

The Story of Cornwall: Natural Capital in Cornwall

By **Eilish Calnan**

For the **Institute of Cornish Studies**,
University of Exeter

July 2021



The Story of Cornwall: Natural Capital in Cornwall

Natural capital has always been at the heart of Cornwall and has held a valuable place in the formation of a distinct Cornish identity. Natural capital can take many forms, from mining to agriculture; it is a vast area of research and Cornwall is playing an important role in the field. The nature of Cornwall means resourcefulness has always been an important factor in sustaining and thriving in the region. With three coasts and the river Tamar almost severing the Duchy from the UK, as well as a Cornish tradition of independence and self-sufficiency, ensuring Cornwall is working as effectively as possible has always been important. Using and protecting; not exploiting, the natural environment ensures Cornwall continues to thrive. The University of Exeter, along with other partners, have been carrying out research into the various aspects of natural capital, past, present and future.

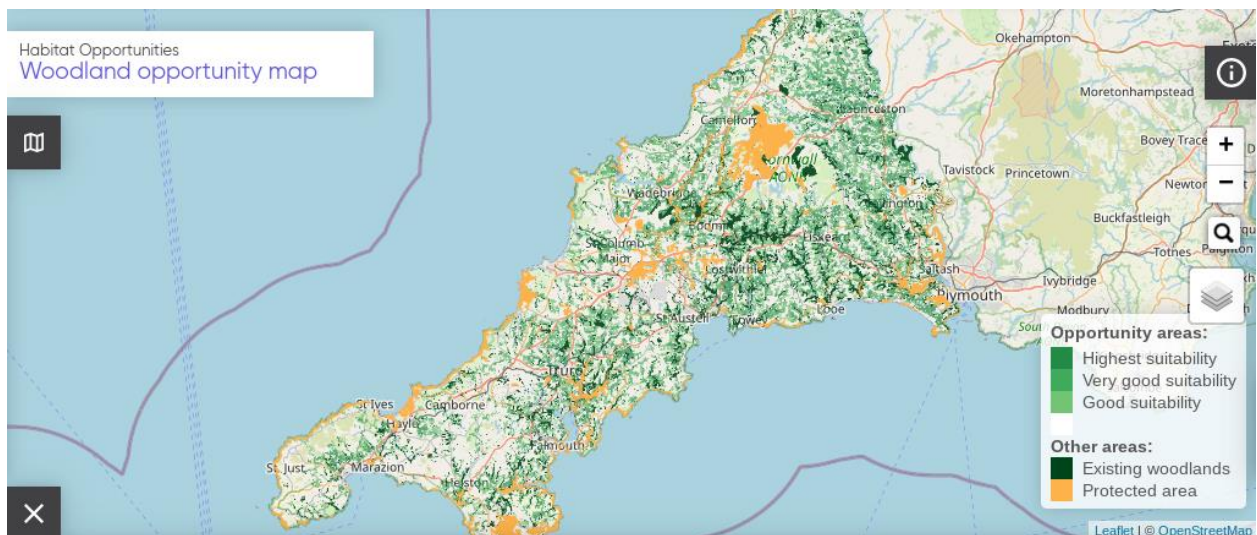


The [LiFT](#) Project has been at the forefront of lithium mining in Cornwall, investigating possible stores and the feasibility of extracting the lithium, whilst remaining profitable and with as little environmental degradation as possible. As we move towards a more carbon neutral society, the need for lithium increases as lithium can be used for battery storage in products like electric cars. Current lithium production is enough to meet global demand but with countries such as the UK seeking to be carbon-neutral by 2030, it is key to explore new stores of lithium and the potential they have. By seeking to understand the Earth system processes that concentrate lithium into mineral deposits, the LiFT Project wants to investigate the potential for more sustainable methods of lithium extraction. With a rich history of mining in Cornwall, looking to the future to provide a sustainable method of mining is the natural next step for a region with such a strong precedent of being at the forefront of industrial mining.



