



Blue New Deal

Good jobs for coastal communities through healthy seas



New Economics Foundation (NEF)

is an independent think-and-do tank that inspires and demonstrates real economic wellbeing.

We aim to improve quality of life by promoting innovative solutions that challenge mainstream thinking on economic, environmental and social issues. We work in partnership and put people and the planet first.

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Executive summary

UK coastal communities rely on the ocean for food, jobs, and recreation. But as environmental and economic pressures grow, natural ecosystems are being pushed to their limit. We need a new vision for coastal communities, one that delivers good jobs and economic prosperity now and for future generations.

From small fishing villages to large seaside resorts, coastal communities in the UK owe their livelihoods to the marine environment. But over the years the absence of social and environmental goals in some of our key coastal and marine industries – such as fishing, energy, and tourism – has put this relationship under threat.

Many coastal economies are now in decline. As traditional industries have failed, communities are experiencing high levels of inequality, increased unemployment, and lower wages. At the same time, ecosystems and habitats are suffering from overfishing, pollution, and the effects of climate change.

The Blue New Deal sets a vision for revitalising coastal communities and protecting the natural resources they depend on. Our aim is to balance the economic and social needs of communities with those of our marine environment, ensuring their return to prosperity. The UK coast and seas are assets to our society, and we want to see thriving communities full of happy, active people who are able to enjoy and benefit from healthy seas.

These are not conflicting interests. Previous NEF (New Economics Foundation) research has highlighted the untapped potential of the UK's abundant natural resources – a healthier marine environment can support more and better jobs,¹ increased resilience to economic and environmental challenges, sustainable sources of food and energy, increased wellbeing, and healthier and more sustainable lifestyles.

For the fishing industry, for example, NEF analysis² shows that restoring UK fish stocks to healthy levels and promoting lower carbon emissions through quota allocation across the main UK fishing fleets would mean an extra 457,000 tonnes of fish landed each year, leading to an additional £268 million GVA (Gross Value Added) and a 24% increase in employment, the equivalent of 4,922 new jobs.³

We want to open a conversation with coastal communities to share ideas and plan development in their areas in a way that delivers better value to them and to wider society. Our vision of the Blue New Deal covers five broad areas for discussion:

- sustainable fisheries and aquaculture
- renewable energy
- coastal tourism and related activities
- innovative approaches to coastal management
- opportunities to re-connect people with nature

This report sets out a number of innovative and sustainable approaches already taking place across the UK coast – proof that change is possible. Over the next two years we will work in collaboration to develop our vision of prosperous, sustainable coastal communities where people and nature can thrive together, and make it a reality.



1. Looking out to sea

UK waters cover a significant part of the UK national territory, extending to more than three and a half times the UK's land area.⁴ They have been shaping and supporting life on land for centuries, and have been a great source of inspiration to UK society, exciting many of the great artists of the past.

The UK is a country looking out to sea. The length of the UK coastline⁵ is almost twice as great as the distance between London and the east coast of Russia.⁶ Our extensive coast, and the marine environment surrounding it, provides us with a number of assets, including fish stocks, a variety of habitats and wildlife, energy sources, and cultural heritage.

Today, about 31% of scenic English coastline and 42% in Wales is designated heritage coast;⁷ Scotland has over 95 coastal and marine heritage sites which are managed as visitor attractions;⁸ and the Causeway Coast Way, Northern Ireland's main tourist destination and a UNESCO World Heritage Site, stretches for 33 miles along the coast, displaying unparalleled volcanic formations from 50-60 million years ago.^{9 10} Historic England¹¹ holds over 40,000 records of wreck sites and seabed archaeological features from the UK coastline,¹² showing how much of our history unfolded along our shores.

The goods and services provided by our coastal and marine environments are also the foundations for the creation of jobs and the sustainability of much of our economic activity. We largely depend on the sea and coast for food, energy, trade routes, water, and raw materials, amongst many other things:

- The equivalent of 70% of the fish consumed in the UK annually is caught in UK waters.¹³
- 60% of the best agricultural land in the UK is five metres or less above sea level.¹⁴
- Over half of our energy needs are met by energy that comes from UK seas; the potential for offshore and marine renewable energy in the UK is more than six times our national current annual electricity demand.¹⁵
- 95% of UK trade comes and goes through over 110 UK ports and harbours, which means that many of the goods enjoyed on land come by sea.^{16 17}

From any place on the UK's land mass, we are never more than one and a half hours drive from the coast.¹⁸ Being by the seaside makes us happier, with attractive seascapes and beaches being popular locations for tourism, leisure, and recreation.¹⁹ People living less than 0.6 miles (1 km) from the sea are

more likely to say they are in 'good health' than those further away.²⁰ Coastal living is the British idea of a calmer and healthier living later in life, with coastal towns registering above-average proportions of people aged 65 or over, than the rest of the country.²¹

The UK coastline and waters support a number of habitats, which host a variety of plants and wildlife, including about 36% of the world's population of grey seals,²² more than 330 fish species,²³ and over 570 species of birds.²⁴ This diversity constitutes the wealth of the UK coast and seas and it is what supports an ecological balance that provides us not only with everything we need to live, but also to make life worth living.

2. Challenges on the horizon

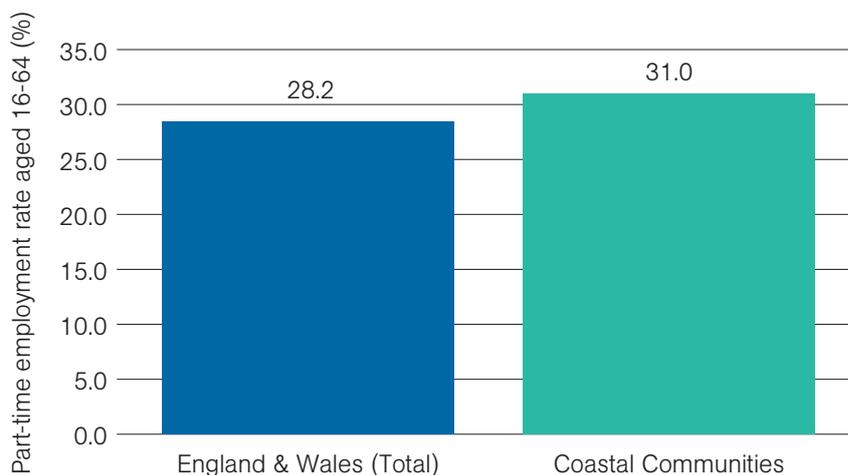
As an island nation, the UK has access to an unrivalled wealth of natural resources. But our failure to properly manage them has told a story of unfulfilled potential – fewer jobs and lower revenues, unnecessary public costs, and unsustainable coastal economies.

At the forefront of our relationship with the sea are a number of coastal communities, ranging from large seaside resorts to small fishing villages. Although they can differ in their size, geography, and local culture, they all rely to varying degrees on the coastal economy, for jobs, wellbeing, and economic prosperity. That means that a decline in the condition of coastal and marine ecosystems, as well as other environmental indicators, will have direct and indirect impacts on the socio-economic characteristics of coastal communities; fishers going out to sea to catch; coastal businesses benefiting from clean beaches, clean air, and the overall seascape; to homes needing protection against coastal flooding and other challenges.

Unstable economies

The evidence increasingly suggests that some coastal communities have been struggling more than others at diversifying their economic activities. Many have unhealthy local economies that lack dynamism, often with a slightly higher level of low-wage, low-income, low-skill, seasonal, and part-time employment, than the rest of the country.²⁵⁻³⁰

Figure 1: Share of part-time employment by location.

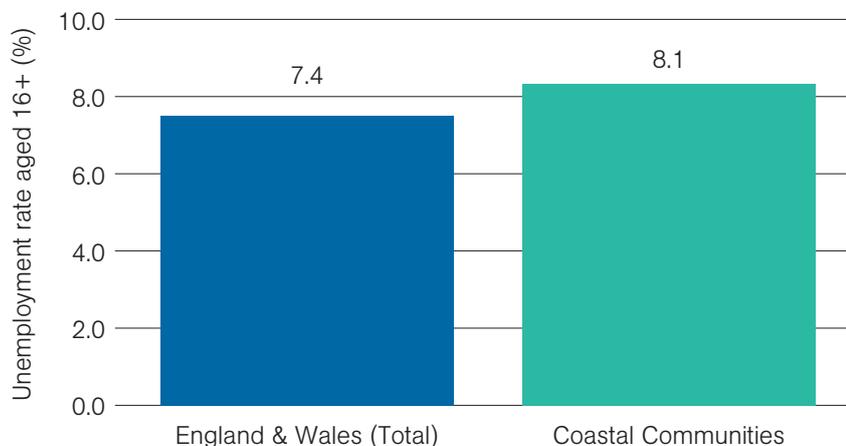


Coastal towns and cities, which have lost their primary industries – such as former seaside resorts, mining areas, fishing communities, and agricultural centres – and are struggling to find alternatives, face the greatest socio-economic challenges.³² Some of their common characteristics include:

- Frequent dependency on a single industry, with the smallest seaside towns mostly having the greatest dependence on the tourism sector, which can be almost 60% of total local employment in some areas.³³
- Significant shares of residents in ‘skills poverty’ (those qualified below NVQ2³⁴),³⁵
- Low representation of jobs in the professional, scientific, and technical services – or the ‘information and communication’ sector.^{36 37}
- Higher proportions (than non-coastal areas) of working-age people on out-of-work benefits.³⁸
- Higher-than-average dependency on public sector employment, with nine of the top ten cities likely to be worst affected by public sector job cuts being coastal, while of the ten least affected cities, only one is coastal.³⁹

In response to this growing body of evidence, the Office for National Statistics (ONS), released a separate analysis of the 2011 Census for coastal communities in England and Wales. Amongst other findings, the unemployment rate among 16- to 64-year-olds in coastal communities in 2011 was 8.1%, compared to 7.4% for England and Wales overall (Figure 2). Unemployment rates in two small coastal communities (Jaywick in Essex and Lynemouth in Northumberland) were among the highest in the country at more than 16%.⁴⁰

Figure 2: Unemployment rate by location.



Source: Office for National Statistics (2011)⁴¹

BEACH
CAFÉ



Unstable economies with a short supply of good jobs are often accompanied by many other social challenges. Some of these challenges currently identified in many coastal communities in the UK, include:

- Polarised communities, with high levels of economic inequality.⁴²
- Lower aspiration, with accounts of intergenerational unemployment⁴³ and educational underachievement.⁴⁴
- A greater percentage of residents with a long-term health problem that limits their daily activities.⁴⁵
- Higher levels of relative deprivation;⁴⁶ deprived communities often show pockets of anti-social behaviour.⁴⁷
- The average insolvency rate for all coastal authorities in 2011 was nearly 20% more than the inland average. Coastal areas accounted for the five worst places in Britain for personal bankruptcies in 2011; only one of the eight communities appearing most frequently in the annual bankruptcy top-ten list was inland. Debt problems for individuals seem particularly difficult in seaside areas that continue to rely on tourism as a major source of income and that lack a more diversified local economy.⁴⁸
- Presence of neglected or decaying architecture.⁴⁹
- Higher-than-average proportions of small and cheap private sector rented housing units, often of poor quality.⁵⁰

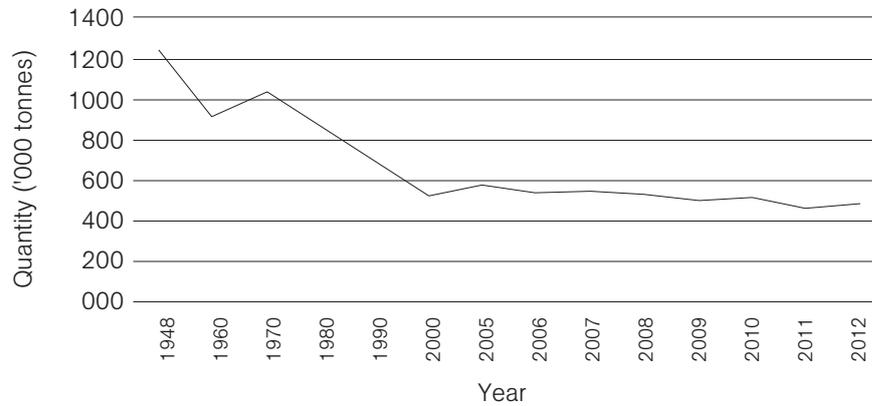
It is important to note that it is not only coastal communities that display these characteristics. Pockets of deprivation can be found in different areas in the UK, coastal and non-coastal. But, if grouped together as one unit, coastal communities seem to be suffering from these issues to a greater extent than the rest of the country.

Overfishing

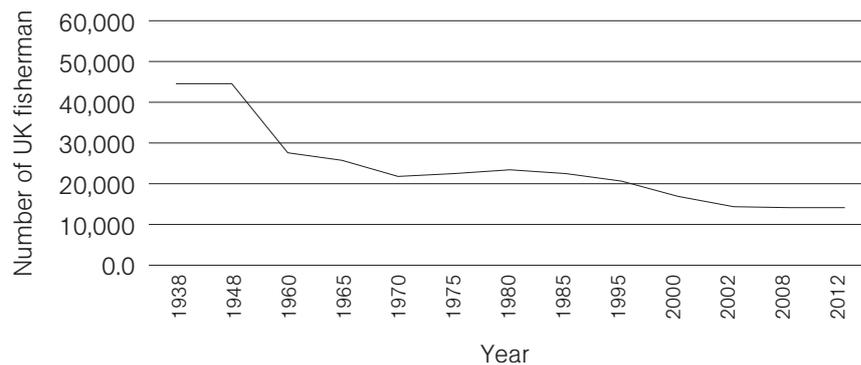
There are a number of fishing communities around the UK coast. Fishing is an important economic activity that generates employment and revenue for coastal communities and the entire country. It also gives a unique identity to those communities most dependent on it and provides us with one of the essential things we need to live – food.

But, for too long, we have been taking more fish out of the sea than stocks can sustain, effectively failing to properly manage a renewable resource. Despite great technological advances, we are less efficient today at catching fish than when most boats in the UK fleet were powered by sail. The UK trawl fishing fleet today has to work 17 times harder to catch the same amount of fish than it did in 1889.⁵¹ This is a direct consequence of overfishing.

