

# NATURAL CAPITAL ACCOUNTING

Our offer for farms and estates and the potential financial and environmental benefits to land managers

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## WHAT IS NATURAL CAPITAL?

Natural capital is the stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people<sup>1</sup>.

### Why is natural capital important?

- Most of our economic decisions focus solely on financial costs and returns, ignoring significant environmental and social implications and whether outputs are sustainable in the long run.
- A consequence has been land management that degrades biodiversity and soil quality, increases water pollution and contributes to climate change – land use accounted for 12% of total UK greenhouse gas emissions (Source: Committee on Climate Change, 2020).
- However, businesses wishing to improve their environmental impacts, and understand their dependence on nature, often lack the technical skills and information to do so. This is why the use of a natural capital approach has developed rapidly in recent years.
- It brings together financial and environmental data in a systematic way to help businesses understand their impacts and dependencies on nature. It is forward-looking so can incorporate implications of changes in economic activities like land management, and factors that are beyond immediate control like climate change.
- It is therefore a key approach through which to address these challenges, underpin decision-making and direct funding towards sustainable natural resource management.

### What is a natural capital account?

- A financial account (balance sheet and income statement) shows the assets, liabilities and operational income of a business and is used to make decisions
- Natural capital accounting creates a natural capital income statement (to show the impacts of a business on nature) and a natural capital balance sheet (to show how the business depends on natural assets and what liabilities it has for their maintenance)
- Our natural capital accounting is a balance sheet that shows
  - A discounted benefit flow of the financial, environmental and (some) social assets and liabilities
  - Over a long period of typically 60 years so that it includes (i) the effect of changes in land use and how the land is managed and (ii) the value of the benefits such as the value of Carbon sequestration
- We also include the relevant operational impacts – in particular GHG emissions.
- Our approach is compliant with the BSI:8632 standard on natural capital on Natural Capital Accounting for Organisations (published in June 2021)

### Why get an account produced?

- It gives businesses robust quantified information on their impacts and dependencies on the environment and how it could change.
- It is possible to use accounts to explore new sources of income like voluntary carbon markets, Biodiversity Net Gain credits and public money for public goods through agri-environment schemes.

<sup>1</sup>Source: Natural Capital Protocol <https://naturalcapitalcoalition.org/natural-capital-protocol/>

<sup>2</sup>The accounts use the Department for Business, Energy & Industrial Strategy (BEIS) non-traded carbon values as they show how the government expects the cost of meeting carbon abatement commitments will change over time. It also allows more direct comparison of our accounts with government and official reports, such as those from the UK Climate Change Committee.

## Who should get an account produced?

- Any land-based business – of any size – so they understand their impacts and dependencies better. Only by having this information can they manage the risks and opportunities relating to natural capital.
- Investors - as it provides a systematic way of recording their impacts, dependencies and risks relating to their activities. This type of accounting is becoming the industry-standard.
- Public sector - as it provides a robust way of assessing how to allocate and record the impact of expenditure on the environment.

## HOW DO WE MEASURE NATURAL CAPITAL?

We (our eftec and Strutt & Parker natural capital team) use data on the size of the holding and activities on it to produce a **physical asset register**.

We identify the major natural assets that provide benefits to the holding and others, and the costs of maintaining the assets. The baseline account quantifies (in £s and other units) the currently known and planned impacts and dependencies. We then **evaluate in £s the benefits and costs** of future land management plans using state-of-the-art models and research on:



**FOOD**



**MINERALS**



**TIMBER**



**RENEWABLE ENERGY**



**NATURAL CAPITAL MAINTENANCE COSTS**



**WATER QUALITY AND FLOOD RISK**



**AIR QUALITY**



**RECREATION & HEALTH**



**CLIMATE REGULATION**



**BIODIVERSITY**

## Who is our natural capital team?

- eftec and Strutt & Parker have been collaborating since 2019 to produce the accounts.
- eftec are market-leading environmental economists:
  - Established in 1992, eftec's clients include The Duchy of Cornwall, The Crown Estate, Waitrose, water, energy and transport companies, Forestry England, Defra, the Natural Capital Committee and the European Commission.
  - eftec's Founding Director is the Convener of the panel of experts who wrote the British Standard on natural capital accounting for organisations.
  - eftec also lead the development of the Corporate Natural Capital Accounting framework for the Natural Capital Committee in 2015.
- We have **'super users' in Strutt & Parker** whose role is to promote and improve our accounting service. When commissioned by clients, they work with our local team members in our land management, farming and forestry teams to produce the accounts.

