BUSINESS IN THE COMMUNITY

THE PRINCE'S RESPONSIBLE BUSINESS NETWORK

Practical Economics:

# Making the economic case for stewardship

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Department for Environment Food & Rural Affairs

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# INTRODUCTION

There is a clear need for businesses to understand the economic benefit of their natural capital assets, and how these assets must be considered within a landscape setting.

Natural capital assets such as soil, water and habitats contribute to all business models; they provide the green infrastructure which we need to live and work. These assets can support growth and productivity, and they can reduce risks to challenges such as climate change.

Businesses' understanding of ecosystems and landscapes has changed dramatically in recent years. Companies now know that our global water resources, soil health and biodiversity have a connected and causal impact on our food production systems, which ultimately will impact on the resilience and longevity of their operations.

Sustainability and productivity are not mutually exclusive. However, we need to have a clear understanding of resources, relationships and risks. All stakeholders from landowners and farmers, to manufacturers and suppliers derive benefits from good landscape management.

There is a clear business case for valuing natural capital for companies. There are costs related to natural capital issues, such as soil degradation, estimated to cost the UK between £206-315 million per year. Also the 2015 UK flooding was calculated to cost over £5 billion. Leading businesses are taking note; they are seeing the value of their natural capital assets, by putting monetary values on their natural capital assets, and in turn, are seeing the economic return from their actions (see the Nestle PES, The Crown Estate and National Grid case studies).

In the UK, the political and economic context is changing and companies now have the chance to collaborate to drive progress forward. In this document, we have set out a four-point guide (see page 11) for businesses, on how to put in place practical measures to improve ecosystem health, alongside examples of how many businesses have already started to invest in natural capital. This is an opportunity to change the way we do business, restoring the health of our environment to support productivity and secure a resilient economy.

01

# HEALTHY ECOSYSTEMS FOR RESILIENT BUSINESS

## Ecosystems and landscape stewardship

For business to achieve smart, resilient growth we need a new approach to how companies interact with their supply chains and the landscapes they work in. In recent years, there has been an increase in understanding how ecosystems and landscapes create value for businesses. Companies now know that our global water resources, soil health and biodiversity have a connected and causal impact on our food production systems, which ultimately impacts on the resilience and longevity of their operations[1]. With that knowledge, leading businesses are developing innovative ways to future proof their supply chains, by focusing on the value of our natural capital. Stewardship provides an excellent framework to guide thinking and action at landscape scale, but it also needs to evidence how this can help businesses to thrive.

## The business opportunity

Sustainability and productivity are not mutually exclusive. What is good for the environment can be good for business, but we need to have a clear understanding of resources, relationships and risks. Many businesses, particularly those in the food and drink sector; from landowners and farmers, to manufacturers and suppliers, derive benefits from good landscape management – these stakeholders in particular, benefit from natural assets of soil, water and habitats through direct use or within their supply chain.

Soil is one of the most underappreciated resources, but also one of the most important to the food and drink sector. It regulates our water resources, is integral for food production and stores carbon to help mitigate climate change. Habitat loss in plants and trees exacerbates soil degradation and reduces water storage, as well reducing numbers of vital pollinators such as bees. Global risks such as climate change, extreme weather, water scarcity and natural disasters are cross-cutting business and environmental issues where natural capital plays a crucial role.[2]

With increasing risks within the global context, safeguarding natural capital directly helps UK food and drink businesses become more resilient and improve global competitiveness. Leading businesses in the UK food and drink sector can capitalise on the opportunities good landscape management presents, which include brand differentiation and investor confidence in the long-term resilience of company supply. Managing environmental impacts is helping businesses to remain competitive in an evolving global trade setting. Best practice shown in this area increases innovation and commercial resilience. For landscape-scale intensive sectors such as the food and drink sector, focusing on water, soil and biodiversity are top priorities to realise opportunities along the whole supply chain[3]. This sector is driving change and advancing thinking about natural capital, especially landscape-wide concerns.

1 Sunderland, T.C.H; Food security: why is biodiversity important?; International Forestry Review Vol.13(3), 2011
2 Davies, Jess; The business case for soil; 6 March, Vol 543, Nature, 309
3 Reisch, Lucia, Eberle, Ulrike, Lorek, Sylvia; Sustainable food consumption: an overview of contemporary issues and policies; Sustainability: Science, Practice, & Policy, Summer 2013 Volume 9 Issue 2

# POLICY AND POLICY DRIVERS

- Water Framework Directive (WFD)
- River basin management plans (RBMPs)
- Catchment Based Approach (CaBA) Policy
- Catchment Sensitive Farming (CSF)
- The Catchment Partnerships Action Fund (CPAF)
- Payments for Ecosystem services (PES)
- Water company price review
- Industry led voluntary approaches (e.g. pesticides voluntary initiative, tried and tested, greenhouse gas action plan)
- Local Enterprise Partnerships
- Agri-environment schemes (Countryside Stewardship)
- Assurance schemes (e.g. LEAF)

## Policy and the opportunity ahead

A range of policies are in place to help farmers and landowners think in these terms to promote better soil health, reduce flooding, protect wildlife and create new habitats. UK policy (see Policy and policy drivers box) provides businesses with the opportunity to develop resilient supply chains with government incentives, advice and regulation. A host of policy and commercial drivers can support healthier ecosystems right through the land use value chain.