Since the 1940s, our annual fish landings have declined by more than half⁵² (Figure 3). Fewer landings have also meant a smaller contribution to the economy and fewer jobs. Currently, the UK fishing industry employs about one-third of the number of fishers employed in the 1940s⁵³ (Figure 4).

Figure 3: Decline in landings of fish in UK (1948-2012).

Source: Marine Management Organisation Statistics⁵⁴

Figure 4: Decline in fishing jobs (1938-2011).

Source: Marine Management Organisation Statistics⁵⁵

This trend badly affects the economy and entire fishing communities. The impact is even greater, if we consider the wider supply chain and the number of businesses – such as fish processing services, fish-and-chip shops, food markets, and restaurants – dependent on this sector.

The average UK adult is eating more fish than a generation ago.⁵⁶ But, our reduced ability to meet these needs from our own waters means that we have become more and more dependent on seafood imports.⁵⁷ NEF's Fish Dependence Report has estimated that the UK is dependent on fish from outside EU waters to support 30% of its fish consumption – this means that if we were to consume only the fish we catch this year, we would run out of fish by mid-September.⁵⁸

The rise of fish consumption in a context of overexploited stocks is environmentally unviable and socially unfair.⁵⁹ Overfishing is a global challenge, and in the UK at least half of the main commercial fish stocks are now producing less fish than if they were allowed to grow to their maximum potential.⁶⁰ Damaging fishing practices, such as bottom trawling (a practice that uses heavily weighted nets that are dragged across the ocean floor), are also responsible for the devastation of many marine habitats, upon which some of those fish stocks rely, and which in turn have an impact on wider marine life.⁶¹

Pollution and marine litter

It is not only our activities offshore that have an impact on the marine environment. Activities on land are also of importance to the health of our seas. Recent analysis shows that approximately 8 million individual pieces of litter enter the sea every day.⁶²

- 80% of marine litter originates from land-based sources.⁶³
- Agricultural runoff and waste disposal are some key causes of pollution affecting coastal and marine habitats.⁶⁴

Ocean pollution is a global issue, which has consequences for wildlife, human health, and safety, as well as a cost to the public and many businesses.⁶⁵

- Birds, fish, and other sea creatures swallow pieces of litter, which can eventually kill them, and some animals can also become trapped in discarded nets or other rubbish;⁶⁶ one million sea birds and 100,000 marine mammals die annually from ingestion of and entanglement in marine litter.⁶⁷
- Micro-plastics might end up in our food chain and become a health hazard if ingested by fish or shellfish that may consequently be eaten by people.⁶⁸
- Local authorities in the UK spend approximately £18 million each year removing beach litter, which represents a 37% increase in cost over the past 10 years (2004-2014).⁶⁹
- The estimated cost of marine litter to the Scottish fishing fleet is £13 million on average per year (5% of total revenue for affected fisheries).⁷⁰
- Marine litter costs UK harbours an average of £8,034.37 per year though for large ports this will be considerably higher.⁷¹

About 58% of marine litter is attributed to shoreline and recreational activities in the UK, and the amount of marine litter washing up on UK beaches since the end of the 1990s has almost doubled.⁷² The impact of marine litter on quality of life, recreational opportunities, and aesthetic value adds further costs to society.⁷³ Clean and functioning coastal and marine habitats are fundamental in delivering the potential of the tourism sector, one of the largest employers in coastal communities all around the UK coast.

Habitat degradation

The UK coast supports a range of habitats including sand dunes and beaches, machair, saltmarsh, shingle, sea cliffs, and coastal lagoons.⁷⁴ Although these coastal habitats cover only 0.6% of the UK land area,⁷⁵ they support a variety of highly specialised species of plants and animals, including nursery grounds for commercial fish species, and feeding grounds for a number of bird species.⁷⁶

Coastal development over the years – including dredging, the building of new structures, changes in agricultural practices, and the construction of hard defences against flooding (e.g. sea walls and rock revetments) – have resulted in a decline of natural coastal habitats, in extent by about 10%, as

well as in quality, since the 1950s.⁷⁷

Coastal habitats are highly important for water quality, activities such as leisure and recreation, as well as for coastal defence.⁷⁸ Man-made hard coastal defences constrain the natural change of coastal habitats in response to sea-level rise or storms.⁷⁹ This means that these habitats are squeezed – a process also known as ‘coastal squeeze’ – which impacts their physical extent as well as their functioning.⁸⁰

Coastal saltmarsh, for example, provides a cost-effective and long-term solution to coastal flooding and sea-level rise:⁸¹ saltmarsh occurs within reach of the tides and is subject to periodic saltwater inundation and wave action. It can migrate landward as the sea level rises over time. This is because plants and animals can naturally adapt to increasing water levels where there are no barriers preventing this, thereby maintaining the extent of the saltmarsh and its function.⁸² But just in Essex, between 1975 and 2000, one-quarter (or 1,000 hectares) of saltmarsh habitat was lost, essentially making communities more vulnerable to stormy weather and flooding.⁸³

Climate change and new threats

The forces of nature are part of the beauty and appeal of our coast, but as the climate changes and sea level rises due to higher temperatures, they also pose key challenges for many coastal communities. ‘Climate Change’ is a global issue that affects the environment, human society, and its economy. It has, amongst other things, a direct impact on food production, water supply, weather events, and human health.

The UK Committee on Climate Change has stated the ‘there is good evidence to show that the current rapid (global) warming is not primarily a natural change. Rather this is likely to be due to human CO₂ (carbon dioxide) emissions’.⁸⁴ The intensity and pace with which global temperatures are rising are intrinsically linked to our energy production and consumption patterns.⁸⁵

The winter of 2013/2014 in the UK was considered the stormiest since the 1950s.⁸⁶ Many parts of the country saw ferocious storms that destroyed natural landmarks and placed communities at risk. Strong winds, combined with high spring tides and river flows, resulted in high water levels and large waves affecting exposed coastal communities, causing coastal flooding. Several hundred homes were flooded on parts of the east coast of England and many thousands of residents were evacuated from vulnerable areas.⁸⁷ In February 2014, a resident in Suffolk told The Guardian newspaper: ‘All around our coast, scenarios drawn up for 2044 have materialised this winter [...] everybody thought this would hit us in 20 or 30 years’ time, but it’s come now.’⁸⁸

In comparison with other European Union (EU) countries, the UK is likely to bear some of the highest flood adaptation costs, as a result of more frequent storms, due to its geographical characteristics.⁸⁹ Currently, the vast bulk of the government’s spending on flood defence goes on non-coastal areas, protecting towns and cities from river floods.⁹⁰

- In Scotland, there are around 26,000 homes and businesses at risk from coastal flooding.⁹¹

- In Northern Ireland, 46,000 properties are at risk of flooding from rivers and the sea, with half of those having no protection in place.⁹²
- In Wales, around 357,000 properties, or about one in six buildings, are at risk of flooding.⁹³
- In England, over 2.4 million properties are at risk from river or coastal flooding,⁹⁴ and the effects of flooding and managing flood risk cost the country about £2.2 billion a year, compared with the less than £1 billion spent on prevention, through flood protection and management.⁹⁵

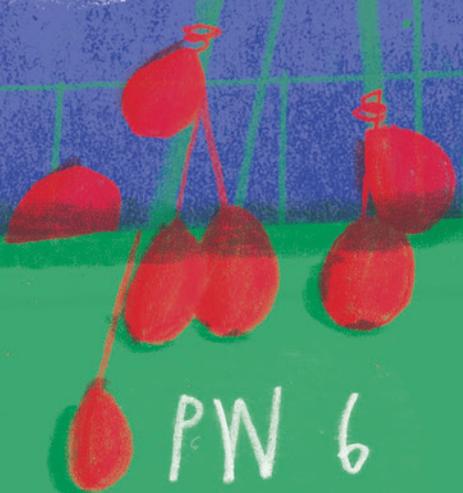
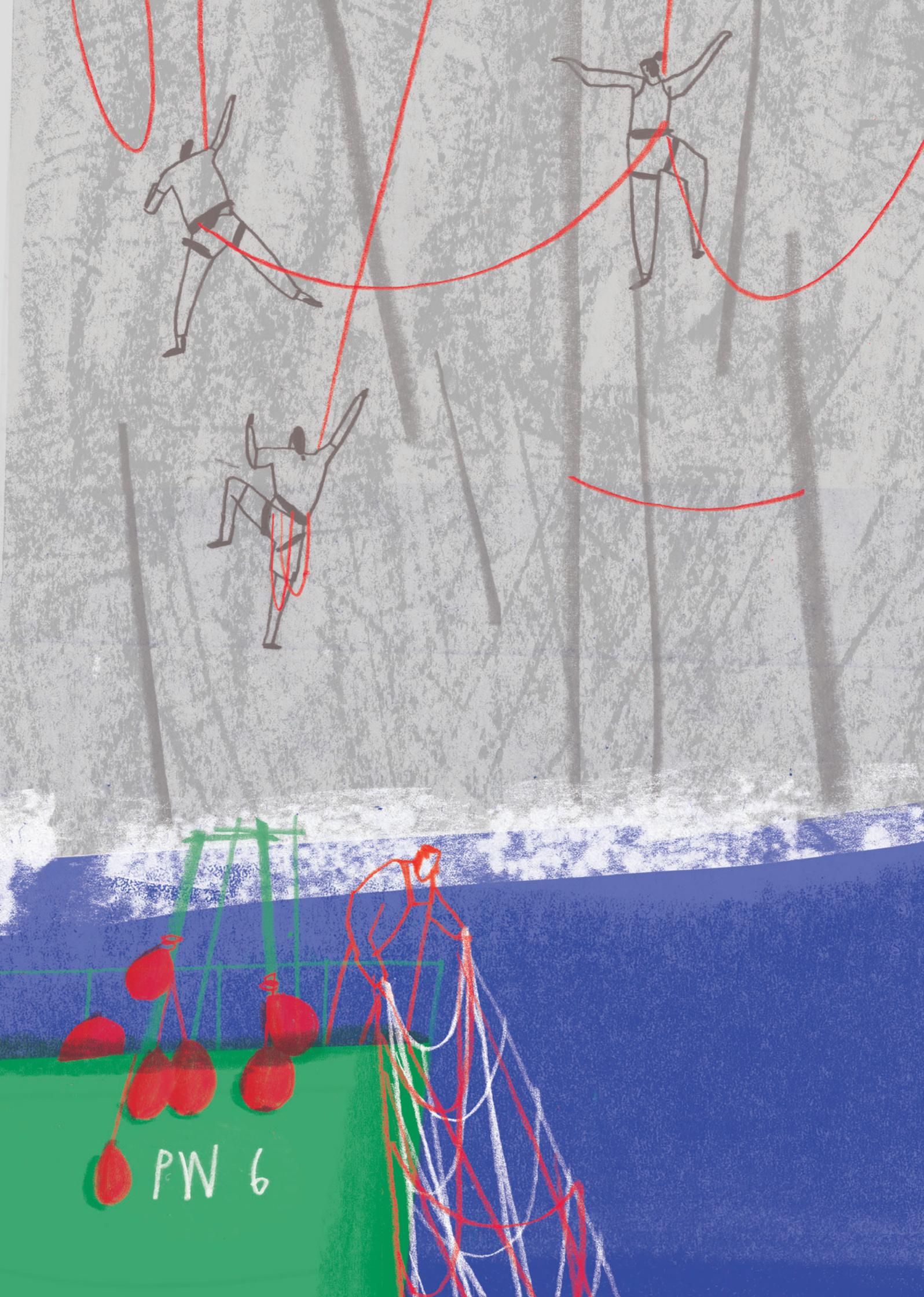
In the UK's territorial waters, the North Sea has experienced the biggest temperature change⁹⁶ and England has some of the fastest retreating coastlines in Europe.⁹⁷ There are more than 800 homes, in England and Wales, at risk of complete loss to coastal erosion in the next 20 years.⁹⁸ It is possible that 2,000 more could become at risk over this period, and nearly a million homes in England and Wales could be at significant risk of tidal flooding by the 2080s.⁹⁹

The UK is one of the most densely populated countries in Europe¹⁰⁰ and has one of the highest levels of natural resource consumption per capita in the world.¹⁰¹ If we were to consider carbon emissions per person, the UK tops the ranking in its contribution to global warming.¹⁰²

One of the main sources of our high CO₂ emissions results from fossil fuel extraction for energy use; UK offshore oil and gas still provide around half of the UK's total primary energy.¹⁰³ In addition to its contribution in accelerating climate change, CO₂ emissions affect the quality of the air we breathe and, as a consequence, it has a more direct and damaging impact on our health. Fifty thousand people a year may be dying prematurely because of air pollution in the UK, largely as a result of burning diesel (e.g. to power our cars) and other fuels.¹⁰⁴ Car travel still makes up 77% of the total distance we travel in the country by mode of transport.¹⁰⁵ And air pollution also affects our economy – a recent report estimated that, in 2010, the costs of poor air quality in the UK equated roughly to 5% of GDP (Gross Domestic Product).¹⁰⁶

It is important to remember that the oceans provide a crucial service by regulating our weather and forming the basis of the water cycle; marine plants produce half of the world's oxygen giving us clean air to breathe and they also absorb nearly one-third of CO₂ emissions.¹⁰⁷ This makes our seas an essential ally in dealing with accelerated climate change.¹⁰⁸

At the same time, high carbon emissions are also causing the acidification of our oceans, which means that they are less able to act as climate regulators and provide us with clean air. Ocean acidification is adding new pressures to marine ecosystems, including fish and shellfish populations on which we depend as a source of food. Shellfish, for example, are less able to form their shells, as a result of more acidic waters.¹⁰⁹ All these new changes happening in our oceans could also mean that we are missing out on untapped economic opportunities from natural processes and genetic resource, such as medicinal knowledge.¹¹⁰



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3. On the cliff's edge

Although we have been benefiting greatly from the marine environment, only 0.01% of UK seas are currently protected from any form of commercial extraction.¹¹¹ Fewer than 100 hectares of new intertidal habitat (those within reach of the tides, such as saltmarsh and shingle) have been created in the past 10 years, while more than 10 times this figure has been lost to coastal squeeze.¹¹²

As we have seen in the previous section, the consequences of this unhealthy balance are bad for nature, for people, and for the economy.