## What does one of our natural capital accounts look like?

It looks similar to a typical financial balance sheet that shows assets and liabilities:

- The rows are the main benefits and dis-benefits that your management of the natural capital of the land produces, and the costs of sustaining these assets. Items include:
  - Benefits: food, minerals, timber, renewable energy, climate regulation, water quality, recreation, physical health, air pollution removal
  - Dis-benefits; greenhouse gas emissions, diffuse pollution to water bodies
  - Liabilities are the maintenance costs of activities required to sustain natural capital.
- The columns are the main beneficiary groups that the benefits and costs accrue to:
  - In-hand, tenanted and public.

### Example natural capital balance sheet for a mixed lowland farm

The collective benefits of natural capital assets are listed by major benefit type

Balance sheets shows distribution of benefits across major beneficiary groups – who benefits and how

All benefit values are based on a physical measure of output/outcome

Summary of asset values (Present value over 60 years) At: 31 March 2021	Beneficiary				Note - Physical flow measure
	Private (In-hand)	Tenants	Wider society	Total	
Asset values	£'000	£'000	£'000	£'000	
Food – arable	54,000	67,600		121,600	Tonnes of arable crops
Food – livestock	7,500	14,400		21,900	Tonnes of livestock output
Timber	9,000			9,000	Cubic metres harvested
Climate Regulation - GHG flow					
Carbon sequestration			9,900	9,900	Tonnes CO <sub>2</sub> e sequestered in habitats and soils
Livestock emissions			(1,800)	(1,800)	Tonnes CO <sub>2</sub> e emissions from livestock
Fertiliser use			(3,500)	(3,500)	Tonnes CO <sub>2</sub> e emissions from fertiliser use
Farm operational emissions			(900)	(900)	Tonnes CO <sub>2</sub> e emissions from fuel and electricity use
Air quality regulation			1,250	1,250	Tonnes PM2.5 removed by vegetation
Recreation			7,500	7,500	Number of visits to public rights of way
<b>Total gross asset value</b>	<b>70,500</b>	<b>82,000</b>	<b>12,450</b>	<b>164,950</b>	
<b>Liabilities</b>					
Natural capital maintenance costs	(7,500)			(7,500)	Costs of maintaining natural assets
Production costs	(41,000)	(43,000)		(84,000)	Costs of production
Total liabilities	(48,500)	(43,000)	-	(91,500)	
<b>Total net asset value (monetised)</b>	<b>22,000</b>	<b>39,000</b>	<b>12,450</b>	<b>73,450</b>	

Shows the current and planned costs of maintaining natural assets, and costs of producing the benefits included in the asset values

Shows the net value (benefits minus costs) to each beneficiary group.

Shows the main greenhouse gas emissions and stores

## What does it tell land managers?

- We can produce two types of account – a baseline account and a future account.
- The baseline account quantifies, in £s and other units, what the current impact of the land use is.
  - It shows you the benefits from the land use, such as sequestration.
  - It shows you the dis-benefits of the land use, such as emissions from fertiliser use.
  - It shows you what activities have what impact.
  - It shows you whether the benefits that depend on natural capital and the impacts from operations accrue to in-hand managers or tenants or to the wider public.
  - It helps you judge whether how you maintain the natural capital assets on which you depend is sufficient.
- The future account quantifies (in £s and other units) the outcomes of changing land use or how the land is managed.
  - This is an important step as the future account will tell you the number of carbon and other credits that could be generated from the land.

## What's the difference between a carbon footprint / audit and a natural capital account?

- A carbon footprint measures GHG emissions and sequestration (or storage). It usually includes farming activities but can be wider.
- A natural capital account measures a wider range of environmental impacts as well as GHG emissions and flows. It includes profits from food production, minerals, timber and renewable energy; impacts on water and air quality; and benefits from biodiversity, recreation and health and well-being. We also measure the cost of maintaining the natural capital assets.
- NB Our natural capital account includes, if required, a carbon footprint.

## What is the financial return from getting an account produced?

- Carbon credits – a future account will tell you the number of carbon credits that could be generated from the land due to changes in land use and how the land is managed. We can market these credits through the Woodland Carbon Code registry<sup>3</sup> or our contacts with brokers.
- Selling ‘stacked benefits’ – organisations that buy carbon credits pay more for credits that also generate other environmental and social benefits<sup>4</sup>. We can market these credits to buyers worldwide through BNP Paribas’s trading platform called ClimateSeed<sup>5</sup>.
- ELM and other agri-environment schemes – both a baseline and future account will provide detailed natural capital information which we expect to be required for more complex agreements ( i.e. the Landscape Recovery tier (previously known as Tier 3) of ELM or catchment-scale agreements).
- LIMITATIONS – soil carbon – we do not expect a market to develop for soil carbon credits in the next 5-10 years due to the uncertainties of measuring the changes in carbon stored and its lack of permanence<sup>6</sup>.
- LIMITATIONS – biodiversity net gain – the account can include a rough calculation of the number or value of BNG credits that the land can produce. We can include a more detailed analysis of potential BNG credit provision and provide an initial assessment of the local market. We do not include the cost of doing this in our proposal.