To protect and enrich the ecosystems that support the UK's food and drink sector, we need to think of it as a whole. All forms of natural capital, such as soil, water and habitats are interlinked and form the foundations of our landscape from 'uplands' to the sea (see infographic on page 9). Businesses can benefit from working with their supply chain in line with these UK policies to protect our rich natural heritage.

Collaborations with Local Authorities, government, farmers, and landowners will inevitably produce efficiencies through developing shared aims and joined up landscape scale management.

For example, the introduction of the Catchment Based Approach (CaBA) promotes bottom-up, and joined up approaches to improve water environments through stewardship. Restoration approaches provide payment for ecosystem services; while the Environment Agency and Natural England are providing a system of incentives to help farmers, landowners and restoration organisations to improve catchments, basins and landscapes.

Government policy making is intertwined with the EU but also set at local level. With global supply chains, this twin national/local approach can provide opportunities for the food and drink sector in the UK. It can also help us to manage the variety of ecosystems within the UK, tailoring strategies according to local issues and where appropriate, developing a country-wide approach. Brexit will obviously have an impact on this policy. The Wildlife Trusts described Brexit as "an opportunity to develop a more ambitious policy which is integrated across a holistic range of environmental elements (soil, biodiversity, food, water quality, flood risk, access and recreation, etc.) and which provides a greater opportunity to farm in a more sustainable and innovative way".[4]

4 https://www.publications.parliament.uk/pa/ld201617/ldselect/ldeucom/109/109.pdf

# UNITED UTILITIES' SCAMP PROGRAMME

## The partners

United Utilities, farmers

## Objective

The aim of the SCaMP programme was to ensure the viability of United Utilities' tenant farmers, protect and improve raw water quality, improve the condition of United Utilities' landholdings in line with the government Public Service Agreement target of 95% of Sites of Special Scientific Interest (SSSI) to be brought into target condition by 2010; and to enhance the biodiversity of United Utilities' landholdings.

## Best practices utilised

Innovation through traditional methods; Data; Collaboration and partnerships; Education and stakeholder engagement.

## Outcomes

United Utilities owns and operates the water and wastewater networks in the North West of England and manages the surrounding catchment areas to collect and store water in reservoirs before treating it and delivering it to homes and industry across the region. United Utilities also collects and treats the wastewater from homes and businesses, before returning it safely to the environment. United Utilities' Sustainable Catchment Management (SCaMP) programme was the first England and Wales water industry sustainable land management initiative to restore and enhance water catchment and moorland areas and to introduce more sustainable land management practice. The programme's key activity is the production and implementation of individual farm plans including the restructuring of 56 farms, modifications to existing buildings, new or modified waste handling, provision of new buildings and stock handling facilities making farms more conducive to sustainable farming. These farm improvements enabled tenant farmers access to higher-level stewardship payments from agri-environmental schemes, improving the viability of their businesses. The previous deterioration in raw water quality was reduce, meaning the need for investment in additional water treatment was minimised. Additionally, stronger relationships developed between United Utilities and its tenant farmers, and involvement in SCaMP has helped secure UU's tenant farmers an average income of >£30k p.a. through improved access to environmental stewardship schemes. Farm management has been made easier through use of new farm buildings, improved lambing conditions, new fences and the restoration of 5.5km of dry stone walls which have reduced stock losses. Furthermore, improved condition of SSSI contributing significantly towards national and local biodiversity targets and improved water quality.

02

# THE ECONOMIC CASE FOR HEALTHY ECOSYSTEMS

## Valuing natural capital

There are strong environmental and social drivers for improving the state of the UK's water, soil and habitats. Equal to this is the economic case for businesses to support the management of their natural capital assets within a landscape setting.

Soil degradation costs the UK approximately £206-315 million per year,[5] and water risks can also have adverse impacts. Widespread, severe drought could cost £1.3 billion per day,[6] while at the other end of the water spectrum, research conducted following the 2015 UK floods calculated the cost of flooding to be in excess of £5 billion, which included a business loss funding gap of £50 - £100 million.[7] Soil, water and biodiversity risks will inevitably have supply chain impacts. For example, there may be commodity price rises and crop failures, where cost fluctuations may result in unstable markets and drops in investor confidence and share prices.

Multiple stakeholders including businesses and policy makers have recognised the need for the valuation of natural capital. At a national level, natural capital has been integrated into the environmental policy agenda and the UK Government's 25-year plan, signalling the commitment of UK policy makers to the value of natural capital. Understanding the value that natural capital contributes to commodities will become an important part of future strategies. Early buy-in will allow for commercial advantage and brand differentiation for customers and investors. Valuing natural capital should be at the centre of sustainability strategies, as they provide an efficient allocation of resources. In response to this, businesses are using a variety of mechanisms to value natural capital and promote landscape stewardship, some key models are detailed below.