As many coastal communities in the UK battle with environmental pressures, unstable economies, and declining socio-economic conditions, coastal and marine ecosystems are being pushed to their limit as a result of unsustainable practices and the mismanagement of our coastal and marine assets. There are also new demands on our coast and seas; as we exhaust resources on land, we increasingly turn to our seas for food, energy, and raw materials, and as space for a range of activities.

The need to ensure a sustainable use of our coastal and marine resources is already acknowledged in a number of legal and policy documents at a national and EU-level.¹¹³⁻¹¹⁶ These commitments set out requirements for environmental and socio-economic assessments to support the management of our coastal and marine activities.¹¹⁷

In 2011, the UK Marine Policy Statement set out a vision for 'clean, healthy, safe, productive and biologically diverse oceans and seas'.¹¹⁸ In 2012, the UK Government's Coastal Communities Fund (CCF) was launched to support 'coastal communities that are able to use their assets (physical, natural, social, economic and cultural) to promote sustainable economic growth and jobs'.¹¹⁹ In order to deliver on both of these goals – healthy oceans and seas, and more prosperous coastal communities – decisions affecting the marine environment should address the need for better management of our coast and seas as a measure to promote a more stable economy for coastal communities.

Unfortunately, nature conservation – or, how we manage human activities in order to maintain, enrich, and sustain healthy natural ecosystems¹²⁰ – is still often presented as a barrier rather than a solution to socio-economic

prosperity. In 2011, George Osborne, Chancellor of the Exchequer, stated: ‘if we burden them [heavy, energy-intensive industries] with endless social and environmental goals – however worthy in their own right – then the businesses will fail, jobs will be lost, and our country will be poorer.’¹²¹

This misconception, that places nature versus the economy, supports short-term thinking, and unsustainable, as well as undesirable, practices that fail to deliver best value to society. In the energy sector, for example, the latest 2015 UK Budget statement did little to support a necessary move towards low-carbon, renewable sources of energy, opting instead to grant a new package of tax cuts worth £1.3 billion to continue the extraction of fossil fuels, mostly found offshore. In addition, the 2015 Budget continued the freeze on fuel duty despite much lower oil prices, effectively missing an opportunity to help decarbonise transport.¹²²

Offshore wind energy is currently the largest source of potential employment in the entire wind and marine energy sector, and is therefore of great importance in the transition to a low-carbon UK economy. However, despite the fact that employment in offshore wind has more than doubled since 2010, a large part of this sector believes that national policy has become less favourable towards renewables.¹²³ These mixed political signals for offshore wind, and the lack of long-term foresight for decarbonisation are making it more difficult for this industry to continue to develop confidently.¹²⁴

As we have outlined earlier in this report, it is the lack of social and environmental goals, over the years, in some of our key coastal and marine industries – such as fishing, energy, and coastal management – that has often meant fewer jobs and lower revenues, unnecessary costs to the public, and overall, has been shaping an unsustainable economy that fails to deliver its human wellbeing potential.



4. Opportunities on the coast

The truth is that the UK coast and seas are assets to our society. Coastal and marine ecosystems are important because of the unquantifiable and intrinsic value that nature has. But, in a context of socio-economic and environmental challenges, these ecosystems, if well managed, can also play a key role in delivering solutions to many problems affecting coastal communities.

Economic gains, jobs, and resilience

The UK government and devolved administrations have, in past years, looked specifically at the economic contribution of sectors that are directly dependent on natural resources – such as farming, fishing, forestry, tourism, and energy. Economic activities within these sectors that are making more sustainable use of the natural environment already support over 742,000 jobs nationwide and contribute billions of pounds to the UK economy each year.¹²⁵⁻¹²⁷

As a predominantly coastal country, there is enormous potential in economic activities that thrive through improved management of our coastal and marine environment, which can also contribute towards increased resilience to environmental and economic shocks.

Tourism, leisure, and coastal defence

Tourism, leisure, and coastal defence services are some of the areas of greatest financial value offered by our coast to the UK economy. Since 2010, tourism has been the fastest-growing sector in the UK in employment terms, responsible for one-third of the net increase in UK jobs between 2010 and 2012.¹²⁸ With its extensive coastline, the UK has a great advantage in the area of coastal and marine tourism. The public values the coast as living space, as a symbol of identity, for its scenery and its wildlife, and activities like walking, bird watching, and outdoor sports.¹²⁹

- UK seaside tourism is valued at £17 billion.¹³⁰
- More than 250 million visits are made to the UK's coast per year, of which, about one-third are to experience nature; and overnight stays at the seaside exceed overnight stays in the rest of the UK's countryside and villages combined.¹³¹
- In 2009, marine and coastal tourism in Scotland generated the equivalent of

60% of the total employed in the wildlife tourism sector in Scotland; marine and coastal wildlife tourism (including cetacean-related tourism) had a total income of £92 million.¹³²

- Considering indirect and induced effects, in 2012 sea angling in England supported £2.1 billion of total spending, provided a total of over 23,600 jobs, and added almost £980 million of GVA to the UK economy.¹³³

The impact of tourism on the wider economy adds further value to this sector. A recent study estimated the tourism GVA multiplier to be 2.8 – meaning that for every £1,000 generated in direct tourism GVA there is a further £1,800 that is supported elsewhere in the economy through the supply chain and consumer spending.¹³⁴

Better management of our coastal habitats can help build resilience to coastal erosion and flooding, supporting a cost-effective and long-term solution to coastal defence against sea-level rise and storm surges.¹³⁵ Despite only covering 0.6% of the UK's land area, the total value of the ecosystem services¹³⁶ provided by UK coastal habitats is estimated at £48 billion (adjusted to 2003 values), equivalent to 3.46% of Global National Income (GNI).¹³⁷ And, coastal wetlands are valued at £1.5 billion annually in terms of the role they play in buffering the effects of storms and in controlling flooding.¹³⁸

Food and energy

Healthier coastal and marine ecosystems also support food and energy security. Although the UK has been making some progress in implementing sustainable fishing, much more still needs to be done. Well-managed fisheries and sustainable fishing practices mean more fish, more jobs, and a greater contribution to the UK economy in the long term. NEF analysis¹³⁹ shows that restoring UK fish stocks to healthy levels and promoting lower carbon emissions through quota allocation across the main UK fishing fleets would mean an extra 457,000 tonnes of fish landed each year, leading to an additional £268 million GVA (Gross Value Added) and a 24% increase in employment, the equivalent of 4,922 new jobs.¹⁴⁰

Investing in renewable energy is also good for people and nature; it supports energy security and, crucially, helps us achieve targets towards a low-carbon economy, which is more resilient to the volatility of oil prices and to climate change. The UK current energy mix is still about 86% fossil fuels, but the renewable energy sector is one of the fastest growing in the country. Over 51,000 jobs are currently supported by renewable energy industries in the UK (including offshore and onshore wind, solar, wave and tidal).¹⁴¹ But the UK's potential for renewable energy comes in great part from the sea. The UK's total practical offshore renewable resource (including wind with fixed and floating foundations, wave, tidal range, and tidal stream) is about 531GW or 2,131TWh, equal to more than six times our national current annual electricity demand.¹⁴² The UK government's estimates suggest that, together, the offshore wind, wave, and tidal sectors could generate over 80,000 jobs by 2020.¹⁴³



Wellbeing and public goods

A healthy and attractive environment is a key factor in delivering human wellbeing.¹⁴⁴ Higher wellbeing is associated with improved health and longevity.¹⁴⁵ The human response to nature includes feelings of contentment and a reduction in stress.¹⁴⁶ Access to nature can therefore help make our communities happier places; and 81% of Britons believe that the government should prioritise creating greater happiness, not greater wealth.¹⁴⁷

In addition to increasing human wellbeing and happiness, healthy coastal and marine environments are also instrumental in delivering public goods, such as health and education, more cost-effectively. Although people are far better off in material terms than they have ever been, rates of depression, mental illness, obesity, and family breakdown are also increasing.¹⁴⁸ Major public health problems – such as physical inactivity, obesity, and mental health – present chronic and expensive challenges to the UK care sector (e.g. NHS, local authorities, privately funded services, family, and friends) and the overall economy, as a result of people being unable to work:

- Each year, physical inactivity costs us over £8 billion, and the total cost of mental healthcare in England is £41.8 billion.¹⁴⁹
- About 60% of the UK's population is physically inactive, but reducing the sedentary population by just 1% would reduce morbidity and mortality rates and save £1.44 billion for the UK.¹⁵⁰
- Obesity, a major symptom of inactivity, affects over 20% of the population, including 16% of children.¹⁵¹
- 40% of those on Incapacity Benefit are there due to mental illness – that's about a million people.¹⁵²

Healthy coastal and marine environments can be an ally in the fight against physical inactivity, with studies showing that being by the seaside stimulates physical activity.¹⁵³ Regular moderate physical activity reduces the risk of heart disease, diabetes, strokes, cancers, disability, osteoporosis, depression, and anxiety. It is also a vital component in preventing and reducing obesity (lower stress levels would mean lower release of cortisol the stress hormone, which is a contributing factor to obesity).¹⁵⁴ And it is visiting the coast, not just living near it, that stimulates physical activity.¹⁵⁵

Experiencing healthy natural environments is also instrumental in promoting ecological knowledge, fostering social bonds, and influencing behavioural choices.¹⁵⁶ Access to nature is important for children, and coastal and marine environments can be innovative outdoor classrooms.

- 97% of teachers in England believe that schools need to use outside spaces effectively to enhance their pupils' development, but 82% do not agree that their own school is making 'as much use as it can of this valuable resource'.¹⁵⁷
- Children's relationship with nature is a fundamental part of their development. Nature allows unstructured play, generating a sense of freedom, independence, confidence in their abilities, problem solving, and

inner strength, which children can draw upon when experiencing future incidents of stress.¹⁵⁸

Hands-on contact with nature not only supports better protection of the environment, through developed ecological knowledge and experience, it also helps community building and enhances the mental health and wellbeing of both children and adults.¹⁵⁹ But, in order to reap these benefits, we need to ensure that these natural spaces are well managed and responsibly promoted. In a country where nobody is much further than 70 miles from the sea,¹⁶⁰ the socio-economic, cultural, and many other benefits of a healthy and attractive coast are not only of interest to coastal communities but to the entire nation.

Benefits of restoring and protecting

In the same way as national parks on land, the designation of areas within or adjacent to our marine environment, are crucial measures to create a greater balance between our activities and the need to maintain healthy natural ecosystems. A number of UK and European policies already recognise the value to society of establishing a network of Marine Protected Areas (MPAs), alongside other conservation measures, in a coherent and effective way.¹⁶¹

MPAs not only help protect valuable habitats and species, but also support, directly and indirectly, a range of economic activities dependent on healthy coastal and marine environments:

- MPAs promote opportunities for greater scientific understanding, as well as the enjoyment of the special and unique qualities of these environments and wildlife by the public.¹⁶²
- Studies show that the benefits of marine protection to the tourism, leisure, and recreation industries far outweigh the costs.¹⁶³
- MPAs can support sustainable fisheries, protecting fish nursery and breeding grounds which in some areas has resulted in an overspill of increased fish stocks to outside the MPA boundaries.¹⁶⁴
- MPAs maintain wider biological diversity upon which the delivery of nature's services, therefore human wellbeing, depend.¹⁶⁵

The Community of Arran Seabed Trust (COAST),¹⁶⁶ in Scotland, is a good example of a community recognising the benefits of restoring and protecting our marine environment. This community marine conservation organisation was set up in 1995 by two Arran divers who saw the need to reverse the damage in Arran's marine habitats; this damage was a direct result of the removal of the ban on bottom trawling and scallop dredging that had been in operation until 1984. The decline of the fish stocks had a direct impact on Arran's community; its last international sea-angling festival was held in 1994 and saw catches down by 96%. COAST was responsible for the establishment of Scotland's first No Take Zone in Lamlash Bay in 2008. Currently, it is campaigning for the exclusion of trawlers and dredgers from the newly designated south Arran MPA, which it proposed and helped to establish.

The Isle of Arran sits in the Firth of Clyde between Ayrshire and Kintyre, with a population of just around 4,600 people.^{167 168} COAST's success is largely due to its approach, acknowledging the importance of community awareness with regard to the socio-economic benefits that measures towards environmental protection and sustainability can provide; they have strong links with universities; deliver education and awareness programmes to schools, residents and visitors; and have established a team of ambassadors including fishers, divers, politicians, and Arran residents to support the MPA and sustainable marine management.¹⁶⁹

An alignment of marine conservation measures with land and water policies and legislation is also important to ensure the effectiveness and sustainability of these measures.



5. Forging a new deal

Responding to the various environmental and socio-economic challenges faced by coastal communities in the UK, and recognising the important role that healthier marine and coastal ecosystems can play in addressing these challenges, we are proposing a UK-wide Blue New Deal.

Setting a vision

Improved management, as well as increased protection, of our coastal and marine assets provide an opportunity to rethink our activities and plan development on the coast in a way that delivers best value to society.

The increasing amount of knowledge and evidence of the impact of our activities on the marine environment needs to be better translated into improved management of our coastal and marine assets to ensure the long-term flow of benefits for UK society now and for generations to come.

The Blue New Deal is a vision to deliver sustainable economic prosperity to coastal communities in the UK through healthier coastal and marine ecosystems. A healthier marine environment can support

- reasonably secure, decently paid jobs in a more equally distributed and low-carbon economy.
- increased resilience to economic and environmental shocks.
- sustainable sources of food and energy.
- increased wellbeing and social cohesion.
- healthier and more sustainable life-styles.

Coastal communities share a number of challenges, but they also have a unique asset on their doorsteps and should be able to take pride in their coastal identity. The celebration of the distinctiveness and cultural value of these communities can greatly contribute to a more sustainable local development.¹⁷⁰ As coastal communities around the UK vary greatly in size and shape, there is certainly no 'one-size-fits-all' approach, so economic solutions will need to offer a diverse range of activities.

Developing an action plan

Delivering this new vision for coastal communities requires a better approach

to development in our coastal areas. We will work to bring together the relevant sectors active in the UK coast, to identify measures and actions that can help reconcile the creation of employment opportunities with the need for better-integrated and innovative management of the coastal and marine environment.