## THE PROCESS

You (or someone from Strutt & Parker) fill in our one page scoping form – this collects the data on the size of and numbers of activities on the holding that we require to make a proposal.

Our natural capital team will use our pricing formula to prepare a proposal for you.

If you want to instruct us, we will send an engagement letter and terms of business.

You will work with our land management and farming teams to fill in our data collection form. This is one of the most important and time consuming steps in the process.

We will produce a draft account for you.

You and our natural capital team will discuss the practical implications of the report.



1



2



3



4



5



6

Each proposal includes a price for a baseline account, a future account and a timeline for producing the account.

It includes collecting detailed information on farming inputs like fertiliser and farming practices. This is used to complete a farm carbon footprint using the AgreCalc tool, which is currently our preferred tool<sup>7</sup>.

We will have a comprehensive look at your impacts and dependencies and agree the most material of them for the account to focus on.

We can help you plan and implement any changes to land use. This can be done formally through a **Land Management Plan**. We do not include the cost of producing the Plan in our proposal.

We can help verify and sell any carbon credits or stacked benefits (for an additional fee), through the Woodland Carbon Code or BNP Paribas’s trading platform called ClimateSeed.

<sup>3</sup> We are registered as a project developer on the registry. Speak to Ed Daniels (John Clegg & Co, 01844 291384, edward.daniels@johnclegg.co.uk).

<sup>4</sup> Other ‘stacked benefits’ are air quality, water quality, flood risk reduction, recreation, health and well-being, and social value.

<sup>5</sup> ClimateSeed is a platform that allows sellers and buyers of environmental credits to trade. ClimateSeed is a social business launched by BNP Paribas, the parent group of Strutt & Parker.

<sup>6</sup> Gains in soil carbon can be lost very quickly with a change in soil management, and so are less permanent than gains through tree planting or peatland restoration. NB This does not mean that measures to improve soil health and soil organic matter are not worth doing – they have many other benefits, including increasing agricultural productivity and resilience to flooding and drought.

<sup>7</sup> AgreCalc was developed by the Scottish Rural College and can be used across Great Britain.





'I've got involved in this to get ahead of the game.'

*Nick Downshire, owner of Clifton Castle Estate*

### How much does it cost?

- We do not have a fixed price but use a pricing formula to calculate the cost of each account, based on the size, number of benefits/services and complexity of a business.
- There is a minimum fee of £1,000 due to the time involved to produce each account and manage the commission.

### How long does it take?

- We aim to produce each account within 2-4 months of being instructed.
- The most time consuming step is data collection, which greatly affects how quickly an account can be produced.

### What to do with the account once it has been produced?

- Basking in the warm glow of having a nice report is not enough...
- We make sure the account is relevant and useful for both short- and long-term decision making. For example:
  - Could you or should you change some of the uses of the land?
  - Could you or should you change some of the management practices?
  - Based on the account, what investment should you make? And what shouldn't you do?
  - If changes in land use generate carbon credits, should you sell them?
  - Based on the account, what should you do when a tenancy ends? Or there is a succession?
  - Could you explore other sources of income?
  - Repeat the accounting process in a few years' time to monitor your management of natural capital
  - Use the results to make a case for Environmental Land Management in England and equivalent in other parts of the UK to fund high-value natural capital assets, and/or enhancements to natural capital



## AN EXAMPLE - WHAT WE DID AT CLIFTON CASTLE ESTATE, YORKSHIRE



In 2019, we (S&P and eftec) produced the first natural capital account for a large private estate with multiple land uses – Clifton Castle in Yorkshire.

- The assessment capitalised the financial and environmental costs and benefits of the estate’s land use activities over 60 years, from 2019 to 2079.
- This was done for all of its major land uses (arable, sheep, beef, dairy, forestry, moorland), including carbon emissions.
- This produced a ‘baseline balance sheet’, broken down by land use, so we could compare the financial returns with the environmental costs and benefits.
- We then agreed a ‘future comparator scenario’ with the estate owner, which was loosely based on the land use changes suggested in the UK Climate Change Committee’s first report on land use (November 2018).

- The main changes proposed were a reduction in the area grazed by sheep, an increase in woodland area and also included low carbon farming practices. We took into account factors like agricultural tenancies.
- The asset values and maintenance costs were calculated for the ‘future comparator scenario’ and compared with the ‘baseline balance sheet’.
- **This showed that the estate could switch from having a net negative impact in terms of GHG emissions and climate regulation to being net-positive.**
- It also gave us an estimate of the number of tonnes of carbon that the estate could sell, if it wanted to trade them.
- The report gave us, for the first time, information on the true cost of the estate’s activities (financial and environmental).
- The estate owner is planning to use it when considering future strategy and investment decisions.

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