Cornwall and the south west are playing a key role in the development of seaweed farming. Seaweed can be used for a multitude of things; from biofuel to material for clothing, as well as as a healthy source of protein, omega-3, iron and a range of other vitamins and minerals. Currently, 85% of global seaweed production is for human consumption, reflecting the rise in plant-based diets in light of data on food-related carbon emissions. Seaweed also has benefits for combatting ocean acidification and can help widen ecosystems. The study, [Establishing Environmentally and Commercially Sustainable Techniques for Farming Seaweed](#) is being carried out by academics from Renewable Energy and will gather practical, biological and engineering data to explore how seaweed cultivation can be best achieved in a sustainable way. The project aims to assess whether it is possible to grow crops at sea in passive, environmentally friendly systems. Seaweed has both commercial and environmental benefits and with Cornwall at the heart of this research, the resourcefulness of the region is evident.

Research is also being carried out on land-based agriculture, such as the [Lagas](#) mapping tool. Lagas charts landscape changes and details to help the public and businesses further understand the landscape of Cornwall and engage with it in a sustainable way, whilst offering insights into economically viable ways to farm and cultivate. ‘Lagas’ is the Cornish word for ‘eye’, reflecting the project’s aim for visualisation. The map shows woodland management and heathland development, as well as areas of opportunity for natural capital and which areas are most popular for farming. The maps offer an invaluable insight into the natural world of Cornwall and like many of the projects being carried out by the University of Exeter, Lagas promotes a healthy landscape alongside a vibrant economy.



Academics at the Environment and Sustainability Institute have been carrying out research relating to natural capital in Cornwall; the [Climate Risks and Opportunities for Agriculture in Cornwall and Isles of Scilly](#) project has explored challenges in agriculture. The project aims to investigate ways to increase food production whilst leaving space for nature. Growing crops that are well suited to the changing climate has a benefit in that it may help reduce the amount of land required to cultivate in order to make a profit. Cornwall has a goal; by 2054 the aim is to have an environment that is naturally diverse and beautiful and healthy, whilst supporting a thriving society, prosperous economy and an abundance of wildlife. Climate

change poses a threat to this goal as the areas suitable for growing crops are dwindling but this research seeks to explore the opportunities presented by climate change, not just the detriments. Climate change offers a change to grow higher value, novel crops which require less land. Growing these crops means that the areas not used for agriculture can be devoted to conservation. Through research and detailed assessments, areas in Cornwall and the Isles of Scilly which are most suitable for this kind of crop can be discovered, such areas are common in the region due to the rarity of frosts. This model of microclimate farming can also promote food security, as well as financial security for farmers. The research hope is that Cornwall and the Isles of Scilly will provide a useful case study in favour of microclimate agriculture.



Research on [pollinators](#) has come from the Environment and Sustainability Institute, based on the Penryn Campus. Carried out by Ben Phillips, Kevin Gaston, James Bullock and Juliet Osborne, research has shown the value of road verges and hedges for protecting pollinators. Road verges and hedges show an abundance of flowers which are vital for the survival of pollinators, who play a key role in our ecosystems. The research also showed that cutting grass verges in the summer reduces the amount of pollinators. Whilst we often think of roads as hospitable for wildlife, verges can offer a haven for pollinators as wildflower meadows are on a decline, verges are a habitat free from the harmful effects of agriculture. This study set out to understand the role of road verges as habitats for pollinators, and the impacts of traffic and management.