Through the Blue New Deal, coastal communities can explore opportunities to deliver more and better jobs through activities that support a healthier environment, as well as the role that healthier ecosystems can play in delivering public goods, such as health and education, more cost-effectively. These discussions will contribute towards the Blue New Deal action plan that will support more and better jobs, through:

- economic activities that deliver increased wellbeing whilst maintaining healthy ecosystems.
- greater public awareness of the socio-economic benefits of marine conservation.
- more diverse local economies and greater cross-sectoral cooperation.
- business, finance, and ownership models that can better maximise and distribute socio-economic benefits.

Delivering more and better jobs for coastal communities will also require an investment in re-skilling and re-educating the workforce. There is also a need for better public investment that recognises the importance of protecting natural ecosystems. In the 2010 Comprehensive Spending Review, the two departments that received the largest cuts to funding were Communities and Local Government (CLG), and the Department for the Environment, Food and Rural Affairs (Defra). These cuts came at a time when there was already a nature conservation funding shortfall in the UK of over £275 million a year, and at the start of a new drive towards decentralised, more local means of governance.¹⁷¹ Since many of our environmental and socio-economic challenges require preventive actions, reducing investment in such public areas is actually likely to be counterproductive, since they might mean greater rectifying costs in the future.

Potential focal areas

We have already explored economic activities that can help deliver the Blue New Deal. So far, we have identified five potential focal policy areas, which offer opportunities to respond to different challenges currently faced by UK coastal communities whilst maintaining a healthier marine environment. Some of these challenges include the need for more and better jobs, more stable local economies, food and energy security, increased wellbeing, better and more cost-effective health and education services, and greater resilience to climate change.

These five focal policy areas:

- Sustainable fisheries and aquaculture
- Renewable energy

- Responsible tourism, leisure, and recreation
- Innovative coastal management
- Re-connecting people with nature

There are, of course, tensions and trade-offs between certain types of activity. Within the coastal and marine economy, these challenges can be even greater. The marine environment is ever changing and many activities it supports have a seasonal aspect, which can impact jobs and revenue. There is also less understanding of the cumulative impact of an increasing number of competing activities on our coast and seas.¹⁷² In order to ensure healthy coastal and marine environments, we will need to distinguish between desirable and non-desirable activities, transform others in more sustainable ways, be innovative and creative, and strengthen cross-sectoral cooperation. Acknowledging the multiple benefits of protecting and better managing the natural environment can help deliver conservation measures more effectively and build more cohesive communities.

6. Beacons lighting the way

There are great examples of innovative and sustainable approaches already happening around the UK coast. Based on the five focal areas we have already identified, we provide some examples of existing good practice.

Sustainable fisheries and aquaculture

Well-managed fisheries, that allow fish stocks to grow to their maximum potential, mean a healthier marine ecosystem that can produce and sustain more fish, provide more jobs, and contribute more to the economy, both now and into the future. A change in the distribution of fishing quotas across the fleet could also be targeted to encourage less intensive, environmentally damaging practices, and acknowledge the contribution of the coastal small-scale fleet to the unique identity of fishing communities.¹⁷³

NEF analysis¹⁷⁴ shows that restoring UK fish stocks to healthy levels and promoting lower carbon emissions through quota allocation across the main UK fishing fleets would mean an extra 457,000 tonnes of fish landed each year, leading to an additional £268 million GVA (Gross Value Added) and a 24% increase in employment, the equivalent of 4,922 new jobs.¹⁷⁵ This new approach to managing this valuable public resource would therefore help strengthen coastal economies and provide an incentive to all fishing businesses to become more environmentally sustainable.¹⁷⁶ This is in line with the new Article 17 of the reformed EU Common Fisheries Policy that states that EU member states 'shall use transparent and objective criteria including those of an environmental, social and economic nature, when allocating their national quotas'.¹⁷⁷

In addition to sustainable fishing, aquaculture is another economic activity with the potential to create jobs and support coastal communities in the UK. A healthy marine environment is essential to ensuring the quality and longevity of this sector. Good and sustainable shellfish aquaculture practices can result in healthier marine ecosystems, improving their ability to deliver services such as water purification. Finfish aquaculture, done sustainably, can contribute to food security whilst taking the pressure off overfished wild-fish stocks. The total value of the shellfish produced by the aquaculture sector in the UK in 2011 was estimated at about £19 million; this sector is generally dominated by small producers and supports a few thousand jobs across the country.¹⁷⁸ There is great potential to create many more jobs that benefit the local economy of coastal communities, through investing in environmentally sustainable aquaculture practices in the UK.¹⁷⁹

Hastings Fishermen's Protection Society (East Sussex, South East England)¹⁸⁰



Hastings is an urban coastal town on the southeast coast of England and one of Britain's oldest fishing ports. Today, the town is home to the largest beach-launched fishing fleets in the country, with more than 25 boats, all under-ten-metre inshore fishing vessels. The Hastings fishing fleet is proud of its environmental sustainability standards; Hastings is a mixed fishery with MSC (Marine Stewardship Council) certification for its Dover sole, mackerel, and herring fisheries.

The Hastings Fishermen's Protection Society was set up to preserve the fishing community's right to work from the stone beach, known as the Stade. Every fisher at Hastings is a member of the society. The society's work addresses the continued decrease, over the years, in fishing opportunities for the local inshore fleet, by giving a voice to and providing an awareness-raising platform for this sector.

The society works in partnership with a number of other organisations, Hastings Borough Council, the University of Brighton and tourism providers, including the Hastings Fishermen's Museum, visited by over 140,000 people every year. As a result of its work, the Hastings Fishermen's Protection Society is not only supporting local businesses and jobs, it is also helping promote the cultural value of the local fishing activities. Hastings is a cherished example in the UK of the multiple benefits of cross-sectoral cooperation and place-based educational and cultural initiatives. The strong links in Hastings between the local fishing fleet and the different sectors in the supply chain helps raise consumer awareness about the importance of the provenance of the fish they are eating and the value of sustainably caught fresh local fish.

'There are some very good connections in Hastings between the catching sector, the leisure and the tourism sector and the processing sector and the retail sector. I can't overstate how important I think that is because I have seen other fishing communities... where the consumer is completely disconnected from the catching sector. I think then it's very difficult to get buy in and understanding and realising the importance of the catching sector.' ~ Regional fisheries enforcement representative.¹⁸¹

Bangor Mussel Producers Limited (North Wales)

The Menai Strait separates the mainland of North Wales from the island of Anglesey. The stretch of the Menai Strait between the coastal towns of Bangor on the mainland, Beaumaris on Anglesey, and out into the Conwy Bay, is now the location of the largest mussel fishery in Britain. There are three distinct fisheries within the boundaries of the Menai Strait and Conwy Bay Special Area of Conservation (SAC): Menai East, Menai West – which is in the process of renewal - and Conwy.¹⁸²

Mussel farming is a traditional activity in Conwy Bay, going back some 400 years.¹⁸³ Mussel production in the Menai Strait East area produces 7-10,000 tonnes of mussels annually, which represents 30-50% of the total UK production of farmed mussels.¹⁸⁴ Bangor Mussel Producers Limited is the association of four companies that cultivate mussels in this area. They employ over 20 staff and operate 4 boats from Bangor to farm mussel beds within the boundaries of the 1962 Menai Strait (east) Fishery Order. The companies are: Extramussel Limited, Deepdock Limited, Myti Mussels Limited and Ogwen Mussel Limited.¹⁸⁵

The Association is committed to farming mussels in harmony with the environment, ensuring that their operations support a sustainable and vibrant coastal environment, enriching the biodiversity of the mud flats and encouraging wildlife to flourish. It has a strong commitment to research and has been involved in funding or part funding more than 10 Phd's and a number of other research projects over the last 15 – 20 years, a commitment that will continue into the future. The fishery was the world's first enhanced fishery to be awarded Marine Stewardship Certification in 2010.

Porlock Bay Shellfish project (Porlock, Somerset, southwest England)¹⁸⁶⁻¹⁸⁸

Porlock is a small village on the coast of the Exmoor National Park, in Somerset, southwest England. Almost half of its residents are aged over 65, while local employment comes mostly in the form of tourism and leisure. Porlock Bay Shellfish was born out of a meeting with local residents and it is considered to be the first community-based sustainable shellfish farming project in the UK, according to David Jarrad, director of the Shellfish Association of Great Britain. The £17,000 project began in April 2014 as a trial scheme to see if it is possible to grow shellfish in Porlock Bay near Porlock Weir, Somerset. The project aims to bring back the village's traditional trade of shellfish farming (there used to be an oyster industry in Porlock around a century ago) and to create at least three full-time jobs in the area as a shellfish farm social enterprise.

The Fishmongers Hall, Exmoor National Parks Authority, and Porlock Parish Council funded the project. In March 2015, Porlock Bay Shellfish was awarded the top hygiene rating, Grade A, which means that the oysters do not need to be cleaned before eating and can therefore be sent directly to local restaurants. David Salter, one of the members of the project, said: 'We looked at what we've got and we looked at how we can use our environment. We're an island, we've got 11,500 miles of coast; there must be thousands of places that could do what we do.' Porlock Bay Shellfish hopes that the business will be up and running by mid-summer 2015; and they are already thinking about planning an annual oyster festival to attract tourists to the area.

Rebuilding fishing communities has benefits beyond the fishing and aquaculture industries. As part of a wider healthier environment, attractive seascapes, inshore fishing boats, and the local food they provide also contribute to enhancing local tourism and cultural services.¹⁸⁹

Renewable energy

The UK's significant untapped potential for renewable energy comes in large part from the sea. The UK's total practical offshore renewable resource – including offshore wind, wave, tidal range, and tidal stream – equals to more than six times our national current annual electricity demand,¹⁹⁰ and these industries have the potential to generate over 80,000 jobs in the next few years.¹⁹¹ Small and medium businesses are currently at the heart of this sector, with more than 80% of all employers in wind and marine energy employing fewer than 250 people, and 56% employing fewer than 25 people.¹⁹²

Swansea Bay Tidal Lagoon (Swansea, South Wales)

Swansea is Wales's second largest city, situated in South Wales. During its nineteenth-century industrial prime, the city was a key centre of the copper industry, earning the nickname 'Copperopolis'. Following this industry's decline in the early to mid-twentieth century, the Swansea economy now has a proportionately large share of jobs in the public administration, hospitality, financial services, and retail sectors; an estimated 89% of those employed in 2013 were employed in the service sectors.¹⁹³

The Swansea Bay Tidal Lagoon is a £1-billion project by Tidal Lagoon Power Lt. (TLP), still under development.¹⁹⁴ Its plan is to build the world's first power-generating tidal lagoon in Swansea Bay, which involves the construction of a six-mile-long seawall housing underwater turbines, and which would create or support 1,900 jobs with 180 people employed, once the lagoon is operational.¹⁹⁵ TLP says the turbines in Swansea Bay could power 155,000 homes (equivalent to 90% of Swansea Bay's annual domestic electricity use) for 120 years, offer coastal flood protection for the Swansea Bay area, as well as recreation and amenity facilities, sports, and regeneration.¹⁹⁶ The company has also stated that they are preparing initiatives to promote biodiversity within Swansea Bay through the development, as well as opportunities for the lagoon itself to incubate a series of new local marine aquaculture businesses. TLP intends to source 50% of its supply chain from Welsh companies. As an operational power station and tourism facility attracting 70-100,000 visitors per annum, it is estimated that the annual impact of the lagoon on Welsh GVA could amount to approximately £76 million per year.¹⁹⁷

'The construction of a tidal lagoon to harness this natural resource in Swansea Bay opens up the possibility for the tides to play a lead role in the UK's transition to a low carbon future with greater energy security and lower electricity costs. At the same time, the project will provide regenerative economic and recreational benefits to the local community.' Andy Field, Head of Communications, Tidal Lagoon Power.

Tidal Energy Ltd (Pembrokeshire, Southwest Wales)

Pembrokeshire is a county in southwest Wales with a local economy heavily dependent on tourism. But, in addition to its diverse coastal and marine habitats and wildlife, the county also has great natural resources for marine renewable energy. Tidal Energy Ltd is a company based in Cardiff, Wales, working to generate marine renewable energy, grid-connected to St David's City in Pembrokeshire. The company is still in the research and development phase of the technology, but it expects to reach commercial viability and profitability in 2017/2018. Currently, it employs ten staff based in Cardiff (including 2 based in an additional office in Pembroke Dock). It has also supported about 40 FTE positions for the period of 12 months during the construction period for their prototype.

By 2017, it expects to add 10MW to the grid capacity in the area – typically, enough power to provide energy for up to 10,000 homes – and provide sustainable employment opportunities for local businesses in Pembrokeshire.

'Marine renewable energy presents a distinct opportunity to add value and support a sustainable economy in Pembrokeshire. We intend to provide new renewable energy capacity in the electricity network locally, and provide new jobs to support the developing industry.' Martin Murphy, CEO, Tidal Energy Ltd

Energy-efficiency schemes, including saving or reducing energy use, insulation, and retro-fitting are essential to help reduce our carbon emissions and save on the cost of household energy bills. These measures can support a number of jobs and contribute towards more sustainable lifestyles, leaving a great legacy for future generations. A study by the Royal Institute of British Architects (RIBA) has stated that we need to retrofit our homes, offices, hospitals, and shops at a rate of one property every minute if we are to meet our 2020 targets.¹⁹⁸

Responsible tourism, leisure, and recreation

Tourism, leisure, and recreation activities on our coast and out at sea should contribute to a better quality of life for local communities, enhance and respect culture and local traditions, contribute to local economic prosperity, as well as minimise damage to the environment.¹⁹⁹ This area has the biggest potential to deliver more and better jobs:

- The UK is one of the world's top ten tourism destinations and the leading destination in Northern Europe.²⁰⁰
- Ecotourism is the fastest-growing area of the tourism industry.²⁰¹
- The contribution of nature tourism to the UK economy is growing year by year.²⁰²

Proud and flourishing communities are better able to understand, care for, and promote their natural assets to potential visitors. Clean, functioning seas and coastal habitats support a diversity of wildlife species and are fundamental to delivering the potential of these economic sectors. Ninety per cent of British tourists consider active protection of the environment, including support of local communities, to be part of a hotel's responsibility.²⁰³

Anglesey Adventures (Holyhead, Anglesey, North Wales)

Outdoor activity tourism in Wales is worth £481 million to the economy and supports 8,243 Welsh jobs.²⁰⁴ Total expenditure on outdoor activity tourism in Wales accounts for 10% or 12% of expenditure in the tourist economy as a whole, according to Visit Britain and Welsh government sources, respectively.²⁰⁵

The strength of this sector lies in the varied nature of the habitats and landscapes of Wales. Although outdoor activity tourism benefits the whole of Wales, North Wales accounts for about 51% of the total economic contribution of this sector.²⁰⁶

North Wales's coastline is an Area of Outstanding Natural Beauty, with hidden beaches, sea cliffs, and the largest sea cave in Wales. Pioneered in Wales, Coasteering is a blend of rock-hopping, shore-scrambling, swell-riding, cave-exploring, and cliff-jumping. At the age of seven, Grant Mitchell discovered the otherwise inaccessible cliffs of Holyhead in an inner tube; now he goes Coasteering there with Anglesey Adventures – one of the many small businesses supporting the outdoor activity tourism sector in North Wales. The company offers adventure days and breaks on Anglesey and throughout North Wales, including activities like Coasteering, rock climbing, sea kayaking, sea level traversing, gorge scrambling, canoeing, and raft building.²⁰⁷

The Venus Company (Southwest England)



The Venus Company uses the strap line 'Loving the Beach' to define itself. As part of its business ethos, it tries to balance its customers' needs with environmental and social considerations. The six existing Venus cafés and shops are located at some of the most beautiful beaches and locations in Devon and Cornwall, in the southwest of England.