## Natural Capital Accounting

Natural capital accounting is a calculation of natural capital and the services they provide at a landscape level. Natural capital takes account of the full range of "natural assets" that benefits society, from forests and urban green spaces that provide clean air, absorb carbon and provide recreation; to rivers that provide freshwater for drinking, wetlands that provide protection from floods, and oceans that provide seafood and generate energy. This process can subsequently inform government, corporate and consumer decision making relating to the use or consumption of natural resources and land Leading business globally have published natural accounting statements in the form of an environmental profit and loss account, demonstrating the value they gain from natural assets.

### A landscape stewardship approach

Natural capital is defined as the world's stock of natural assets (which include plants, air, water, soils and minerals), and they make up an interrelated and connected group of services, which is referred to as an 'ecosystem'. The ecosystem is derived of a range of services which human life is dependent on, and by focusing on our landscapes, which includes land and water catchments, we are able to derive a number of benefits.

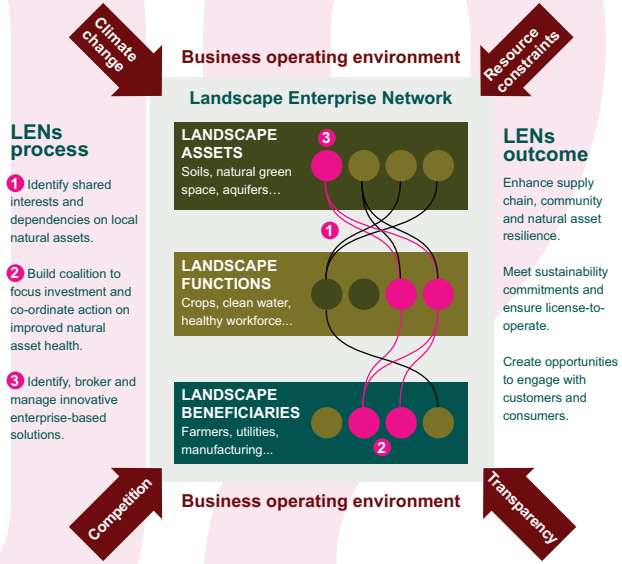
The benefits provided by healthy ecosystems include climate regulation, clean air, food, water, energy - factors which are fundamental to business success in the food and drink sector.

Good landscape stewardship is an approach to optimising healthy ecosystems.

5 http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=16992
6 Water UK, Water resources long term planning framework (2015-2065)
7 https://home.kpmg.com/uk/en/home/media/press-releases/2015/12/flooding-economic-impact-will-breach-5bn.html

## LENs: A commodity focused risk analysis

BITC have developed the Landscape Enterprise Networks (LENs) to support companies to invest in natural capital with a strategic understanding of the value that the landscape brings to their business. The LENs approach focuses on a singular commodity, identifying the associated risks to that commodity and how businesses can mitigate these risks. This approach focuses on collaborative action by businesses to deliver impact at scale whilst also supporting businesses to deliver on their individual priorities.




# LENS – LANDSCAPE ENTERPRISE NETWORKS

### The partners

BITC, Nestlé, 3Keel LLP

### Objective

The LENs approach is about using businesses' combined commercial interest in landscape outcomes to drive long-term stewardship of natural resources.

### Best practices utilised

Business insight analysis;
Stakeholder networking.

### Outcomes

The LENs programme combines business insight and landscape analysis, to locate natural assets in which clusters of businesses have a shared commercial interest. These include assets like soil, water and natural greenspace. It then combines that shared interest to drive collaborative investment to improve the condition and prospects of those assets. The LENs model starts small, with clusters of 'pathfinder' enterprises, but it is designed to spread outwards from those clusters as new businesses with related natural asset interests are added. The key output will be regional LENs business collaborations, with appointed 'brokers' to draw together demand and investment, and coordinate the procurement of practical action on the ground. BITC is developing the LENS approach in Cumbria, working with Nestlé and farmers within its dairy supply chain to understand the value of natural capital and develop a collaborative plan for action in the Eden River catchment. They are also using LENs in East Anglia to build a collaborative action plan for businesses with supply chains with in the CamEO. These projects are open to all businesses to collaborate and engage with.

## Payments for Ecosystem Services (PES)

Another method of natural capital accounting involves using different models and pricing structures to encourage good practice landscape stewardship. Payments for Ecosystem Services (PES) is a system where landowners and farmers (seller) are offered payment from an actor wanting to encourage more environmentally friendly behaviours (buyer/beneficiary). PES is an important way of demonstrating the value of our ecosystems. In contrast to the 'polluter pays' principle, this is a system which focuses on 'the beneficiary pays'. There is a large opportunity for the food and drink sector to capitalise on these initiatives – some leading businesses have already taken up this opportunity to future proof their dependencies on natural capital (see Vittell case study opposite).