Alongside Cornwall's historic connection with mining, marine activity is also often closely linked to the region. The [Cornwall Marine and Maritime Growth & Innovation Report 2017-18](#) found that the Cornish marine sector contributes £1.1 billion to the local economy with an estimated 855 active marine businesses, an increase from 650 in 2008. Of the increase, non-SMEs (small to medium sized enterprises) made up 31% of the increase, clearly demonstrating the importance of small business in Cornwall. The report also found that within the industry, levels of innovation and entrepreneurship are considered high, 67% of respondents surveyed indicated that new areas of business are very or quite important and 75% of respondents suggested that they are actively seeking to develop new businesses. The need to diversify is prevalent, many businesses offer a multitude of services and cover a range of marine sub-sectors, as well as often providing non-marine services such as engineering and construction. Whilst a relatively resilient industry, it does face challenges in the form of a lack of workspace which limits expansion and diversification, respondents felt that better access to waterside premises would be highly beneficial. Staffing issues also pose a challenge as much of the workforce is ageing and the rurality of many workforces means that retaining skilled staff is difficult, as well as finding a suitable time for training in a

landscape where seasonality dictates the busyness of a business and therefore impacts its ability to provide training.



[Tevi](#) is a EU-funded collaboration which takes an interdisciplinary approach to help businesses thrive, whilst encouraging environmental growth alongside economic growth, through consultation to small to medium size enterprises across Cornwall and the Isles of Scilly. 'Tevi' is the Cornish word for 'growth', Tevi has reached 344 businesses, had 1,215 workshop and event attendees and delivered 4,128 hours of bespoke consultancy to businesses. Tevi advises on a range of topics such as food waste, electric vehicles, advanced moorings, canopy cover, wildflower planting and geo-resources. The Tevi project views environmental growth not just as beneficial for the physical environment but states that in creating more abundant, productive and healthy habitats, the lives of the people experiencing the spaces improve. Tevi encourages businesses, communities and individuals to work together to increase the prosperity of Cornwall. The project also helped develop the Lagas mapping tool mentioned previously. Alongside multiple partners such as Cornwall Council, Cornwall Wildlife Trust and Cornwall Development Company, the University of Exeter contributes expertise on a selection of subjects ranging from circular economies and product design.



The University of Exeter Business School heads up the [ExeMPLaR](#) project, the Exeter Centre for Multidisciplinary Plastics Research. Using the principles of a circular economy, the project seeks to address the accumulation, impact and costs of plastic in the environment. This research brings together technical solutions, human behaviours, social, environmental and economic systems to address both the causes of the problems and efforts to save them. The project has received £1 million in funding and brings together 21 researchers who work together to design a more effective regional solution to the plastic problem. ExeMPLaR is designed to identify and learn from the ways communities, businesses and individuals are tackling the plastic problem in the south-west; seeking to explore ways to eliminate, substitute or reuse plastic. The project works with a range of partners and stakeholders, who all have an interest in designing more effective regional plastics systems, with an emphasis on circular economy so no waste is generated and all

plastic is reused or repurposed. The aim is to investigate how small scale solutions are being used and how these could be utilised on a larger scale.



Cornwall has a historic tradition of strong communities, the nature of the rugged and harsh landscape, which is relatively isolated means community has always been important. With increased globalisation and improved infrastructure, the world has gotten smaller but communities remain an important part of Cornish life. Led by Dr Ros Davies, Melissa Muir and Katie Kirk, the [Growing Communities Through Nature](#) project has sought to enhance communities through connections with the physical environment. This project is a partnership between the university, Cornwall's Making Space for Nature team, Cornwall's Voluntary Sector Forum and South Kerrier Alliance CIC in Helston; it is also part of a national programme called Enhancing Place-Based Public Engagement. The aim of the project is to explore the different ways to engage the public in making changes to their open public spaces, to benefit both the community and biodiversity. Workshops were arranged in early 2020 in Launceston, Newquay and Helston and the public attendees produced plans for small patches of council or community-owned land in each town. As well as benefits to biodiversity and individual town communities, this project has also helped deepen the working relationship between the university and partners, showing benefits for integration between higher education institutions and communities. The project has provided a useful blueprint for further exploration of place-based activities which have benefits for communities and can help communities respond to a range of needs and challenges.

This is just a small selection of the research being carried out by the University of Exeter on the topic of natural capital, which plays an integral role in life in Cornwall, both in the past and present, and certainly in the future. More information on each of these projects can be found on the Institute of Cornish Studies website or by following the links provided within this document.