Called 'Venus beaches', the locations of these cafés and shops allow the company to offer a range of water sports, in addition to its other services, including stand-up paddle boarding, surfing, kayaking, windsurfing, and boogie boarding.²⁰⁸

The first Venus Café was opened in March 1995, at Blackpool Sands. One of its founders said: 'When we started out everyone moaned about how rubbish Britain's beaches were. We took the view that it wasn't the beaches but what was on offer there. Our philosophy was to try to offer a more sustainable Mediterranean type experience on an English beach, but with a British twist – so we had pasties and breakfasts and fish and chips, with olives and baguettes.' The Venus Company is now a year-round business employing 30 staff, which it trains in-house. Since around 1999, it has centralised its food production to a warehouse in Halwell, reducing food miles, and has purchased environmentally friendly vans to transport between Halwell and the cafés.²⁰⁹

Coastal centre celebrating the Sea of Moyle (County Antrim, Northern Ireland)²¹⁰⁻²¹³



Waterfoot Beach is a tourist destination located on the Causeway Coastal Route on the eastern coast of Northern Ireland. The small village of Waterfoot is at the northern end of the beach, a rural area situated at the foot of Glenariff, one of the Glens of Antrim. The village is also known as Glenariff.

Moyle District Council (as of April 2015, part of the newly formed Causeway Coast and Glens Borough Council) is using a £186,560 grant from the government's Coastal Communities Fund (CCF) to convert a disused toilet block into a new coastal centre in Waterfoot. The coastal centre, offering a beach café and visitor experience will celebrate the Sea of Moyle on the Causeway Coastal Route. The refurbished centre will become an additional attraction and stop-off point for visitors travelling along the scenic Causeway Coastal Route, and also for a growing number of canoeists and kayakers exploring the coast for leisure purposes. The project is expected to bring employment opportunities in retail, catering and tourism as well as a community facility not available locally. The centre will also provide a space to local artists and craft makers to sell their work.

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Isle of Mull (Inner Hebrides, Scotland)²¹⁴⁻²¹⁸

The Isle of Mull is the second largest island of the Inner Hebrides (after Skye), off the west coast of Scotland in the council area of Argyll and Bute. The Isle's economy was once based on farming, fishing, and burning seaweed to kelp ash (used in the manufacture of soap and glass), but after an economic collapse in the mid-nineteenth century and a consequent reduction of the local population, since the mid-1960s, Mull is now highly dependent on its tourism industry.

Ecotourism, in particular, has become very popular in Mull in recent years and the

Isle of Mull, continued...

re-introduction of white-tailed eagles in 2005 can partly explain why. The RSPB estimates that, based on tourists' interest in visiting Mull for its amazing bird species alone, the economic contribution of wildlife tourism is up to £5 million of tourist spend on the island every year, supporting 110 jobs and £1.4 million of local income.²¹⁹ As well as being a prime area for experiencing iconic Scottish wildlife like Golden Eagles and Red Deer, Mull also has a host of coastal and marine wildlife drawing people to the island. There are a number of different dedicated tours and visitor opportunities based around sea eagles, otters, seals, whales, dolphins and porpoises, seabirds (especially puffins), and basking sharks. These in turn support a lot of the local industry, and jobs, directly and indirectly.

Innovative coastal management

Diverse and resilient coastal ecosystems are proven to provide a long-term, cost-effective defence against coastal erosion and flooding, while also maximising the potential for tourism, leisure, and recreation activities.

Creating new intertidal habitats, such as mudflats, sand flats and salt marsh can

- decrease the effects of flooding and lower maintenance costs.
- provide important habitats for birds, specialised plants, fish, and shellfish.
- create recreational opportunities for walking, sailing, and bird watching.
- help to maintain water quality and avoid salt intrusion due to inappropriate land-use change.
- act as a store for carbon dioxide and methane.²²⁰

Medmerry Realignment Scheme (West Sussex, southeast England)²²¹⁻²²³

Between 2011 and 2013, the Environment Agency (EA) constructed 4.25 miles (7 km) of new flood bank inland from the sea between Selsey and Bracklesham, in West Sussex, southeast England, currently one of the stretches of coastline most at risk of flooding in southern England. It then breached the existing shingle beach to create the largest managed realignment scheme on the open coast in Europe, creating amazing new wetland habitats.

The Medmerry Realignment Scheme is an innovative flood defence project that has won the prestigious Prime Minister's Better Public Building Award. Opened in November 2013, the Medmerry flood defence held firm during the 2013/2014 floods and is seen as a gold standard of flood defence in the UK. It directly protects 350 houses, as well as the sewage plant and the main road to Selsey.

The previous shingle bank at Medmerry required expensive maintenance each winter, and was not able to prevent coastal flooding during major storms. The coastal realignment project created a new wetland for local wildlife with 183 hectares of intertidal habitat. The Guardian reported in February 2014 'that locals scoffed that £28m was being spent on creating a bird reserve, but when it was hammered by the January storms, it

Medmerry Realignment Scheme, continued...

worked. “It’s really been tested. We’re just amazed at how well we’ve come out of it,” says Chamberlain (a local resident and manager of Medmerry Park holiday village). “Normally by now we would’ve had flooding, but we’ve had none at all.”²²⁴

Much of the site is now managed by the RSPB as a nature reserve. The important new wildlife wetlands are expected to offset the anticipated loss of protected intertidal habitats in the Solent over the next 100 years. In addition, new public access points will be created for residents and visitors to enjoy the wildlife. The scheme will include new public footpaths, cycle paths and bridleways, two small car parks, and viewpoints. This new form of defence has helped to save £300,000 in taxpayers’ money each year, the cost of repairing the shingle bank. It also supports local economic growth by allowing businesses to operate year round. Medmerry’s new wetlands have enabled the holiday village to revamp itself as an ecotourism destination; realignment projects that help wildlife can tap into funding unavailable to conventional coastal defences.²²⁵

Coastal adaptation at Birling Gap (Birling Gap, East Sussex, southeast England)^{226 227}



Birling Gap is a coastal hamlet within the parish of East Dean and Friston, East Sussex, southeast England. The Birling Gap beach is situated on the Seven Sisters not far from Beachy Head and is owned by the National Trust (NT). Coastal erosion is a key issue in this area; a number of buildings have already been removed, including some of the row of coastguard cottages built in 1878 (before NT), and those that remain are still inhabited.

The National Trust runs an all-in-one café, shop, and information point, which is perched on the cliff above the beach. The attraction receives an estimated 350,000 visitors a year, and visitors can enjoy views towards Beachy Head in the east and the iconic Seven Sisters in the west.

Coastal adaptation at Birling Gap, continued...

To tackle the challenge of coastal erosion, working as much as possible with nature and not against it, the property team at Birling Gap have implemented a 'roll-back' approach. The building has been renovated with a long-term vision in mind; the café will have a life span of around 25 years, and the shop and proposed visitor centre over 30 years. 'As sea-levels rise and storminess increase the erosion could accelerate and buildings continue to be lost. We're working with coastal change, closing the original rooms as we need to and creating similar-sized rooms at the back of the building. In the future, we also plan to design simple new structures that can easily be taken down and re-built. That way we can stay ahead of the eroding cliff line.' Jane Cecil, General Manager for the South Downs.

Re-connecting people and nature

Growing evidence suggests a healthy natural environment can help deliver cost-effective public goods, such as health and education. Hands-on contact with nature can support greater ecological knowledge and improve physical and mental health.²²⁸ With one of the largest coastlines in the world, the UK offers a fantastic opportunity to get more people active and happy by the seaside, which can also provide a great contribution to local tourism and a number of businesses.

Learn to Sea's 'Sea School' (South Devon, southwest England)²²⁹



Learn to Sea is an award-winning marine education facility in South Devon, run by the marine biologist Maya Plass. Her approach in using the coast as an educational resource allows children the chance to use the South Hams coastline to learn whilst also having fun. Through engaging rock pool sessions, beach activities and play, school children are taught curriculum focused subjects and marine conservation at South Milton Sand's 'sea school'.

Footprints in the Sand (Thanet, Kent, southeast England)²³⁰



Thanet is one of the most deprived areas of Kent and its health profile shows many indicators of poor health. 'Footprints in the Sand' (FITS) was a project coordinated by the Thanet Coast Project from 2011 to 2013, to engage local people of all ages and backgrounds, who may have barriers to accessing the coast due to deprivation issues or disabilities, and help them enjoy the health and education benefits of visiting the Thanet Coast, right at their doorstep. The project helped raise awareness and increased local's knowledge of the Thanet Coast and the North East Kent European marine sites (now the NE Kent MPA). The project also aimed at increasing local people's sense of pride and ownership for their coastal heritage, addressing health inequalities, and developing skills for conserving and promoting Thanet's coast.

The FITS project partnership was supported by £98,000 over three years by Natural England as part of its Access to Nature programme (funded by £25 million from the Big Lottery Fund's Changing Spaces programme). One person was employed as a project officer and worked a 4-day week, based within the Thanet Coast Project. Voluntary and partnership 'in-kind' contributions also came to over £25,000.

The Wales Coast Path (Wales)²³¹



The Wales Coast Path is the first in the world to encompass a country's entire coastline. It stretches 870 miles (1,400 km) from the River Dee in Flintshire to Chepstow in the south; it goes through 16 local authority areas and passes a number of castles. The Coast Path was formally opened in May 2012, and in the 12 months leading to September 2013 it attracted nearly three million visitors, bringing £32 million to the economy; 94% of visitors were walking for leisure, with 38% of them using it as part of a longer holiday.

A study, published by Beaufort Research and Cardiff Business School and reported by the BBC in November 2013, identified 5,400 tourism-related businesses within 2 km (one-and-a-quarter miles) of the route. It estimated the extra business had led to the creation of the equivalent of 112 jobs by firms along the route, though much of that would be comprised of part-time or temporary work. But, Chris Osborne, who owns a hotel in Tenby, said the path was boosting business all year round: 'What is evident too is that people walk throughout the year, regardless almost of the weather.' Elizabeth Williams, from the Three Golden Cups pub in the Vale of Glamorgan said: 'It's possible that we may have had to close the business without it. With the pub being so close to the beach, it's very weather dependent. Casual walkers are more resilient - if you get a cold day with drizzle, they will still come out and walk. It has enabled us to take on an apprentice chef and a part-timer from the village.' Culture Minister John Griffiths highlighted other benefits of the Coast Path, in responding to the study: 'It's a great asset for Wales and demonstrates the value of the path to the economy but also the benefits for people who enjoy the coastline. A lot of people are using it for its health benefits and we want to continue to improve the path and make it as accessible as possible.'

The South West Coast Path (Southwest England)^{232 233}

As the longest of the 13 national trails in England and Wales with a length of 630 miles, The South West Coast Path follows the coastline of England's southwest peninsular and is recognised as one of the region's principal tourism attractions and leisure facilities. Starting at Minehead in Somerset, it follows the coastline of Devon, Cornwall, and Dorset until it reaches its end at Poole Harbour.

Walkers using the Coast Path are contributing millions of pounds (£436 million during 2012) into shops and businesses in the region, and supporting almost 10,000 local jobs. And, it was estimated that the number of people attracted to use the trail increased by 7% between 2011 and 2012, to 8.6 million.²³⁴

The South West Coast Path Team oversees the management of the route. Mark Owen, its National Trail officer said: 'It's not only locals who know that you have to leave the car behind and explore on foot if you want to discover the most memorable views of our beautiful coastline.'²³⁵

'While walking on the Coast Path is free, the money walkers spend in nearby pubs, cafés, accommodation and with other local businesses makes public investment on the South West Coast Path National Trail a cost-effective way to help grow the region's economy.'²³⁶

The path costs around £1 million a year to maintain, with three-quarters of the cost coming from Natural England and the remainder from local authority partners and the National Trust. Since 2010, the Coast Path has also benefited from more than £2 million in grant aid from the European-funded Rural Development Programme for England, along with further cash from other sources.

7. From vision to reality

From the innovative and sustainable approaches that are already taking place across the UK coast, we know that change is possible. But to deliver more and better jobs for coastal communities through a healthier marine environment, and to make the most of these opportunities, action is needed to make this the norm across the UK.

Over the next two years, we will develop an action plan to turn the Blue New Deal vision into a reality. To do this we need to:

- identify solutions and practical measures
- assess the potential economic benefits and the level of investment needed
- put in place the incentives and policies needed to make this happen

This will only be possible through a collective effort involving a broad range of coastal actors, from local councils to national government departments, and entrepreneurs to representatives of industry sectors.

If you believe that it is possible to deliver stronger economies for UK coastal communities through a healthier marine environment, know of examples that are already taking place, and have suggestions about how to make it happen, we want to hear from you.