# VITTELL (NESTLÉ WATERS)

### The partners

Manufacturers, Farmers

### Objective

To address water quality issues, Water bottler, Vittell has run a PES (Payments for ecosystem services) scheme since 1993 in their 5100-hectare catchment in Eastern France. Vittell's aquifers were at risk of nitrate contamination due to agricultural intensification in the area.

### Best practices utilised

Changing behaviour through best practice tools; Collaboration; Education and stakeholder engagement.

### Outcomes

The programme pays 27 farmers to adopt best practices in dairy farming, including abandoning agrochemicals, composting animal waste and reducing animal stocks. Long-term (18-30 year) contracts are coordinated though a buyer created agricultural extension agency and costs vary from farm-to-farm.

The programme costed €24.25 million from 1993 – 2000, or an estimated €980 per hectare per year, which is equivalent to €1.52/m3 of bottled water produced.

The PES scheme demonstrated the importance of having a strong relationship with ecosystem providers through ongoing engagement, before an arrangement is made, and during the process. As the key beneficiary, Vittell has secured their water supply for the long-term, where the contracts were secured for their 18 and 30 year contracts. Due to the secure source of income, farmers did switch to practices did switch to more sustainable practices. The longevity of the scheme also builds resilience in Vittell's supply chain.

## Future proofing our landscapes

Many businesses depend on soil, water and biodiversity for their products and operations. Whilst the risks below pose threats to our businesses, we need to understand them to turn these challenges into business opportunities, improving the resilience of our supply chains.

### UPLAND

**CHALLENGE**

Loss of upland vegetation and organic matter exacerbates the impacts of climate change, reduced infiltration of rainwater and increased surface water runoff lead to increased incidents of floods and droughts.

**TAKE ACTION**

Upland areas which are comprised of organic matter act like sponges to limit water run-off into streams and prevent flooding. Investing in upland management could be a cost-effective way of preventing flood and droughts in the lower catchment.

### LOWLAND

In the lowlands surface water run off exacerbates poor water quality in rivers and on unhealthy soil can cause erosion. Soil degradation and unsustainable agricultural practices costs between £0.9 billion to £1.4 billion per year in England and Wales.

Better catchment management will reduce runoff, reducing water pollution from nutrients, pesticides and sedimentation. Clean rivers will support aquatic environments and surrounding habitats to thrive.

Ask suppliers if they have a soil management plans in place. Challenges will vary field to field, so understand the challenges and collaborate to resolve them.

### CITY

Cities and towns are growing as growing populations demand homes, services and infrastructure. The UK population is set to increase to 73.3 million by 2037. This will lead to increased stress on water supplies and land to support growth. Faster than average growth forecast in already water stressed areas: London 13%, South East 7.8% and East 8.6% over the next 10 years. Water stress and over abstraction are a risk for both society and our businesses.

Green and blue infrastructure help absorb water into the natural environment, reducing the impact of floods and droughts. Building green spaces into urban development's helps create water resilient cities helping people and nature to thrive.

### SEA

The world's oceans play a vital role in maintaining the functionality and productivity of ecosystems. By 2050 there will be more plastic than fish in the sea, which endangers marine life and ecosystems.

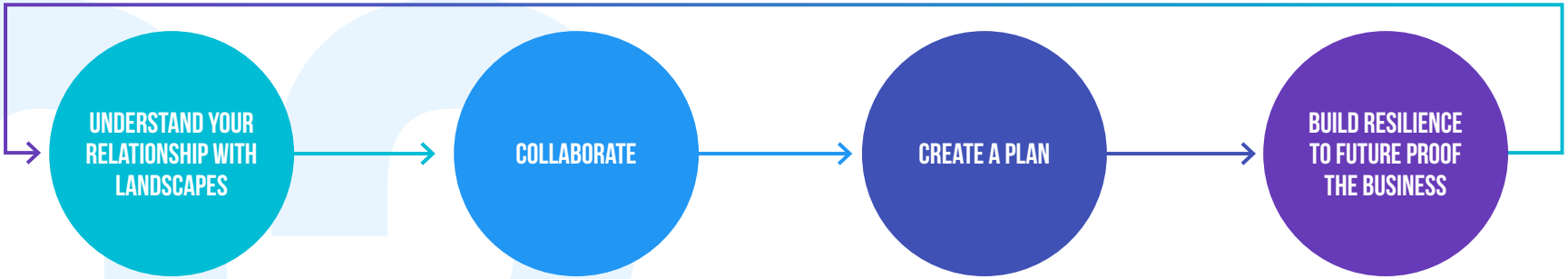
Understand how your business can introduce circular economy measures to keep plastics and their value in the economy, avoid waste and reduce litter.

03

# YOUR STEPS TO BEST PRACTICE STEWARDSHIP

## Your steps to best practice management

A four-point plan for practical measures to improve ecosystem health within your supply chain:




Understand which raw materials used in your products have impacts throughout the extended supply chain. Work with expert organisations and use tools they provide to help understand how your businesses' commodities impact on landscapes. Make sure that you understand which landscapes face the greatest risks and how your business can help mitigate these risks.

