <p>Buy-in from the local community could be achieved in a number of ways; examples include local people volunteering; an education scheme in local schools; a sustainable tourism campaign.</p>
Interpretation and Environmental Education	15%	<p>If Pembrokeshire Coast National Park Authority is to apply for Geopark status, then it will be important to draw out the opportunities for environmental education and interpretation. There are existing activities for those in primary and secondary education, which could develop more of a geological focus. However, tertiary education is considered to be perhaps the biggest opportunity for the area. There are examples from other Geoparks of the promotion to Geology departments across the UK and overseas.</p>
Geotourism	15%	<p>In order to further promote geotourism within the National Park, it is suggested that PCNPA could further exploit and join up existing activities and assets. The Coast Path is a particular asset, and allows interpretation of geology that may otherwise not be accessible. Building on existing sites with geological interpretation to create 'geo-trails' or similar could be a good way to increase the visibility of the area's geology.</p> <p>Pembrokeshire is well-known for the range of activities on offer, and is known as the home of coasteering. The English Riviera Geopark brands the activities on offer as GeoActive; these range from diving to sailing and from walking to GeoCaching. PCNPA could promote a similar re-brand, or could work with Destination Pembrokeshire to promote the idea of "Geo-Activities" within the area.</p>
Sustainable Regional Economic Development	10%	<p>As well as the focus on Tourism, there are further opportunities for sustainable economic development as part of Geopark status. These will focus mainly around the promotion of local products. PCNPA could potentially build on the existing Pembrokeshire produce mark to promote local food.</p> <p>The 'Jurassic Coasts Quality Business Scheme' is an example of the type of initiative that could be developed and expanded to focus on a wider range of businesses promoting the Geopark brand.</p>

A recurring finding from consultations was that Geopark status is only as beneficial as the effort put in. Therefore, it will be important to be proactive in terms of publicity, activities and networking. This should boost awareness of the Geopark status and allow opportunities related to the status to be exploited.

Further to this, it is important for Pembrokeshire Coast National Park Authority that the Geopark can form part of a coherent offering that does not detract from the National Park. On balance, however, it is recommended that Geopark status is applied for.

6 References

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Appendix A

List of Consultees

The organisations listed below were all consulted as part of this study. It should be noted that Geopark contacts, in particular the Melanie Border (director of the UK Geoparks Forum) has indicated that she would be happy to speak with PCNPA with regards to a prospective application and provide support should an application be taken forwards

Consultee	Organisation	Happy to be contacted again?
Peter Oliver	Abberley and Malvern Hills Geopark	✓
Mel Border	English Riviera Geopark	✓
Julian Atkins	Fforest Fawr Geopark	✓
Margaret Wood	GeoMôn Geopark	
Chris Woodley-Stewart	North Pennines AONB Geopark	✓
Donald Fisher	North West Highlands Geopark	✓
Julia Pulman	Jurassic Coast	
Patrick McKeever	UNESCO	✓
Maudie Hughes	Holiday Pembrokeshire	✓
David Worrall Andrea Winterton Raymond Roberts	CCW	✓
Jonathan Hughes	National Trust	
Martin White	Pembrokeshire County Council	