Get involved with the Blue New Deal initiative by visiting:

www.blunewdeal.org

Endnotes

1. 'Good jobs' here are defined as reasonably secure, decently paid, satisfying jobs in a more equally distributed and low-carbon economy (NEF) <http://www.neweconomics.org/issues/entry/jobs-industrial-strategy>
2. Carpenter, G., Esteban, A. (2015) *Managing EU fisheries in the public interest: Results from the Bio-Economic Model of European Fleets*. New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/e2a0356a6c69ec0cc6_ygm6bznj3.pdf
3. Results calculated using 2010-2012 performance. New jobs estimate is made up of fishing jobs (11%) and processing jobs (89%). Retrieved from: <http://www.fisheriesmodel.eu/> [accessed 10 June 2015].
4. HM Government (December 2012) Marine Strategy Part One: UK Initial Assessment and Good Environmental Status. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69632/pb13860-marine-strategy-part1-20121220.pdf
5. World Resources Institute (2000) *Earth trends, Coastal and Marine Ecosystems, Marine Jurisdictions: Coastline length*. Retrieved from <http://web.archive.org/web/20120419075053/http://earthtrends.wri.org/text/coastal-marine/variable-61.html>
6. Google Maps (December 2014) Driving directions from London, UK to Vladivostok, Russia: 7,456 miles (or 11,999 km). Retrieved from <https://maps.google.co.uk/maps?output=classic&dg=brw>
7. Britain Express (n.d.) Heritage Coasts [webpage]. Retrieved from <http://www.britainexpress.com/countryside/coast/index.htm> [accessed 5 May 2015]
8. The Scottish Government (2011, 16 March) Scotland's Marine Atlas: Information for The National Marine Plan [webpage]. Retrieved from <http://www.scotland.gov.uk/Publications/2011/03/16182005/66>
9. Outdoor Recreation Northern Ireland (n.d.) Causeway Coast Way [webpage]. Retrieved from <http://www.walkni.com/ulsterway/sections/causeway-coast-way/> [accessed 5 May 2015]
10. UNESCO (n.d.) World Heritage List, Giant's Causeway and Causeway Coast [webpage]. Retrieved from <http://whc.unesco.org/en/list/369> [accessed 5 May 2015]
11. English Heritage has changed its structure since April 2015: <http://www.english-heritage.org.uk/about-us/search-news/english-heritage-has-changed>
12. Historic England (n.d.) Protected Wrecks [webpage]. Retrieved from <https://www.english-heritage.org.uk/professional/research/coastal-and-maritime/marine-historic-environment/> [accessed 5 May 2015]
13. Esteban, A., Crilly, R., Balata, F., Devlin, S. (2014) Fish Dependence – 2014 Update. New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/18337a5547bb40af22_57m6bfkbg.pdf
14. Doward, J. (2011, 6 March) Climate change 'will wreak havoc on Britain's coastline by 2050'. The Guardian. Retrieved from <http://www.theguardian.com/environment/2011/mar/06/climate-change-coastline-joseph-rowntree>
15. Balata, F., Williams, C. (June 2014) Offshore energy in the UK: an overview. The Marine Socio-Economics Project. New Economics Foundation. Retrieved from http://www.mseproject.net/marine-energy/doc_download/130-3-energy-offshore-energy-overview
16. Balata, F., Williams, C. (June 2014) The UK Shipping Industry. The Marine Socio-Economics Project. New Economics Foundation. Retrieved from http://www.mseproject.net/uk-marine-infrastructure/doc_download/127-3-infrastructure-uk-shipping
17. Balata, F., Williams, C. (June 2014). The UK Ports Industry. The Marine Socio-Economics Project. New Economics Foundation. Retrieved from http://www.mseproject.net/uk-marine-infrastructure/doc_download/126-2-infrastructure-uk-ports
18. HM Government (2015, 6 April) Speed limits [webpage]. Retrieved from <https://www.gov.uk/speed-limits>
19. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
20. BBC News (2012, 17 July). People feel 'healthier' on the English coast. BBC News. Retrieved from <http://www.bbc.co.uk/news/health-18856680>
21. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
22. Defra (July 2010) Charting Progress 2: An assessment of the state of UK seas. UK Marine Monitoring and Assessment Strategy (UKMMAS) Community. Retrieved from <http://chartingprogress.defra.gov.uk/>
23. Defra (July 2010) Charting Progress 2: An assessment of the state of UK seas. UK Marine Monitoring and Assessment Strategy (UKMMAS) Community. Retrieved from <http://chartingprogress.defra.gov.uk/>
24. British Ornithologists' Union (2013) The British List: A Checklist of Birds of Britain (8th edition). Ibis 155: 635-676. Retrieved from <http://www.bou.org.uk/thebritishlist/British-List.pdf>

25. New Economics Foundation (August 2005) Coasting along: A study of business impacts and regeneration in south east coastal towns. Retrieved from http://www.secouncils.gov.uk/wp-content/uploads/pdfs/_publications/Coasting_along_business_regeneration_in_SE_coastal_towns_2005.pdf
26. House of Commons Communities and Local Government Committee (2006) Coastal Towns Second Report of Session 2006–07 (6) House of Commons HC 351, The Stationery Office, London. Retrieved from <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcomloc/351/351.pdf>
27. The Centre for Social Justice (August 2013) Turning the Tide: Social justice in five seaside towns. Retrieved from <http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/Turning-the-Tide.pdf>
28. Beatty, C., Fothergill, S., Wilson, I. (November 2008) England's Seaside Towns: a 'benchmarking' study. Centre for Regional Economic and Social Research, Sheffield Hallam University. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7624/englishseasidetowns.pdf
29. Beatty, C., Fothergill, S., Wilson, I. (March 2011) England's Smaller Seaside Towns: a benchmarking study. Centre for Regional Economic and Social Research, Sheffield Hallam University. Retrieved from <http://www.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/englands-smaller-seaside-towns.pdf>
30. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
31. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
32. Marine Management Organisation (July 2011) Coastal typologies: detailed method and outputs. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/312722/se_typologies.pdf
33. Centre for Regional Economic and Social Research Sheffield Hallam University (2010) The Seaside Tourist Industry in England and Wales. Retrieved from <http://www.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/seaside-tourist-industry-england-wales.pdf>
34. NVQ2 is equivalent to GCSE (grades A*-C), Higher diploma or BTEC award: <https://www.gov.uk/what-different-qualification-levels-mean/compare-different-qualification-levels>
35. House of Commons Communities and Local Government Committee (2006) Coastal Towns Second Report of Session 2006–07 (6) House of Commons HC 351, The Stationery Office, London. Retrieved from <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcomloc/351/351.pdf>
36. Communities and Local Government (2010) Strategy for seaside success: Securing the future of seaside economies. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7625/1518282.pdf
37. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
38. The Centre for Social Justice (August 2013) Turning the Tide: Social justice in five seaside towns. Retrieved from <http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/Turning-the-Tide.pdf>
39. Oxford Consultants for Social Inclusion (2011, 15 September) News and publications: Three suggestions for the Coastal Regeneration Fund [webpage]. Retrieved from <http://www.ocsi.co.uk/news/2011/09/15/three-suggestions-for-the-coastal-regeneration-fund/>
40. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
41. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
42. House of Commons Communities and Local Government Committee (2006) Coastal Towns Second Report of Session 2006–07 (6) House of Commons HC 351, The Stationery Office, London. Retrieved from <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcomloc/351/351.pdf>
43. The Centre for Social Justice (August 2013) Turning the Tide: Social justice in five seaside towns. Retrieved from <http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/Turning-the-Tide.pdf>
44. Vasagar, J. (2011, 23 September) Education chief identifies white working-class pupils as big challenge. The Guardian. Retrieved from <http://www.theguardian.com/education/2011/sep/23/education-chief-white-working-class-challenge>
45. Office for National Statistics (2011) Census: Coastal Communities. Retrieved from <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/coastal-communities/rpt-coastal-communities.html>
46. Oxford Consultants for Social Inclusion (2011, 24 March) News and publications: Headline results from the Indices of Deprivation 2010 [webpage]. Retrieved from <http://www.ocsi.co.uk/news/2011/03/24/headline-results-from-the-indices-of-deprivation-2010/>
47. HM Government (February 2012) Coastal Communities Fund: Prospectus. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/5982/2085591.pdf
48. ClearDebt (2012) Personal insolvencies in UK coastal areas. Retrieved from <http://www.cleardebt.co.uk/ClearDebt-report-v4.pdf>
49. The Centre for Social Justice (August 2013) Turning the Tide: Social justice in five seaside towns. Retrieved from <http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/Turning-the-Tide.pdf>

50. The Centre for Social Justice (August 2013) Turning the Tide: Social justice in five seaside towns. Retrieved from <http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/Turning-the-Tide.pdf>
51. Thurstan, R., Brockington, S., Roberts, C. (May 2010) The effects of 118 years of industrial fishing on UK bottom trawl fisheries. Retrieved from <http://www.marinet.org.uk/archive/archivelatestnewsfiles/nsdt.pdf>
52. HM Government (2012) Landings into the UK by and foreign UK vessels: 1938 to 2012 Dataset. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318281/3-7.xls
53. HM Government (2012) Number of UK fishermen: 1938 to 2012 Dataset. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318261/2-6.xls
54. HM Government (2012) Landings into the UK by and foreign UK vessels: 1938 to 2012 Dataset. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318281/3-7.xls
55. HM Government (2012) Number of UK fishermen: 1938 to 2012 Dataset. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318261/2-6.xls
56. The Fish Site (November 2012) UK Fish Consumption Trends and Predictions [webpage]. Retrieved from <http://www.thefishsite.com/articles/1488/uk-fish-consumption-trends-and-predictions/>
57. Esteban, A., Crilly, R., Balata, F., Devlin, S. (2014) Fish Dependence – 2014 Update. New Economics Foundation (NEF). Retrieved from http://b.3cdn.net/nefoundation/18337a5547bb40af22_57m6bfkbg.pdf
58. Esteban, A., Crilly, R., Bernick, S., Devlin, S. (2014) Fish Dependence – 2015 Update. New Economics Foundation (NEF). Retrieved from http://b.3cdn.net/nefoundation/cc73f90be2355b4cb7_1cm6b4upo.pdf
59. Esteban, A., Crilly, R., Balata, F., Devlin, S. (2014) Fish Dependence – 2014 Update. New Economics Foundation (NEF). Retrieved from http://b.3cdn.net/nefoundation/18337a5547bb40af22_57m6bfkbg.pdf
60. Defra (December 2014) Sustainable fisheries: fish stock harvested within safe limits. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/382516/23_sustainable_fisheries_2014_final.pdf
61. Stiles, M.L., Stockbridge, J., Lande, M., & Hirshfield, M.F. (2010) Impacts of Bottom Trawling on Fisheries, Tourism, and the Marine Environment. Retrieved from http://oceana.org/sites/default/files/reports/Trawling_BZ_10may10_toAudrey.pdf
62. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
63. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
64. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
65. European Environment Agency (2013, 7 August) Marine litter – a growing threat worldwide [webpage]. Retrieved from <http://www.eea.europa.eu/highlights/marine-litter-2013-a-growing>
66. European Environment Agency (2013, 7 August) Marine litter – a growing threat worldwide [webpage]. Retrieved from <http://www.eea.europa.eu/highlights/marine-litter-2013-a-growing>
67. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
68. European Environment Agency (2013, 7 August) Marine litter – a growing threat worldwide [webpage]. Retrieved from <http://www.eea.europa.eu/highlights/marine-litter-2013-a-growing>
69. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
70. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
71. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
72. Surfers Against Sewage (n.d.) Marine Litter [webpage]. Retrieved from <http://www.sas.org.uk/issues/marine-litter/> [accessed 5 May 2015]
73. Surfers Against Sewage (October 2014) Marine Litter Report: 2014 - 2020 VISION. Retrieved from <http://www.thecrownstate.co.uk/media/389729/sas-marine-litter-report.pdf>
74. UK National Ecosystem Assessment. (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
75. UK National Ecosystem Assessment. (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
76. Joint Nature Conservation Committee (2014, 16 October) UK Coastal Habitats [webpage]. Retrieved from <http://jncc.defra.gov.uk/page-1429>
77. UK National Ecosystem Assessment. (2011) The UK National Ecosystem Assessment: Synthesis of the Key

- Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
78. Jones, L., Garbutt, A., Hansom, J. and Angus, S. (2013) Impacts of climate change on coastal habitats. *MCCIP Science Review* 2013, 167-179, doi:10.14465/2013.arc18.167-179. Retrieved from <http://www.mccip.org.uk/annual-report-card/2013/healthy-diverse-marine-ecosystem/coastal-habitats.aspx>
 79. Sharpe, J. (n.d.) Coast in Crisis protecting wildlife from climate change and sea level rise. RSPB East Anglia Regional Office, Norwich. Retrieved from http://www.rspb.org.uk/Images/CRISIS72_tcm9-133013.pdf [accessed 5 May 2015]
 80. Eastern Solent Coastal Partnership (n.d.) What is coastal squeeze? [webpage]. Retrieved from <http://www.escp.org.uk/what-coastal-squeeze> [accessed 5 May 2015]
 81. UK National Ecosystem Assessment. (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
 82. Eastern Solent Coastal Partnership (n.d.) What is coastal squeeze? [webpage]. Retrieved from <http://www.escp.org.uk/what-coastal-squeeze> [accessed 5 May 2015]
 83. Sharpe, J. (n.d.) Coast in Crisis protecting wildlife from climate change and sea level rise. RSPB East Anglia Regional Office, Norwich. Retrieved from http://www.rspb.org.uk/Images/CRISIS72_tcm9-133013.pdf [accessed 5 May 2015]
 84. Committee on Climate Change (n.d.) Climate variations: natural and human factors [webpage]. Retrieved from <http://www.theccc.org.uk/tackling-climate-change/the-science-of-climate-change/climate-variations-natural-and-human-factors/> [accessed 5 May 2015]
 85. IPCC (2014) Summary for policymakers. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32. Retrieved from https://ipcc-wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf
 86. Birch, C. (2015, 1 February) The Winter Storms of 2013 And 2014: Oceanography And Coastal Impacts. Retrieved from <http://coastal-futures.net/archives/307>
 87. Met Office (2014) Winter storms, December 2013 to January 2014 [webpage]. Retrieved from <http://www.metoffice.gov.uk/climate/uk/interesting/2013-decwind>
 88. Barkham, P. (2014, 7 February) Should coastal Britain surrender to the tides? *The Guardian*. Retrieved from <http://www.theguardian.com/environment/2014/feb/07/should-coastal-britain-surrender-to-tide>
 89. Brown, S., Nicholls, R.J., Vafeidis, A., Hinkel, J., Watkiss, P. (2011) The Impacts and Economic Costs of Sea-Level Rise in Europe and the Costs and Benefits of Adaptation. Summary of Results from the EC RTD ClimateCost Project. In Watkiss, P (Editor), 2011. *The ClimateCost Project. Final Report. Volume 1: Europe*. Published by the Stockholm Environment Institute, Sweden, 2011. ISBN 978-91-86125-35-6. Retrieved from http://www.climatecost.cc/images/Policy_brief_2_Coastal_10_lowres.pdf
 90. Doyle, A., McNeill, R. (2014, 12 December) Flirting with retreat along Britain's battered shores. *Daily Mail*. Retrieved from <http://www.dailymail.co.uk/wires/reuters/article-2871577/Flirting-retreat-Britains-battered-shores.html>
 91. The Scottish Government (2013) *Planning Scotland's Seas: 2013 - The Scottish Marine Protected Area Project – Developing the Evidence Base for Impact Assessments and the Sustainability Appraisal Final Report*. Retrieved from <http://www.gov.scot/Publications/2013/08/9645/20>
 92. McNeilly, C. (2014, 2 June) Warning: 46,000 homes in Northern Ireland are at high risk from flooding. *Belfast Telegraph*. Retrieved from <http://www.belfasttelegraph.co.uk/news/local-national/northern-ireland/warning-46000-homes-in-northern-ireland-are-at-high-risk-from-flooding-30320661.html>
 93. Welsh Government (2014, 3 June) Flooding and coastal erosion [webpage]. Retrieved from <http://wales.gov.uk/topics/environmentcountryside/epq/flooding/?lang=en>
 94. Beagle, D., Fox, W., Parkinson, J., Plotka, E. (July 2014) *Building a Better Britain: A vision for the next Government*. Retrieved from <http://www.architecture.com/RIBA/Campaigns%20and%20issues/Assets/Files/BuildingABetterBritain.pdf>
 95. Harvey, F. (2014, 11 February) England's floods – everything you need to know. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/2014/feb/11/englands-floods-everything-you-need-to-know>
 96. Defra (July 2010) *Charting Progress 2: An assessment of the state of UK seas. UK Marine Monitoring and Assessment Strategy (UKMMAS) Community*. Retrieved from <http://chartingprogress.defra.gov.uk/>
 97. Foster, C., Poulton, C., Harrison, M. (n.d.) A national hazard assessment of coastal landslides using GI capture systems – a government dataset. British Geological Survey, Keyworth, Nottingham, NG12 5GG. Retrieved from http://nora.nerc.ac.uk/3734/1/AGI_CF_AG_MH_CP_SPRICE.pdf [accessed 5 May 2015]
 98. Carrington, D. (2014, 28 December) Almost 7,000 UK properties to be sacrificed to rising seas. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/2014/dec/28/7000-uk-properties-sacrificed-rising-seas-coastal-erosion>

99. HM Government (2015, 19 March) Policy: Flooding and coastal change [webpage]. Retrieved from <https://www.gov.uk/government/policies/reducing-the-threats-of-flooding-and-coastal-change>
100. Khan, U. (2008, 16 September) England is most crowded country in Europe. The Telegraph. Retrieved from <http://www.telegraph.co.uk/news/politics/2967374/England-is-most-crowded-country-in-Europe.html>
101. WWF (2014) Living Planet Report 2014: species and spaces, people and places. McLellan, R., Iyengar, L., Jeffries, B., Oerlemans, N. (Eds). WWF, Gland, Switzerland. Retrieved from http://ba04e385e36eed47f9c-abbc057a2a90674a4bcb7fab6c6198d0.r88.cf1.rackcdn.com/Living_Planet_Report_2014.pdf
102. Pidcock, R. (2014, 16 January) UK tops list of world's biggest greenhouse gas emitters [blog]. Retrieved from <http://www.carbonbrief.org/blog/2014/01/uk-tops-list-of-world%E2%80%99s-biggest-greenhouse-gas-emitters/>
103. Balata, F., Williams, C. (June 2014) Offshore energy in the UK: an overview. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/marine-energy/doc_download/130-3-energy-offshore-energy-overview
104. Vidal, J. (2010, 22 March) UK air pollution causes 50,000 early deaths a year, say MPs. The Guardian. Retrieved from <http://www.theguardian.com/environment/2010/mar/22/air-pollution-deaths>
105. Department for Transport (2014, 29 July) National Travel Survey: England 2013. Statistical Release. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/342160/nts2013-01.pdf
106. The Global Commission on the Economy and Climate (September 2014) Better Growth Better Climate, New Climate Economy Report, The Global Report. Retrieved from http://static.newclimateeconomy.report/wp-content/uploads/2014/08/NCE-Global-Report_web.pdf
107. The Nature Conservancy (n.d.) Five Reasons We are All Connected to Oceans [webpage]. Retrieved from <http://www.nature.org/ourinitiatives/habitats/oceanscoasts/explore/five-reasons-we-are-all-connected-to-oceans.xml> [accessed 5 May 2015]
108. Committee on Climate Change (n.d.) Climate variations: natural and human factors [webpage]. Retrieved from <http://www.theccc.org.uk/tackling-climate-change/the-science-of-climate-change/climate-variations-natural-and-human-factors/> [accessed 5 May 2015]
109. UK Ocean Acidification Research Programme (n.d.) Home [webpage]. Retrieved from <http://www.oceanacidification.org.uk/> [accessed 5 May 2015]
110. TEEB (2010) The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB. Retrieved from <http://www.unep.org/pdf/LinkClick.pdf>
111. Monbiot, G. (2014, 24 October) Ripping up the sea floor on behalf of royal profits. The Guardian. Retrieved from <http://www.theguardian.com/environment/georgemonbiot/2014/oct/24/ripping-up-the-sea-floor-on-behalf-of-royal-profits>
112. Sharpe, J. (n.d.) Coast in Crisis protecting wildlife from climate change and sea level rise. RSPB East Anglia Regional Office, Norwich. Retrieved from http://www.rspb.org.uk/Images/CRISIS72_tcm9-133013.pdf [accessed 5 May 2015]
113. HM Government (2009) Marine and Coastal Access Act 2009. Retrieved from http://www.legislation.gov.uk/ukpga/2009/23/pdfs/ukpga_20090023_en.pdf
114. HM Government (March 2011) UK Marine Policy Statement. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf
115. European Parliament, Council of the European Union (2011) Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment Text with EEA relevance. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011L0092>
116. European Parliament, Council of the European Union (1992) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31992L0043:EN:HTML>
117. Productive Seas Evidence Group (2015, 7 January) Social and Economic Assessment Requirements for Development Projects Affecting the Marine Environment. Retrieved from <http://www.scotland.gov.uk/Resource/0046/00467340.pdf>
118. HM Government (March 2011) UK Marine Policy Statement. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf
119. HM Government (February 2012) Coastal Communities Fund: Prospectus. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/5982/2085591.pdf
120. Joint Nature Conservation Committee (2011, 28 November) What we do [webpage]. Retrieved from <http://jncc.defra.gov.uk/default.aspx?page=5288>
121. Harvey, F. (2011, 29 November) Autumn statement: George Osborne slams 'costly' green policies. The Guardian. Retrieved from <http://www.theguardian.com/uk/2011/nov/29/autumn-statement-george-osborne-green-policies>
122. Bernick, S. (2015, 20 March) Energy round-up: turning a corner? [blog]. Retrieved from <http://www.neweconomics.org/blog/entry/energy-round-up-turning-a-corner>

123. RenewableUK (September 2013) Working for a Green Britain & Northern Ireland 2013–23. Retrieved from <http://www.renewableuk.com/download.cfm/docid/82BF89A1-9EA2-4D77-8E9B1B986BE8B727>
124. RenewableUK (November 2014) Wind Energy in the UK: State of the Industry Report 2014. Retrieved from <http://www.renewableuk.com/download.cfm/docid/B7CB5503-17B8-4E82-9457929B2FB5AE60>
125. The RSPB (2011) Natural Foundations: conservation and local employment in the UK. Retrieved from http://www.rspb.org.uk/Images/naturalfoundations_tcm9-291148.pdf
126. Scottish Natural Heritage (2009) Valuing our Environment: The Economic Impact of Scotland's Natural Environment. Inverness: Scottish National Heritage. Retrieved from <http://www.snh.gov.uk/docs/B313698.pdf>
127. Department of Environment Northern Ireland (April 2007) Valuing Our Environment: The Economic Impact of the Environment in Northern Ireland. Retrieved from http://www.doeni.gov.uk/nea/valuing_our_environment_summary_report.pdf
128. Deloitte, Oxford Economics (2013) Tourism: jobs and growth. Retrieved from http://www.visitbritain.org/Images/Final%20proof%2015%20Nov_tcm29-39296.pdf
129. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
130. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
131. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
132. The Scottish Government (2013) Planning Scotland's Seas: 2013 - The Scottish Marine Protected Area Project –Developing the Evidence Base for Impact Assessments and the Sustainability Appraisal Final Report. Retrieved from <http://www.scotland.gov.uk/Publications/2013/08/9645/30#tableC16.6>
133. Williams, C. (August 2014) Recreational Sea-Angling (RSA). The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/newsletter/doc_download/135-1-recreational-sea-angling
134. Deloitte, Oxford Economics (2013) Tourism: jobs and growth. Retrieved from http://www.visitbritain.org/Images/Final%20proof%2015%20Nov_tcm29-39296.pdf
135. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
136. Ecosystem services are the outcomes from ecosystems that directly lead to good(s) that are valued by people. Source: UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
137. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
138. Pape, D., Johnston, J. (December 2011) Securing the value of nature in Kent. Retrieved from http://www.kentbap.org.uk/images/uploads/Securing_the_Value_of_Nature_in_Kent.pdf
139. Carpenter, G., Esteban, A. (2015) Managing EU fisheries in the public interest: Results from the Bio-Economic Model of European Fleets. New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/e2a0356a6c69ec0cc6_ygm6bnj3.pdf
140. Results retrieved from: <http://www.fisheriesmodel.eu/>
141. Balata, F., Williams, C. (June 2014) Offshore energy in the UK: an overview. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/marine-energy/doc_download/130-3-energy-offshore-energy-overview
142. Balata, F., Williams, C. (June 2014) Offshore energy in the UK: an overview. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/marine-energy/doc_download/130-3-energy-offshore-energy-overview
143. Marine Industries Leadership Council (2011) A strategy for growth for the UK Marine Industries. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31813/11-1310-strategy-for-growth-uk-marine-industries.pdf
144. HM Government (June 2011) The Natural Choice: securing the value of nature. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf
145. Stoll, L., Michaelson, J., Seaford, C. (April 2012) Well-being evidence for policy: A review. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/10b8aab90c5771ff9_a0m6bvv5a.pdf
146. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6isrzq.pdf

147. Wood, S. D. (2010, 6 December) Government to Measure Wellbeing. Positive News. Retrieved from <http://positivenews.org.uk/2010/wellbeing/2533/government-to-measure-wellbeing/>
148. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from: http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
149. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6iszrq.pdf
150. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6iszrq.pdf
151. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6iszrq.pdf
152. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6iszrq.pdf
153. University of Exeter (2014, 9 October) Coastal living boosts physical activity - but only in the West [webpage]. Retrieved from http://www.exeter.ac.uk/news/featurednews/title_416303_en.html
154. Esteban, A. (2012) Natural solutions. The New Economics Foundation. Retrieved from http://b.3cdn.net/nefoundation/a39a39ba513ead1444_4gm6iszrq.pdf
155. University of Exeter (2014, 9 October) Coastal living boosts physical activity - but only in the West [webpage]. Retrieved from http://www.exeter.ac.uk/news/featurednews/title_416303_en.html
156. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
157. Defra (May 2012) Learning in the Natural Environment: Review of social and economic benefits and barriers (NECR092). Retrieved from <http://publications.naturalengland.org.uk/publication/1321181>
158. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
159. Defra (May 2012) Learning in the Natural Environment: Review of social and economic benefits and barriers (NECR092). Retrieved from <http://publications.naturalengland.org.uk/publication/1321181>
160. House of Commons Communities and Local Government Committee (2006) Coastal Towns Second Report of Session 2006–07 (6) House of Commons HC 351, The Stationery Office, London. Retrieved from <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcomloc/351/351.pdf>
161. HM Government (March 2011) UK Marine Policy Statement. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69322/pb3654-marine-policy-statement-110316.pdf
162. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
163. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
164. PISCO Consortium (2009, 2 September) Marine Protected Areas [webpage]. Retrieved from <http://www.piscoweb.org/topics/marine-protected-areas>
165. Millennium Ecosystem Assessment (2005) Ecosystems and Human Well-being: Biodiversity Synthesis. World Resources Institute, Washington, DC. Retrieved from <http://www.millenniumassessment.org/documents/document.354.aspx.pdf>
166. COAST (n.d.) About [webpage]. Retrieved from <http://www.arrancoast.com/> [accessed 5 May 2015]
167. Visit Arran (n.d.) Home [webpage]. Retrieved from <http://www.visitarran.net/> [accessed 5 May 2015]
168. North Ayrshire Council (2012) Areas of Family Resilience Report: Arran Profile. Retrieved from <http://www.north-ayrshire.gov.uk/Documents/CorporateServices/LegalProtective/ChiefExecutive/CommunityPlanning/AFR-Profile-Arran.pdf>
169. COAST (n.d.) About [webpage]. Retrieved from <http://www.arrancoast.com/> [accessed 5 May 2015]
170. Acott, T., Urquhart, J., Church, A., Kennard, M., le Gallic, B., Leplat, M., Lescrauwaet, A.-K., Noury, M., Orchard-Webb, J., Roelofs, M., Ropars, C. and Zhao, M. (2014) 21st Century Catch, Toolkit prepared as part of the INTERREG 4a 2 Seas GIFS (Geography of Inshore Fishing and Sustainability) project, University of Greenwich, Chatham Maritime. Retrieved from http://www.gifsproject.eu/images/pdf/GIFS_Toolkit.pdf
171. The RSPB (2011) Natural Foundations: conservation and local employment in the UK. Retrieved from http://www.rspb.org.uk/Images/naturalfoundations_tcm9-291148.pdf
172. Defra (July 2010) Charting Progress 2: An assessment of the state of UK seas. UK Marine Monitoring and Assessment Strategy (UKMMAS) Community. Retrieved from <http://chartingprogress.defra.gov.uk/>
173. In accordance to Article 17 of the EU Common Fisheries Policy. Source: European Parliament, Council of the