Collaborate with a range of stakeholders and institutions within your priority landscapes. Understand who shares your risks, who is affected by poor ecosystems health and who can help you resolve these challenges. Collaborating on risk in a pre-competitive space can help create innovative solutions and new opportunities to work together to produce positive outcomes.

Develop a plan and principles/guidelines that use best practice to build resilience and collaborate with landowners/ primary producers and manufacturers/retailers/other stakeholders in the landscapes you operate in. Ensure compliance with rules and legislation by getting to know the local Environmental Agency Catchment coordinator.

Build resilience with a range of initiatives and tools to encourage best practice behaviour. This can include: valuing natural capital, the LENs approach, price modelling, sharing knowledge, expertise, data and information.

04

# A VALUE CHAIN APPROACH TO LANDSCAPE STEWARDSHIP

## A value chain approach to landscape stewardship

In the food and drink sector, opportunities to promote healthy ecosystems are present in varying degrees across the entire value chain. As a result, businesses need a comprehensive approach to landscape stewardship, which not only improves resilience in their corporate processes but also considers the supply chain and the communities and ecosystems they impact.

The benefits of collaboration are becoming clear. Successful landscape stewardship is most effective through a cross stakeholder approach; with collaboration between farmers, businesses, government, Local Authorities and NGOs and communities key to success.

| Your steps to best practice stewardship | Landowners/farmers | Manufacturers | Retailers |
|---|---|---|---|
| UNDERSTAND YOUR RELATIONSHIP WITH LANDSCAPES | Understand the risks and opportunities of farming impacts and the environment locally in your landscape. Take a holistic overview of social, water use, soil health and habitats. Use tools and support from other organisations e.g. Cool Farm Tool. | Understand which raw materials have the greatest impacts in the supply chain (high water use, pesticide use, etc.) and use tools and partnerships with others for support e.g. WRI Aqueduct Water Risk Atlas, WWF Water Risk Filter. | Understand which product ingredients have impacts throughout the extended supply chain (high water use, pesticide use etc.) – and use tools and partnerships with other to support e.g. Courtauld 2025 Commitments, SAI Platform. |
| COLLABORATE | **Landowners working with primary producers:** To encourage commitment to sustainability to meet long term performance objectives (setting KPIs, certifications, standards, audits etc.).<br>**Certification and standards:** Manufacturers and retailers to ensure farmers/primary producers have relevant certification (e.g. food and farm assurance standards which deliver benefits to the environment).<br>**Supplier networks communications tools:** To foster clear communications and exchanges of experiences and best practice. Data/information to lead communications, in scenarios where local issues or evidence of typical problems in supply change (e.g. inadequate infrastructure is evident).<br>**Using expert advice:** Work with expert organisations, such as The Rivers Trust and CaBA (Catchment partnerships) to understand what your issues are.<br>**Using farmer advisors:** Professional advisers – ranging from agronomists to vets, and from feed advisers to seed consultants, play a vital role in delivering practical advice on farm (see Value of advice report, AIC, 2013) including catchment sensitive farming. | | |
| CREATE A PLAN | Develop short, medium and long-term plans with clear targets to mitigate the adverse impacts of agriculture e.g. adopting a minimal soil disturbance policy based on tried and tested best practice methods (see Allerton Project case study).<br>Ensure compliance with rules and legislation by getting to know the local Environmental Agency Catchment coordinator or Catchment Sensitive Farming (CSF), farming advice services. | Develop principles/ guidelines that use best practice to build resilience and collaborate with both landowners/ primary producers and retailers. e.g. Coca-Cola's Sustainable Agriculture Guiding Principles.<br>Ensure compliance with rules and legislation by getting to know the local Environmental Agency Catchment coordinator.<br>Don't forget to be transparent about risks the business faces (e.g. CDP Water Disclosure Platform, CDP supply chain programme). | Develop principles/ guidelines that adhere to best practice behaviour to build resilience and develop collaborative methods with both landowners/ primary producers and manufacturers e.g. Sainsbury's target to, 'Source all our key raw materials and commodities sustainably to an independent standard' and 'Ensure our suppliers will be leaders in meeting or exceeding our social and environmental standards'.<br>Ensure compliance with rules and legislation by getting to know the local Environmental Agency Catchment coordinator.<br>Don't forget to be transparent about natural capital risks the business faces (e.g. CDP Water Disclosure Platform, CDP supply chain programme). |
| BUILD RESILIENCE | **Focus on:** Water use, long-term soil improvement (i.e. no-till farming, reducing run off); protecting against flooding and water shortages; habitats/biodiversity; crop management.<br>**Use best practice:** For example, learn from the Allerton Project's findings; look at the whole landscape, not just rivers; use evidence based research; encourage ideas from within the farm industry; focus on maintaining current systems and building out; use models to save time and money. | **Educate and enable:** For example, join schemes like Healthy Ecosystems which looks at how businesses in the food and drink supply chain can improve stewardship of soil, water and habitats to achieve healthy ecosystems.<br>Understand the evidence (data/information). | **Encouraging best practice behaviour:** Internal working groups like The Waitrose Agronomy Group. Sainsbury development groups.<br>**Certification:** Using LEAF certification; soil association.<br>**Supporting organic farmers:** e.g. Waitrose's organic and agricultural policy.<br>**Education:** e.g. Sainsbury's Farming Scholars Programme. |