- European Union (11 December 2013) CFP Regulation (EU) No. 1380/2013 of the European Parliament and of the Council, Council Decision 2004/585/EC. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:354:0022:0061:EN:PDF>
174. Carpenter, G., Esteban, A. (2015) Managing EU fisheries in the public interest: Results from the Bio-Economic Model of European Fleets. New Economics Foundation. Retrieved from http://b3cdn.net/nefoundation/e2a0356a6c69ec0cc6_ygm6bnj3.pdf
 175. Results retrieved from: <http://www.fisheriesmodel.eu/>
 176. Schrank, N. (2014, 18 November) Our Net Gain [blog]. Retrieved from <http://www.greenpeace.org.uk/blog/oceans/our-net-gain-20141118>
 177. European Parliament, Council of the European Union (11 December 2013) CFP Regulation (EU) No. 1380/2013 of the European Parliament and of the Council, Council Decision 2004/585/EC. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:354:0022:0061:EN:PDF>
 178. Williams, C. (August 2013) Aquaculture in Europe and the UK. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/flows-aquaculture/doc_download/140-3-eu-and-uk-aquaculture
 179. Williams, C. (August 2013) Aquaculture in Europe and the UK. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/flows-aquaculture/doc_download/140-3-eu-and-uk-aquaculture
 180. Hastings Fishermen's Protection Society (n.d.) Home [webpage]. Retrieved from <http://www.hastingsfish.co.uk/> [accessed 5 May 2015]
 181. Acott, T., Urquhart, J., Church, A., Kennard, M., le Gallic, B., Leplat, M., Lescrauwaet, A.-K., Nourry, M., Orchard-Webb, J., Roelofs, M., Ropars, C. and Zhao, M. (2014) 21st Century Catch, Toolkit prepared as part of the INTERREG 4a 2 Seas GIFS (Geography of Inshore Fishing and Sustainability) project, University of Greenwich, Chatham Maritime. Retrieved from http://www.gifsproject.eu/images/pdf/GIFS_Toolkit.pdf
 182. Swansea University PP4SD project (2008). Case Study: Mussel Farming in Menai Strait and Conwy Bay SAC. Retrieved from <http://www.pp4sd.org.uk/UWS/Documents/English%20Aquaculture/AQ%20Case%20Study%20Menai%20East%20%28Eng%29.pdf>
 183. Swansea University PP4SD project (2008). Case Study: Mussel Farming in Menai Strait and Conwy Bay SAC. Retrieved from <http://www.pp4sd.org.uk/UWS/Documents/English%20Aquaculture/AQ%20Case%20Study%20Menai%20East%20%28Eng%29.pdf>
 184. Swansea University PP4SD project (2008). Case Study: Mussel Farming in Menai Strait and Conwy Bay SAC. Retrieved from <http://www.pp4sd.org.uk/UWS/Documents/English%20Aquaculture/AQ%20Case%20Study%20Menai%20East%20%28Eng%29.pdf>
 185. Bangor Mussel Producer Limited. (n.d.). About us [webpage]. Retrieved from http://www.menaimusselmen.com/about_us-2.aspx [accessed on 5 May 2015]
 186. Smedley, T. (2014, 21 May) Sustainable shellfish: first community farming group begins trials. The Guardian. Retrieved from <http://www.theguardian.com/sustainable-business/sustainable-shellfish-community-oyster-farm>
 187. Somerset County Gazette (2015, 20 March) Top food rating for Porlock Bay oysters. Retrieved from http://www.somersetcountygazette.co.uk/news/11866724.Top_food_rating_for_Porlock_Bay_oysters/?ref=mr
 188. BBC News (2015, 8 March) Porlock oysters get top hygiene rating by FSA inspectors. Retrieved from <http://www.bbc.co.uk/news/uk-england-somerset-31768235>
 189. UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge. Retrieved from http://archive.defra.gov.uk/environment/natural/documents/UKNEA_SynthesisReport.pdf
 190. Balata, F., Williams, C. (June 2014) Offshore energy in the UK: an overview. The Marine Socio-Economics Project. New Economics Foundation (NEF). Retrieved from http://www.mseproject.net/marine-energy/doc_download/130-3-energy-offshore-energy-overview
 191. Marine Industries Leadership Council (2011) A strategy for growth for the UK Marine Industries. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31813/11-1310-strategy-for-growth-uk-marine-industries.pdf
 192. RenewableUK (September 2013) Working for a Green Britain & Northern Ireland 2013–23. Retrieved from <http://www.renewableuk.com/download.cfm/docid/82BF89A1-9EA2-4D77-8E9B1B986BE8B727>
 193. City and Council of Swansea (2015) Council: Performance and statistics: Economy [webpage]. Retrieved from <http://www.swansea.gov.uk/economy>
 194. Kelsey, C. (2015, 18 March) Budget 2015: Swansea Bay tidal lagoon became much more likely today. Wales Online. Retrieved from <http://www.walesonline.co.uk/business/business-news/budget-2015-swanea-bay-tidal-8867516>
 195. Kelsey, C. (2015, 18 March) Budget 2015: Swansea Bay tidal lagoon became much more likely today. Wales Online. Retrieved from <http://www.walesonline.co.uk/business/business-news/budget-2015-swanea-bay-tidal-8867516>
 196. Kelsey, C. (2015, 18 March) Budget 2015: Swansea Bay tidal lagoon became much more likely today. Wales Online. Retrieved from <http://www.walesonline.co.uk/business/business-news/budget-2015-swanea-bay-tidal-8867516>

tidal-8867516

197. Tidal Lagoon Swansea Bay (n.d.) The Project [webpage]. Retrieved from <http://www.tidallagoonswanseabay.com/>
198. Royal Institute of British Architects (RIBA). (July 2014) Building a Better Britain. Retrieved from <http://www.architecture.com/RIBA/Campaigns%20and%20issues/Assets/Files/BuildingABetterBritain.pdf>
199. Welsh Government (n.d.) Sustainable Tourism statement. Retrieved from <http://wales.gov.uk/topics/tourism/development/1/sustainable/2/?lang=en> [accessed 5 May 2015]
200. World Tourism Organization (UNWTO). (2014) UNWTO Tourism Highlights: 2014 Edition. Retrieved from http://www2.unwto.org/sites/all/files/pdf/unwto_highlights14_en.pdf
201. United Nations Environment Programme (2013) Green Economy and Trade: Tourism. Retrieved from <http://www.unep.org/greeneconomy/Portals/88/GETReport/pdf/Chapitre%207%20Tourism.pdf>
202. The RSPB (2011) Natural Foundations: conservation and local employment in the UK. Retrieved from http://www.rspb.org.uk/Images/naturalfoundations_tcm9-291148.pdf
203. Centre for Responsible Travel (2005) Global Trends and Statistics. Retrieved from http://www.responsibletravel.org/news/Fact_sheets/Fact_Sheet_-_Global_Ecotourism.pdf
204. White, S., Smith, M. (March 2014) The Economic Impact of Outdoor Activity Tourism in Wales Final Report. Visit Wales. Retrieved from <http://www.snowdonia-active.com/upload/documents/economic-impact-activity-tourism.pdf>
205. White, S., Smith, M. (March 2014) The Economic Impact of Outdoor Activity Tourism in Wales Final Report. Visit Wales. Retrieved from <http://www.snowdonia-active.com/upload/documents/economic-impact-activity-tourism.pdf>
206. White, S., Smith, M. (March 2014) The Economic Impact of Outdoor Activity Tourism in Wales Final Report. Visit Wales. Retrieved from <http://www.snowdonia-active.com/upload/documents/economic-impact-activity-tourism.pdf>
207. Anglesey Adventures (2012) About Anglesey Adventures [webpage]. Retrieved from <http://www.angleseyadventures.com/>
208. The Venus Company (2010) About the beaches and cafes [webpage]. Retrieved from <http://www.lovingthebeach.co.uk/beaches.html>
209. Cotton, K. (December 2014) Michael Smith, The Venus Company. By The Dart. Retrieved from <http://www.bythedart.co.uk/living-in-dartmouth/people/michael-smith,-the-venus-company/>
210. The Big Lottery Fund (2015) Coastal Communities Fund, Northern Ireland, Round 2. Retrieved from https://www.biglotteryfund.org.uk/-/media/Files/Programme%20Documents/Coastal%20Communities/prog_coastal_communities_fund_ni_yr_2_funding.pdf
211. Outdoor Recreation Northern Ireland (n.d.) Beachni: Waterfoot Beach: About the beach [webpage]. Retrieved from <http://www.beachni.com/beaches/waterfoot-beach/> [accessed 5 May 2015]
212. Causeway Coast and Glens Borough Council (2015) Causeway Coast and Glens Borough Council - Ballycastle Office [webpage]. Retrieved from <http://www.moyle-council.org/>
213. BBC News (2014, 1 January) Coastal Communities Fund boost for Kilkeel and Waterfoot. Retrieved from <http://www.bbc.co.uk/news/uk-northern-ireland-25567367>
214. Basking Shark Scotland (n.d.) Home [webpage]. Retrieved from <http://baskingsharkscotland.co.uk> [accessed 5 May 2015]
215. Sea Life Surveys (n.d.) Home [webpage]. Retrieved from <http://www.sealifesurveys.com> [accessed 5 May 2015]
216. Turus Mara (n.d.) Mull Wildlife boat trips to Staffa, Treshnish Isles & Iona [webpage]. Retrieved from <http://www.turusmara.com> [accessed 5 May 2015]
217. Mull Magic (n.d.) Otter Watching [webpage]. Retrieved from: <http://www.mullmagic.com/otter-watching-mull.html> [accessed 5 May 2015]
218. RSBP (2014) Mull white-tailed eagles [webpage]. Retrieved from <http://www.rspb.org.uk/discoverandenjoynature/discoverandlearn/tracking/mulleagles/>
219. Molloy, D. (2011) Wildlife at work. The economic impact of white-tailed eagles on the Isle of Mull. The RSPB, Sandy. Retrieved from http://www.rspb.org.uk/Images/wildlifeatwork_tcm9-282134.pdf
220. Defra (2005) Making space for water: Taking forward a new Government strategy for flood and coastal erosion risk management in England. Item is now archived.
221. Barkham, P. (2014, 7 February) Should coastal Britain surrender to the tides? The Guardian. Retrieved from <http://www.theguardian.com/environment/2014/feb/07/should-coastal-britain-surrender-to-tide>
222. Chichester Observer (2013, 9 August) Medmerry defences are nearly complete. Retrieved from <http://www.chichester.co.uk/news/local/medmerry-defences-are-nearly-complete-1-5365000>
223. HM Government (2014, 8 October) News story: Prime Minister's Better Public Building Award 2014 [webpage]. Retrieved from <https://www.gov.uk/government/news/prime-ministers-better-public-building-award-2014>
224. Barkham, P. (2014, 7 February) Should coastal Britain surrender to the tides? The Guardian. Retrieved from

- <http://www.theguardian.com/environment/2014/feb/07/should-coastal-britain-surrender-to-tide>
225. Barkham, P. (2014, 7 February) Should coastal Britain surrender to the tides? The Guardian. Retrieved from <http://www.theguardian.com/environment/2014/feb/07/should-coastal-britain-surrender-to-tide>
 226. The National Trust (2013) Coast and Countryside: Managed retreat at Birling Gap [webpage]. Retrieved from <http://www.nationaltrust.org.uk/article-1355815841134/>
 227. National Trust Charity Youtube Channel (2014, 3 March) Mind the Gap - Living with coastal change in Sussex. Retrieved from https://www.youtube.com/watch?v=ZXAgTVj_weA
 228. Dillon, J., & Dickie, I. (2012) Learning in the Natural Environment: Review of social and economic benefits and barriers. Natural England Commissioned Reports, Number 092. Retrieved from <http://publications.naturalengland.org.uk/file/1322812>
 229. Learn To Sea (n.d.) Home [webpage]. Retrieved from <http://www.learntosea.co.uk/> [accessed 5 May 2015]
 230. Thanet District Council (2013) Thanet Coast 'Footprints in the Sand' - Partnership Project [webpage]. Retrieved from http://www.thanetcoast.org.uk/projects__issues/footprints_in_the_sand.aspx
 231. BBC News (2013, 26 November) Wales Coast Path 'adds £32m to economy' in 12 months. Retrieved from <http://www.bbc.co.uk/news/uk-wales-25096911>
 232. WMNCBarnes (2014, 28 January) Picturesque South West Coast Path is a multi-million pound draw. Western Morning News. Retrieved from <http://www.westernmorningnews.co.uk/Picturesque-South-West-Coast-Path-multi-million/story-20511858-detail/story.html>
 233. South West Coast Path (2014) About the South West Coast Path team [webpage]. Retrieved from <http://www.southwestcoastpath.com/about-us/>
 234. The South West Research Company Ltd (January 2014) South West Coast Path Monitoring & Evaluation Framework: Year 2 (2012) Key Findings Summary. Retrieved from http://www.southwestcoastpath.com/media/uploads/swcp_year_2_key_findings.pdf
 235. WMNCBarnes (2014, 28 January) Picturesque South West Coast Path is a multi-million pound draw. Western Morning News. Retrieved from <http://www.westernmorningnews.co.uk/Picturesque-South-West-Coast-Path-multi-million/story-20511858-detail/story.html>
 236. WMNCBarnes (2014, 28 January) Picturesque South West Coast Path is a multi-million pound draw. Western Morning News. Retrieved from <http://www.westernmorningnews.co.uk/Picturesque-South-West-Coast-Path-multi-million/story-20511858-detail/story.html>



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