05

# LANDSCAPE STEWARDSHIP IN PRACTICE

05

**Protecting our natural resources is no longer confined to public services and environmental organisations; businesses are taking action on these issues. To help realise these opportunities and build the health of our ecosystems, some examples of projects undertaken by leading businesses are shared here.**

# ANGLIAN WATER - CAMEO CATCHMENT PARTNERSHIP

## The partners

The Cam and Ely Ouse (CamEO) partnership is co-hosted by Anglian Water and The Rivers Trust. It is formed of local businesses, environmental professionals and communities, with members including British Sugar, Sainsbury's, the National Farmers Union and Camgrain.

## Objective

The CamEO partnership aims to sustainably manage water resources and the benefits they provide by developing cross-sector partnerships. While many partnerships of this type exist across the country, the CamEO Partnership differentiates itself through its business-based approach – focusing on long-term benefits, above 'quick wins'.

## Best practices utilised

Innovation through traditional methods; Data; Collaboration and partnerships; Education and stakeholder engagement.

## Outcomes

The CamEO partnership has been an excellent demonstration of the power of partnership, and has utilised many elements of best practice.

The partnership is continually developing their methods of sharing best practice approaches. The main event is the CamEO annual conference, which brings together a host of partners from all stakeholder groups, to present on best practices. The conference is a way for stakeholders to share key learnings and develop their networks. Additionally, the partnership organises workshops to help stakeholders deal with pertinent issues (e.g. on acquiring consents and funding.) Aside from the conference, best practices are shared online, and different groups convene during the year to discuss specific issues including sub-catchment partnerships to promote local action. The partnership uses GIS open data to understand risks in the catchment and the information is available for download and use by partners. CaBA data and GIS packages are available for all catchments in England and provide baseline data to facilitate planning and prioritisation.

Through CamEO's WaterLIFE project, data and information is being collated on farm practices, cropping and interventions for surface water run-off and capture. This will inform CamEO's water sensitive farming strategy which provides advice on reducing diffuse water pollution.

Despite the prospect of policy changes soon, the CamEO Partnership works with a 'business as usual' principle, particularly as the partnership has always been about going over and beyond the Water Framework Directive.

Businesses should take the opportunity to liaise with local catchment partnerships and organisations to understand how they can get involved.

# THE CROWN ESTATE – TOTAL CONTRIBUTION

### The partners

The Crown Estate, Natural Capital Committee, Academics

### Objective

The Crown Estate have pioneered a method to report on sustainable business – measuring the direct and indirect impacts of the six capitals they depend on to operate (financial resources, physical resources, natural resources, people, know-how, and networks). The objective of this is to understand the broader contribution the business delivers to the UK, and to better inform decision making. This approach enables them to consider a long-term view of how they manage their assets, whilst supporting their principles of conscious commercialism.

### Best practices utilised

Data; Education and stakeholder engagement.

### Outcomes

Whilst recognising that their methodologies are in their infancy, the Crown Estate are beginning to quantify the impacts of their capitals, although they are still testing and developing the methodologies. The business feels that through the process, they are now better informed and have better quality data.

Their first Ecosystem Services Assessment in 2014 calculated that The Crown Estates' natural resources capital provided benefits of at least £4.4million per annum. This assessment indicated that the trees on The Crown Estate's 15,800 acre Windsor Estate help to purify the air, equating to at least £0.4m per annum in terms of avoided health costs from respiratory diseases related to air pollution. The Crown Estates in-house GIS teams used Ian Bateman et. al's methodology (Bringing Ecosystem Services into Economic Decision-Making: Land Use in the United Kingdom, 2013) to support the calculations.

A key learning from the process for other businesses looking to quantifying their social and environmental impacts, is to look to the Natural Capital Committee for support. For those who are ready to measure particular indicators, it is recommended they start the process as soon as possible; thinking about what data they already have, and what needs to be collected.


*Segment of The Crown Estate business model

# NATIONAL GRID

## The partners

Local community, business

## Objective

Overexploitation of natural resources has caused damage to ecosystems and biodiversity in some areas of the UK. National Grid saw an opportunity to protect and enhance natural resources by managing their landholdings using a natural capital valuation tool.

## Best practices utilised

Changing behaviour through best practice tools; Collaboration; Education and stakeholder engagement.

## Outcomes

The Natural Grid programme conducts ‘scenario analysis’ through a natural capital valuation tool, which compares different management options for each site over a 30 year period. This helps them to target investment and work with local partners to determine the route which will deliver the greatest social and environmental benefits. The programme is helping to create bigger, better, and more connected spaces for nature. Natural capital accounting is helping National Grid make smart decisions about the future of their landholdings, in terms of environmental impact but also financial management.

The development of the tools that National Grid uses to recognise and account for the value of natural assets has been accompanied by work to raise awareness of natural capital. The company was able to translate messages about the environment and conservation into language that resonates within their business.

Actions from the management plan have led to an increase in species diversity and an improvement in the condition of the Site Special Scientific Interest (SSSI) area. National Grid’s calculations project an increase of natural capital value of around £255,000 over 30 years. Based on the company’s initial financial investment the project shows a cost benefit ratio of 6:1. Despite not being in the food and drink sector, the learnings from National Grid’s programme is transferable across sectors.

# ALLERTON PROJECT – COST REDUCTION PROVEN THROUGH BETTER SOIL MANAGEMENT AND BIODIVERSITY

### The partners

Universities and other research organisations from across the country, and with financial support from government and industrial sponsors

### Objective

The Allerton Project, a Game and Wildlife Conservation Trust project researches the effects of different farming methods on wildlife and the environment.

### Best practices utilised

Innovation through traditional methods; Collaboration and partnerships; Education and stakeholder engagement.

### Outcomes

Biodiversity at the Allerton Project Farm was improved through reduced soil disturbance. The project has reduced tillage intensity by adopting a non-inversion cultivation policy, except where soil conditions have required use of the plough. Initially wheat yields decreased by approximately 5% and grass herbicide costs increased from £20 to £70 per hectare, which was controlled by a switch to spring beans. However, reduced cultivation costs and a ‘stable’ blackgrass population mean overall crop establishment costs were typically 20% lower. As a result, the net wheat crop margin has increased over the plough based system.

# WHEATSHEAF FARMING COMPANY – COST SAVINGS

### The partners

Farmers, landowners, Agri agronomist

### Objective

Wheatsheaf wanted to ensure greater resilience to cope with economic and environmental volatility through long-term soil improvement.

### Best practices utilised

Innovation through traditional methods; Collaboration and partnerships; Education and stakeholder engagement; Managing costs and measuring ROI.

### Outcomes

From 2014, Wheatsheaf farming and their partners transformed their entire arable system and improved soil quality through a move to no-till farming. Since the move cropping plans have changed, a new ultra-low disturbance Cross Slot drill purchased and cover cropping has been introduced across the business. Mixtures of nutrient capturing, soil structure improving and weed suppressing species are grown ahead of autumn-drilled cereals and as winter covers before spring drilling. This has improved the soil structure, health and workability, and increased organic matter.

Before accounting for any soil or crop benefits, their budgets show that the costs of the cover crops are offset by the extra gross margin from the new rotation. Across the entire business, their milling and feed wheats delivered an average 11.52 t/ha, winter barleys 9.11 t/ha and spring barleys 8.07 t/ha – all at input costs of less than £50/t. While this marked improvement on the five-year average suggests they are moving in the right direction, they see this as the start of a 10-year journey.

# WAITROSE ADOPTING LEAF MARQUE CERTIFICATION

### The partners

Retailer, Farmers

### Objective

Waitrose want to use the best farming techniques for the environment in growing their British fruit and vegetables.

### Best practices utilised

Changing behaviour through best practice tools.

### Outcomes

Waitrose is the only retailer that insists all its British growers adopt the LEAF marque standard. As a result, they have helped farmers to improve business performance, lower environmental impacts, and conserve the British countryside for future generations. This has strengthened links with the public and is identified in-store by the LEAF Marque logo.

# CO-OP INDEPENDENT AUDIT

### The partners

Retailer, Farmers

### Objective

Co-op wanted to ensure that their farmers were meeting required environmental and sustainability standards.

### Best practices utilised

Changing behaviour through best practice tools; Collaboration.

### Outcomes

The Co-operative's foundation farms are independently audited annually against five pillars of achievement to determine premium payments. To be rated silver or gold, farms need to demonstrate that they are meeting required environmental and sustainability training. This ensures that Co-op farmers are connected to current environmental and sustainability issues.

# BUSINESS IN THE COMMUNITY'S HEALTHY ECOSYSTEMS PROGRAMME

### Objective

BITC's Healthy Ecosystems Programme has been produced to develop and support learnings in soil, water and habitats preservation.

### Outcomes

The programme is develops evidence, advice and guidance to support businesses to take a stewardship approach , bringing different stakeholders together across river catchments to pilot different actions. We are working with businesses and farmers on projects in Cumbria, East Anglia and the South West to support healthy ecosystems and support smart growth. In addition, BITC is working in six water companies to identify water quality hotspots and work collaboratively with business to resolve this.

This approach will be shared with other businesses in the region, supporting them to engage with their own supply chains and improve natural capital in the area.

# COSTCO - COOL FARM TOOL

### The partners

Farmers, Suppliers

### Objective

To measure and mitigate the carbon footprint of organic eggs using the Cool Farm Tool (please see useful resources on page 24), a free-to-use, online calculator to help producers better manage on-farm greenhouse gas emissions developed by Anthesis. Unlike many other agricultural carbon calculators, the Cool Farm Tool measures the increase in carbon stored in soil, which is an important way of offsetting other GHG emissions.

### Best practices utilised

Changing behaviour through best practice tools; Education and stakeholder engagement.

### Outcomes

Beginning in 2010, Costco engaged its entire supply base to measure the greenhouse gas (GHG) emissions associated with the production of organic eggs.

Working in collaboration with the Sustainable Food Lab and using the Cool Farm Tool, the project sought to spur reductions in emissions and introduce more sustainable production practices – from farm to shelf. Ten large-scale organic egg suppliers collectively producing over 50 million dozen eggs received training to conduct self-assessments. Using the Cool Farm Tool, the farmers calculated the overall emissions of their operations and received a breakdown of emissions by source. From here, the farmers ran “what if” scenarios to determine reduction potentials and map out changes, from adjusting animal feed to establishing new transportation routes. Since the project began, Costco’s ten organic egg suppliers have been able to collectively reduce per-case emissions by 14 percent, or 3 kilograms of $CO_2e$, while also increasing their production and expanding their organic operations to meet rising consumer demand. When multiplied by the 2012 volume of eggs delivered to Costco, this amounts to more than 3,200 tonnes $CO_2e$ in savings.

# DAIRY CREST’S WATERWELL ADVISORY SERVICE

### The partners

Manufacturer, Farmers

### Objective

Dairy Crest wanted to support farmers to improve water efficiency.

### Best practices utilised

Changing behaviour through best practice tools; Collaboration; Education and stakeholder engagement.

### Outcomes

To support the farmers in its supply chain, Dairy Crest has introduced an on-farm water efficiency advisory service called Waterwell. The service measures the water used by the cows, the milking process and the wider dairy enterprise and allows benchmarking against other farms.

A recent survey undertaken by Dairy Crest demonstrates that these efforts are having a real impact on its farmers:

- 78% were implementing efficiency measures
- Of these, 31% collect rain water, 94% re-use water from the plate cooler, while 53% have diversified water supplies using borehole water
- 61% of dairy farmers were using metered water, and 96% checked regularly for leaks

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# RIVERCARE AND BEACHCARE

### The partners

Anglian Water, Keep Britain Tidy, local community volunteer groups

### Objective

To enable local communities to care for their local stretch of river or beach.

### Best practices utilised

Community engagement; citizen science.

### Outcomes

The RiverCare and BeachCare programme, funded by Anglian Water and delivered in partnership with Keep Britain Tidy, was established in 2001.

It brings together 'Friends Of' groups, canoe clubs, residents associations, neighbourhoods and other community groups with a common goal of improving their local river or beach environment.

Community groups adopt a stretch of their local watercourse or beach and undertake a suite of activities including litter picking, removal of non-native species, wildlife surveying, monitoring, habitat management and restoration. They also support campaigns such as water efficiency and identifying misconnections, helping Anglian Water achieve its objectives.

A natural and social capital valuation of the project from 2010 to 2015 showed the programme generated £1.4 million of value for the £600,000 investment made. During this time 100,000 hours of time was given by local volunteers and over 2000 rubbish bags of litter and 16,000 bulky items were collected, helping to keep local greenspace welcoming to people and wildlife-friendly.

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# THANK YOU

# THANK YOU...

**We would like to thank Defra for funding this report as part of the Healthy Ecosystems project. We would also like to thank Anthesis for their support in writing this report, and the support of leading businesses to understand their learnings, challenges, and thoughts for the future.**

- Anglian Water
- The Crown Estate
- Allerton Project
- Co-op
- Dairy Crest
- Keep Britain Tidy
- National Grid
- Nestlé
- Southern water
- United Utilities
- Waitrose
- Wheatsheaf Farming Company
- 3Keel

# USEFUL RESOURCES

**Natural Capital Committee**
https://www.gov.uk/government/groups/natural-capital-committee

**Smart Water Knowledge Hub**
http://environment.bitc.org.uk/smart-water

**WWF Water Risk Filter**
http://waterriskfilter.panda.org/

**CABA group page**
http://www.catchmentbasedapproach.org/about/governance

**Cool farm tool**
https://coolfarmtool.org/

**CDP**
https://www.cdp.net/en

**LEAF**
www.leafuk.org

**WRI Aqueduct Water Risk Atlas**
http://www.wri.org/resources/maps/aqueduct-water-risk-atlas

**Courtauld 2025 Commitments**
http://www.wrap.org.uk/content/courtauld-commitment-2025

**SAI Platform**
http://www.saiplatform.org/

**Environmental Agency Catchment coordinator list**
https://www.gov.uk/government/publications/map-of-water-management-catchments

**For more information on the LENS approach please contact katherine.spooner@bitc.org.uk**

Business in the Community
137 Shepherdess Walk
London N1 7RQ

T +44 (0)20 7566 8650
E information@bitc.org.uk

www.bitc.org.uk